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Transcript Exhibit(s)

T-01051B-99-0105

T-01051B-00-0369

RUCO 1 – RUCO 16

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Arizona Corporation Commission
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BEFORE THE ARIZONA CORPORATION COMMISSION

WILLIAM A. MUNDELL
CHAIRMAN
JIM IRVIN
COMMISSIONER
MARC SPITZER
COMMISSIONER

IN THE MATTER OF THE APPLICATION OF U S WEST COMMUNICATIONS, INC. A COLORADO CORPORATION, FOR A HEARING TO DETERMINE THE EARNINGS OF THE COMPANY, THE FAIR VALUE OF THE COMPANY FOR RATEMAKING PURPOSES, TO FIX A JUST AND REASONABLE RATE OF RETURN THEREON AND TO APPROVE RATE SCHEDULES DESIGNED TO DEVELOP SUCH RETURN.	DOCKET NO. T-01051B-99-0105
IN THE MATTER OF U S WEST COMMUNICATIONS, INC. TARIFF FILING FOR APPROVAL OF A $.25 SURCHARGE FOR A CALL TO A U S WEST 800 SERVICE LINE FROM A PAY TELEPHONE.	DOCKET NO. T-01051B-00-~~369~~ 0369 DECISION NO. 63487 **OPINION AND ORDER**

DATES OF HEARINGS:	September 16, 1999; April 4, April 12, May 3, June 16, July 25, July 28, October 16, November 2, November 22, 2000 (pre-hearing conferences), November 29, November 30, December 1, and December 4, 2000.
PUBLIC COMMENTS:	June 21, 2000 – Flagstaff, Arizona; July 6, 2000 – Prescott, Arizona; July 11, 2000 – Payson, Arizona; July 26, 2000 – Globe, Arizona; August 3, 2000 – Phoenix, Arizona; August 14, 2000 – Tucson, Arizona; August 30, 2000 – Yuma, Arizona; September 5, 2000 – Sierra Vista, Arizona; September 6, 2000 – Bisbee, Arizona; February 21, 2001 – Phoenix, Arizona; February 22, 2001 – Tucson, Arizona; and March 1, 2001 – Prescott, Arizona.
PLACE OF HEARING:	Phoenix, Arizona
ADMINISTRATIVE LAW JUDGE:	Jane Rodda
IN ATTENDANCE:	Carl J. Kunasek, Chairman Jim Irvin, Commissioner William A. Mundell, Commissioner
APPEARANCES:	Mr. Timothy Berg and Ms. Theresa Dwyer, FENNEMORE CRAIG, and Mr. Thomas Dethlefs, U S WEST COMMUNICATIONS, INC., on behalf of U S WEST COMMUNICATIONS, INC.;

**EXHIBIT A

SETTLEMENT AGREEMENT

Qwest Corporation (Qwest) and the Arizona Corporation Commission Staff (Staff) (collectively " the Parties") hereby agree to a settlement (the "Agreement") of the pending Qwest general rate case in Docket No.T-01051B-99-0105 (the Rate Case). The following terms and conditions, including Attachments (A) through (E) appended hereto (hereinafter referred to as the Price Cap Plan), are intended to resolve all of the issues among the Parties associated with the Rate Case.

RECITALS

WHEREAS, the Parties desire to adopt this Agreement and Price Cap Plan for Qwest to create incentives for Qwest to improve its efficiency, to provide new and innovative service offerings and to reduce the opportunity for cross-subsidization of competitive services by non-competitive services.

WHEREAS, by adopting the Price Cap Plan, the Parties intend to avoid the need for any general rate proceeding for the next three years, provide rate stability to Qwest's Arizona consumers by capping rates for essential services and create an opportunity for Qwest's customers to benefit from productivity improvements in the form of decreased rates.

WHEREAS, the Parties agree that the price caps provided for in this Agreement will ensure that rates for Qwest's telecommunications services are based on the fair value of Qwest's property devoted to the provision of intrastate telecommunications services in Arizona and to result in the establishment of just and reasonable rates for Qwest's Arizona customers; and

**This Second Revised Settlement Agreement has not been modified as required in the Decision attached hereto. See further compliance filing for the Settlement Agreement as modifed and approved in this Decision.

Exhibit E

PROPOSED SETTLEMENT

TIMCODES
1999 TEST YEAR

BASKET 3 – Flexibly Priced Services

	TIMCODE	TARIFF DESCRIPTION
1	E5.7.2	DIRECTORY ASSISTANCE SERVICE
	E14.2.1	SINGLE LINE ISDN SERVICE
	E14.3.1	PRIMARY RATE SERVICE
	E14.4	INDIVIDUAL CASE ISDN SERVICE
	E15.3	UNIFORM ACCESS SOLUTION SERVICE (CONTRACT BILLED)
	E15.4	INTEGRATED T-1 SERVICE
	C5.4.7	INTRACALL SERVICE
	C6.2.1	TWO-POINT MESSAGE TELECOMMUNICATION SERVICE
	C6.2.3	1-800 U S WEST CALLING SERVICE
10	C6.2.4	DIRECTORY ASSISTANCE SERVICE
	C6.2.5	U S WEST COMPLETE-A-CALL SERVICE
	C6.2.8	OPERATOR VERIFICATION/INTERRUPT SERVICE
	C6.3.1	METROPOLITAN PREFERRED AREA CALLING SERVICE
	C6.3.14	VOLUMN DISCOUNT
	C6.3.17	GUARANTEED RATE CALLING CONNECTION
	C6.3.18	CALLING CONNECTION PLANS
	C7.1.1	OUTWARD WATS
	C7.1.2	800 SERVICE
	C7.1.3	800 SERVICELINE OPTION
20	C7.1.5R	LARGE USER DISCT-OUTWARD WATS
	C9.1.7	CUSTOMIZED CALL MANAGEMENT SERVICES/CENTRON I SERVICE
	C9.1.10	OPTIONAL SERVICE FEATURES
	C9.1.13	CENTRON CUSTOM SERVICE
	C9.1.16	CENTREX PLUS SERVICE
	C9.1.17	CENTREX 21 SERVICE
	C9.1.18	CENTREX PRIME SERVICE
	C9.4.5	CENTRAL OFFICE - AUTOMATIC CALL DISTRIBUTION (CO-ACD)
	C9.5.3	SCOOPLINE SERVICE (SLS)
	C9.8.2	SCAN-ALERT SERVICE
30	C10.10.4	TRAFFIC DATA REPORT SERVICE (TDRS)
	C10.14.1	CALL DATA COLLECTION AND TRANSMISSION SERVICE
	C10.14.2	TRACKLINE PLUS SERVICE
	C13.3	RESIDENCE PREMISES WIRE MAINTENANCE
	C13.4	UNISTAR SERVICE/U S WEST REPAIR COORDINATION SERVICE
	C15.2	SWITCHNET 56 SERVICE
	C106.2.5	SPECIAL REVERSED CHARGE LONG DISTANCE SERVICE
	C106.3.1	METROPOLITAN PREFERRED AREA CALLING SERVICE
	C109.1.7	CUSTOMIZED CALL MANAGEMENT SERVICES/CENTRON I SERVICE
	C109.1.12	CENTRON 6 AND CENTRON 30 SERVICE
40	C109.1.16	CENTREX PLUS SERVICE
	E109.1.1	CENTREX SERVICE
	K9.8.1	VERSANET SERVICE
	K10.12.1	RESIDENCE VOICE MESSAGING SERVICE
	K10.12.2	BUSINESS VOICE MESSAGING SERVICE
	Q4.3.2	FACILITIES PROTECTION-SPECIAL FAC ROUTING
	Q4.4	PROTECTION SERVICE FOR HIGH VOLTAGE ENVIRONMENTS
	Q4.5	COMMAN A LINK - NETWORK RECONFIGURATION SERVICE
	Q4.6	TELECOMMUNICATION SERVICE PRIORITY (TSP) SYSTEM
	Q5.1.4	RATE STABILIZED AND DISCOUNT PRICING
50	Q5.3	CUSTOM SERVICE ARRANGEMENTS
	Q6.2.1	LOW-SPEED DATA SERVICE
	Q6.2.2	VOICE GRADE SERVICE
	Q6.2.4	LOCAL AREA DATA SERVICE (LADS)
	Q6.2.5	AUDIO SERVICE
	Q6.2.6	FOREIGN EXCHANGE SERVICE
	Q6.2.7	FOREIGN CENTRAL OFFICE SERVICE
	Q6.2.8	EXCHANGE SERVCIE EXTENSIONS
	Q6.2.9	TELEPHONE ANSWERING SERVICE
	Q6.2.10	DIGICOM I
60	Q6.2.11	DIGICOM II
	Q6.2.12	SIMULTANEOUS VOICE DATA SERVICE
	Q6.2.13	U S WEST DS1 SERVICE
	Q6.2.14	U S WEST DS3 SERVICE
	Q6.2.15	SELF-HEALING NETWORK SERVICE (SHNS)
	Q7.9.1	SWITCHED TRANSPORT

Exhibit E

PROPOSED SETTLEMENT

TIMCODES
1999 TEST YEAR

BASKET 3 – Flexibly Priced Services	
TIMCODE	TARIFF DESCRIPTION
Q15.8	COMMON CHANNEL SIGNALING NETWORK (DS1 & DS3)
Q21.4.1	SWITCHED ACCESS SERVICE (DS1 & DS3)
Q105.2.2	SERIES 5000 CHANNELS
Q105.2.3	DATAPHONE SELECT-A-STATION(DSAS)
70 Q105.2.4	LOCAL AREA DATA SERVICE (LADS)
Q105.2.9	TELEPHONE ANSWERING SERVICE
Q105.2.10	DATAPHONE DIGITAL SERVICE
Q105.2.13	U S WEST DS1 SERVICE
ACS104R	TRANSPARENT LAN SERVICE
ACS5R	ADVANCED COMMUNICATION SERVICE FRAME RELAY
ACS7R	ATM CELL RELAY SERVICE
ACS8.5.1	MEGASUBSCRIBER SERVICES
ACS8R	MEGABIT SERVICES
ACS9R	LAN SWITCHING SERVICE
80 SPEC.ASSM	SPECIAL ASSEMBLY NOT TARIFFED

EXHIBIT
RUCO-2
Admitted

SETTLEMENT AGREEMENT

Qwest Corporation ("Qwest"), the Arizona Corporation Commission ("Commission") Utilities Division Staff ("Staff"), the Department of Defense and All Other Federal Executive Agencies ("DOD-FEA"), the regulated subsidiaries of MCI, Inc. ("MCI"), Time Warner Telecom of Arizona, LLC ("Time Warner Telecom"), the Arizona Utility Investors Association ("AUIA"), Cox Arizona Telcom, LLC ("Cox"), and XO Communications Services, Inc. ("XO"), (collectively "the Parties") hereby agree to a settlement of the pending Qwest application for renewal of its Price Cap Plan with modifications ("Qwest Application"), the Commission's Investigation of the cost of Telecommunications Access ("Cost of Access Docket") and the Commission's Generic Investigation into its Imputation Rules ("Imputation Docket"). The following terms and conditions, including Attachments A through E appended hereto (hereinafter referred to as the Renewed Price Cap Plan), are intended to resolve all of the issues among the Parties associated with the Qwest Application, Cost of Access and Imputation Dockets as the issues pertain to Qwest.

RECITALS

WHEREAS, the Parties desire to adopt this Settlement Agreement (the "Agreement") and Renewed Price Cap Plan to settle all outstanding issues in Docket Nos. T-01051B-03-0454 and T-00000D-00-0672 and RT-00000J-01-0407 as they pertain to Qwest in a manner that will promote the public interest.

WHEREAS, the Parties agree that the negotiation process undertaken in this matter was open to all Intervenors and provided all Intervenors with an equal opportunity to participate. All Intervenors were notified of the settlement process and encouraged to participate.

WHEREAS, the Parties agree that the terms of this Agreement will serve the public interest by providing a just and reasonable resolution of the issues presented by

Basket 3 Non-Recurring Charges

1	C7.1.2	800 SERVICE
	C7.1.3	800 SERVICELINE OPTION
	Q4.1.13	ADDITIONAL ENGINEERING AND LABOR CHGS
	Q6.2.5	AUDIO SERVICE
	C10.14.1	CALL DATA COLLECTION AND TRANS SERVICE
	C6.3.18	CALLING CONNECTION PLANS
	C9.1.17	CENTREX 21 SERVICE
	C9.1.17RSR	CENTREX 21 SERVICE (RESELLER REVENUE)
	C9.1.17CBR	CENTREX 21 SERVICE(CONTRACT BILLED REVENUE)
10	C9.1.16	CENTREX PLUS SERVICE
	C9.1.18	CENTREX PRIME SERVICE
	C9.1.18CBR	CENTREX PRIME SERVICE(CONTRACT BILLED REVENUE)
	C9.1.13	CENTRON CUSTOM SERVICE
	C9.4.5	CO - AUTO CALL DISTRIBUTION(CO-ACD)
	E10.5.2	CODE BILLING
	Q4.5	COMMANDALINK-NTWK RECONFIGURATION SVC
	Q5.3	CUSTOM SERVICE ARRANGEMENTS
	C9.1.7	CUSTOMZD CALL MGMT SVCS/CENTRON I
	C9.1.7RSR	CUSTOMZD CALL MGMT SVCS/CENTRON I (RESELLER REVENUE)
20	Q4.1.2	DESIGN CHANGE
	Q4.1.5	DESIGN LAYOUT REPORT(DLR)
	Q6.2.10	DIGITAL DATA SERVICE
	Q4.1.17	DISPATCH CHARGE
	Q4.1.17RSR	DISPATCH CHARGE (RESELLER REVENUE)
	Q6.2.8	EXCHANGE SERVICE EXTENSIONS
	C3.1.9	EXPRESS CHANGE CHARGES
	Q4.3.2	FACILITIES PROTECTION-SPECIAL FAC RTG
	Q6.2.7	FOREIGN CENTRAL OFFICE SERVICE
	Q6.2.7RSR	FOREIGN CENTRAL OFFICE SERVICE (RESELLER REVENUE)
30	Q6.2.6	FOREIGN EXCHANGE SERVICE
	Q6.2.6RSR	FOREIGN EXCHANGE SERVICE (RESELLER REVENUE)
	E5.2.8	HOME BUSINESS LINE(HBL) SERVICE
	C14.4	INDIVIDUAL CASE ISDN SERVICE
	C14.4CBR	INDIVIDUAL CASE ISDN SERVICE(CONTRACT BILLED REVENUE)
	C15.4	INTEGRATED T-1 SERVICE
	Q6.2.4	LOCAL AREA DATA SERVICE(LADS)
	Q6.2.1	LOW-SPEED DATA SERVICE
	Q4.1.10	MAINTENANCE OF SERVICE
	E5.4.4	MARKET EXPANSION LINE(MEL) SERVICE
40	E5.4.4RSR	MARKET EXPANSION LINE(MEL) SERVICE (RESELLER REVENUE)
	ACS8.5.1	MEGABIT SERVICES
	ACS8.5.1I	MISCELLANEOUS BUSINESS REVENUE DETAIL
	ACS8.5.1I	MISCELLANEOUS RESIDENCE REVENUE DETAIL
	C13.2.1	NETWORK PREMISES WORK CHARGES
	Q3.2.2	NONRECURRING CHARGES
	Q105.2.3	OBS DATAPHONE SELECT-A-STATION(DSAS)
	E105.9.2	OBS PACKAGES NOT ASSOC/BASIC EXCHANGE SVC
	E105.9.1	OBS PCKG ASSOC/BASIC EXCH SVC LISTING
	E105.9.1RSR	OBS PCKG ASSOC/BASIC EXCH SVC LISTING (RESELLER REVENUE)
50	Q105.2.9	OBS TELEPHONE ANSWERING SERVICE
	E120.5	OBSOLETE 800 PAGELINE SERVICE
	E109.1.6	OBSOLETE AIRPORT INTERCOMM SERVICE
	C109.1.16	OBSOLETE CENTREX PLUS SERVICE
	C109.1.1	OBSOLETE CENTREX SERVICE
	C109.1.7	OBSOLETE CUSTMZD MGMT SVCS/CENTRON 1
	E105.4.14	OBSOLETE CUSTOM SOLUTIONS
	Q105.2.10	OBSOLETE DATAPHONE DIGITAL SERVICE

Basket 3 Non-Recurring Charges

	E109.1.2	OBSOLETE ESS SERVICE
	C106.3.1	OBSOLETE METROPO PREFD AREA CLNG SVC
60	C109.1.10	OBSOLETE OPTIONAL FEATURES
	C109.5.3	OBSOLETE SCOOPLINE SERVICE
	E105.4.17	OBSOLETE SELECT CALL ROUTING SERVICE
	Q105.2.2	OBSOLETE SERIES 5000 CHANNELS
	C115.2	OBSOLETE SWITCHNET 56 SERVICE
	C9.1.10	OPTIONAL SERVICE FEATURES
	C7.1.1	OUTWARD WATS
	E5.9.1	PACKAGES ASSOC/BASIC EXCHANGE SERVICE
	E5.9.1CBR	PACKAGES ASSOC/BASIC EXCHANGE SERVICE (CONTRACT BILLED REVENUE)
	E5.9.1RSR	PACKAGES ASSOC/BASIC EXCHANGE SERVICE (RESELLER REVENUE)
70	E5.9.2	PACKAGES NOT ASSOC/BASIC EXCHANGE SVC
	C13.2	PREMISES WORK CHARGES
	C13.2RSR	PREMISES WORK CHARGES (RESELLER REVENUE)
	C13.2R	PREMISES WORK CHARGES(REVENUE)
	C14.3.1	PRIMARY RATE SERVICE
	C14.3.1RSR	PRIMARY RATE SERVICE (RESELLER REVENUE)
	C14.3.1CBR	PRIMARY RATE SERVICE(CONTRACT BILLED REVENUE)
	Q4.4	PROTECTN SVC HIGH VOLTAGE ENVIRONMENTS
	C9.8.2	SCAN-ALERT SERVICE
	E5.2.5.D	SECRETARIAL ANSWERING SERVICE
80	E5.2.5.DRSR	SECRETARIAL ANSWERING SERVICE (RESELLER REVENUE)
	Q6.2.15	SELF-HEALING NETWORK SERVICE(SHNS)
	Q6.2.12	SIMULTANEOUS VOICE DATA SERVICE
	C14.2.1	SINGLE LINE SERVICE
	C14.2.1RSR	SINGLE LINE SERVICE (RESELLER REVENUE)
	C14.2.1CBR	SINGLE LINE SERVICE(CONTRACT BILLED REVENUE)
	SPEC.ASSM(	SPECIAL ASSEMBLY(CONTRACT BILLED REVENUE)
	E5.2.5.E	STAND-BY LINE SERVICE
	Q4.6	TELECOM SVC PRIORITY(TSP) SYSTEM
	Q6.2.9	TELEPHONE ANSWERING SERVICE
90	Q4.1.16	TESTING CHARGES
	C10.14.2	TRACKLINE PLUS SERVICE
	C10.10.4	TRAFFIC DATA REPORT SERVICE(TDRS)
	Q5.2.13	U S WEST DS1 SERVICE
	Q6.2.13RSR	U S WEST DS1 SERVICE (RESELLER REVENUE)
	Q6.2.13	U S WEST DS1 SERVICE (TOTALS FOR ALL CONTRACT PERIODS)
	Q6.2.14	U S WEST DS3 SERVICE (TOTALS FOR ALL CONTRACT PERIODS)
	E15.3	UNIFORM ACCESS SOLUTION SERVICE
	E9.4.4	UNIFORM CALL DISTRIBUTION
	Q6.2.2	VOICE GRADE SERVICE
100	Q6.2.2RSR	VOICE GRADE SERVICE (RESELLER REVENUE)
	E109.1.10	OBSOLETE OPTIONAL FEATURES
	E105.4.15	OBSOLETE CUSTOM SOLUTIONS
	Q21.4.1	SWITCHED ACCESS SERVICE VIRTUAL EI

Basket 3 Recurring Charges

	C7.1.2	800 SERVICE
	C7.1.3	800 SERVICELINE OPTION
	Q6.2.5	AUDIO SERVICE
	Q6.2.5CBR	AUDIO SERVICE (CONTRACT BILLED REVENUE)
	C13.4	BUSINESS MAINTENANCE PLANS
	C10.14.1	CALL DATA COLLECTION AND TRANS SERVICE
110	C9.1.17	CENTREX 21 SERVICE
	C9.1.17CBR	CENTREX 21 SERVICE (CONTRACT BILLED REVENUE)
	C9.1.17RSR	CENTREX 21 SERVICE (RESELLER REVENUE)
	C9.1.16	CENTREX PLUS SERVICE
	C9.1.16CBR	CENTREX PLUS SERVICE (CONTRACT BILLED REVENUE)
	C9.1.18	CENTREX PRIME SERVICE
	C9.1.18CBR	CENTREX PRIME SERVICE (CONTRACT BILLED REVENUE)
	C9.1.13	CENTRON CUSTOM SERVICE
	C9.1.13CBR	CENTRON CUSTOM SERVICE (CONTRACT BILLED REVENUE)
	C9.4.5	CO - AUTO CALL DISTRIBUTION (CO-ACD)
120	E10.5.2	CODE BILLING
	Q4.5	COMMANDALINK-NTWK RECONFIGURATION SVC
	Q5.3	CUSTOM SERVICE ARRANGEMENTS
	C9.1.7	CUSTOMZD CALL MGMT SVCS/CENTRON I
	C9.1.7RSR	CUSTOMZD CALL MGMT SVCS/CENTRON I (RESELLER REVENUE)
	Q6.2.10	DIGITAL DATA SERVICE
	Q6.2.10RSR	DIGITAL DATA SERVICE (RESELLER REVENUE)
	E15.3	DIGITAL SWITCHED SERVICES (DSS) (RESELLER REVENUE)
	C6.2.4	DIRECTORY ASSISTANCE SERVICE
	Q6.2.8	EXCHANGE SERVICE EXTENSIONS
130	Q6.2.8RSR	EXCHANGE SERVICE EXTENSIONS (RESELLER REVENUE)
	Q4.3.2	FACILITIES PROTECTION-SPECIAL FAC RTG
	Q6.2.7	FOREIGN CENTRAL OFFICE SERVICE
	Q6.2.7RSR	FOREIGN CENTRAL OFFICE SERVICE (RESELLER REVENUE)
	Q6.2.6	FOREIGN EXCHANGE SERVICE
	Q6.2.6CBR	FOREIGN EXCHANGE SERVICE (CONTRACT BILLED REVENUE)
	Q6.2.6RSR	FOREIGN EXCHANGE SERVICE (RESELLER REVENUE)
	C6.3.17	GUARANTEED RATE CALLING CONNECTION (REVENUE)
	C15.4	INTEGRATED T-1 SERVICE
	C5.4.7	INTRACALL SERVICE
140	Q6.2.4	LOCAL AREA DATA SERVICE (LADS)
	Q6.2.4CBR	LOCAL AREA DATA SERVICE (LADS) (CONTRACT BILLED REVENUE)
	Q6.2.4RSR	LOCAL AREA DATA SERVICE (LADS) (RESELLER REVENUE)
	Q6.2.1	LOW-SPEED DATA SERVICE
	Q6.2.1CBR	LOW-SPEED DATA SERVICE (CONTRACT BILLED REVENUE)
	Q6.2.1RSR	LOW-SPEED DATA SERVICE (RESELLER REVENUE)
	E5.4.4	MARKET EXPANSION LINE (MEL) SERVICE
	E5.4.4RSR	MARKET EXPANSION LINE (MEL) SERVICE (RESELLER REVENUE)
	E5.4.4RSR	MARKET EXPANSION LINE (MEL) SERVICE (RESELLER USAGE REVENUE)
	E5.4.4R	MARKET EXPANSION LINE (MEL) SERVICE (USAGE REVENUE)
150	ACS8.5.1	MEGABIT SERVICES
	ACS8.5.1I	MISCELLANEOUS BUSINESS REVENUE DETAIL
	ACS8.5.1IR	MISCELLANEOUS RESIDENCE REVENUE DETAIL
	Q105.2.3	OBS DATAPHONE SELECT-A-STATION(DSAS)
	E105.9.2	OBS PACKAGES NOT ASSOC/BASIC EXCHANGE SVC
	E105.9.1	OBS PCKG ASSOC/BASIC EXCH SVC LISTING
	E105.9.1RSR	OBS PCKG ASSOC/BASIC EXCH SVC LISTING (RESELLER REVENUE)
	C106.2.5	OBS SPCL REVERSED CHG LD SERVICE
	C106.2.5RSR	OBS SPCL REVERSED CHG LD SERVICE (RESELLER REVENUE)
	Q105.2.9	OBS TELEPHONE ANSWERING SERVICE
160	E109.1.6	OBSOLETE AIRPORT INTERCOMM SERVICE

Basket 3 Recurring Charges

	[illegible]	SERVICE
	C106.3.18	OBSOLETE CALLING CONNECTION PLANS
	C106.3.18RS	OBSOLETE CALLING CONNECTION PLANS (RESELLER REVENUE)
	106.3.18	OBSOLETE CALLING CONNECTION PLANS (USAGE REVENUE)
	C109.1.16	OBSOLETE CENTREX PLUS SERVICE
	C109.1.16CB	OBSOLETE CENTREX PLUS SERVICE (CONTRACT BILLED REVENUE)
	C109.1.1	OBSOLETE CENTREX SERVICE
	C109.1.1R	OBSOLETE CENTREX SERVICE (REVENUE)
	C109.1.12	OBSOLETE CENTRON 6 AND 30 SERVICE
	C109.1.7	OBSOLETE CUSTMZD MGMT SVCS/CENTRON 1
170	E105.4.14	OBSOLETE CUSTOM SOLUTIONS
	E105.4.14RSI	OBSOLETE CUSTOM SOLUTIONS (RESELLER REVENUE)
	Q105.2.10	OBSOLETE DATAPHONE DIGITAL SERVICE
	E109.1.2	OBSOLETE ESS SERVICE
	E105.6	OBSOLETE JOINT USER SERVICE
	C106.3.1	OBSOLETE METROPO PREFD AREA CLNG SVC
	C109.1.10	OBSOLETE OPTIONAL FEATURES
	C109.5.3	OBSOLETE SCOOPLINE SERVICE
	E105.4.17	OBSOLETE SELECT CALL ROUTING SERVICE
	Q105.2.2	OBSOLETE SERIES 5000 CHANNELS
180	E105.4.15	OBSOLETE SINGLENUMBER SERVICE
	E105.4.15R	OBSOLETE SINGLENUMBER SERVICE (USAGE REVENUE)
	C115.2	OBSOLETE SWITCHNET 56 SERVICE
	Q105.2.13	OBSOLETE U S WEST DS1 SERVICE
	Q105.2.14	OBSOLETE VOICE GRADE SERVICE
	C9.1.10	OPTIONAL SERVICE FEATURES
	C9.1.10RSR	OPTIONAL SERVICE FEATURES (RESELLER REVENUE)
	C7.1.1	OUTWARD WATS
	E5.9.1	PACKAGES ASSOC/BASIC EXCHANGE SERVICE
	E5.9.1RSR	PACKAGES ASSOC/BASIC EXCHANGE SERVICE (RESELLER REVENUE)
190	E5.9.1RI	PACKAGES ASSOC/BASIC EXCHANGE SERVICE (REVENUE)
	E5.9.2	PACKAGES NOT ASSOC/BASIC EXCHANGE SVC
	E5.9.2RSR	PACKAGES NOT ASSOC/BASIC EXCHANGE SVC (RESELLER REVENUE)
	C14.3.1	PRIMARY RATE SERVICE
	C14.3.1CBR	PRIMARY RATE SERVICE (CONTRACT BILLED REVENUE)
	C14.3.1RSR	PRIMARY RATE SERVICE (RESELLER REVENUE)
	Q4.4	PROTECTN SVC HIGH VOLTAGE ENVIRONMENTS
	Q5.1.4CBR	RATE STABILIZED AND DISCOUNT PRICING (CONTRACT BILLED REVENUE)
	Q5.1.4R	RATE STABILIZED AND DISCOUNT PRICING (REVENUE)
	C13.3	RESIDENCE MAINTENANCE PLANS
200	C13.3R	RESIDENCE MAINTENANCE PLANS (REVENUE)
	C9.8.2	SCAN-ALERT SERVICE
	Q6.2.15	SELF-HEALING NETWORK SERVICE (SHNS)
	Q6.2.12	SIMULTANEOUS VOICE DATA SERVICE
	C14.2.1	SINGLE LINE SERVICE
	C14.2.1CBR	SINGLE LINE SERVICE (CONTRACT BILLED REVENUE)
	C14:2.1RSR	SINGLE LINE SERVICE (RESELLER REVENUE)
	SPEC.ASSMI	SPECIAL ASSEMBLY (CONTRACT BILLED REVENUE)
	E5.2.5.DRSR	STAND-BY LINE (RESELLER REVENUE)
	E5:2.5.E	STAND-BY LINE SERVICE
210	Q21.4.1	SWITCHED ACCESS SERVICE VIRTUAL EI
	Q7.9.1	SWITCHED TRANSPORT
	Q4.6	TELECOM SVC PRIORITY (TSP) SYSTEM
	Q6.2.9	TELEPHONE ANSWERING SERVICE
	Q6.2.9RSR	TELEPHONE ANSWERING SERVICE (RESELLER REVENUE)
	C10.14.2	TRACKLINE PLUS SERVICE
	C10.10.4	TRAFFIC DATA REPORT SERVICE (TDRS)
	C6.2.1	TWO-POINT MESSAGE TELECOMMUNICATIONS SERVICE

Basket 3 Recurring Charges

	Q6.2.13	U S WEST DS1 SERVICE
	Q6.2.13CBR	U S WEST DS1 SERVICE (CONTRACT BILLED REVENUE)
220	U S WEST D	U S WEST DS1 SERVICE (RESELLER REVENUE)
	Q6.2.14	U S WEST DS3 SERVICE
	Q6.2.14CBR	U S WEST DS3 SERVICE (CONTRACT BILLED REVENUE)
	Q6.2.14RSR	U S WEST DS3 SERVICE (RESELLER REVENUE)
	E15.3CBR	UNIFORM ACCESS SOLUTION SERVICE (CONTRACT BILLED REVENUE)
	E15.3RSR	UNIFORM ACCESS SOLUTION SERVICE (RESELLER REVENUE)
	E9.4.4	UNIFORM CALL DISTRIBUTION
	Q6.2.2	VOICE GRADE SERVICE
	Q6.2.2CBR	VOICE GRADE SERVICE (CONTRACT BILLED REVENUE)
	Q6.2.2RSR	VOICE GRADE SERVICE (RESELLER REVENUE)
230	Q6.2.2R	VOICE GRADE SERVICE (REVENUE)
	C6.3.18	CALLING CONNECTION PLANS
	SPEC.ASSM	SPEC.ASSM
	E5.2.5.D	STAND-BY LINE
	E109.1.10	OBSOLETE OPTIONAL FEATURES
	E105.4.15	OBSOLETE SINGLENUMBER SERVICE
	E5.2.8	HOME BUSINESS LINE (HBL) SERVICE
237	E120.5	OBSOLETE 800 PAGELINE SERVICE

EXHIBIT
RUCO-3
Admitted

THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

JEFF HATCH-MILLER, Chairman
WILLIAM A. MUNDELL
MARC SPITZER
MIKE GLEASON
KRISTIN K. MAYES

Arizona Corporation Commission
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AZ Corporation Commission
Director Of Utilities

IN THE MATTER OF QWEST CORPORATION'S FILING OF RENEWED PRICE REGULATION PLAN.	DOCKET NO. T-01051B-03-0454
IN THE MATTER OF THE INVESTIGATION OF THE COST OF TELECOMMUNICATIONS ACCESS.	DOCKET NO. T-00000D-00-0672 DECISION NO. 67734 **ORDER**

BY THE COMMISSION:

In Decision No. 63487 (March 30, 2001), the Arizona Corporation Commission approved a Settlement Agreement which adopted a Price Cap Plan for Qwest Corporation ("Qwest"). The Price Cap Plan, which had an initial term of three years, provides *inter alia,* that Basket 1 services are capped and subject to an annual rate adjustment determined by an "Inflation minus Productivity" indexing mechanism. Under that mechanism when productivity exceeds inflation, rates for Basket 1 services decrease effective April 1 of the following year.

On July 1, 2003, Qwest filed its Renewed Price Regulation Plan ("Renewed Plan") pursuant to the provisions of the Settlement Agreement approved in Decision No. 63487.[1]

By Procedural Order dated November 17, 2003, the Commission determined that Phase I of the Access Charge Docket, which addresses Qwest's access charges, should be considered in conjunction with the Renewed Plan. [2]

---

[1] Docket No. T-01051B-03-0454 which is currently pending before us.

[2] On February 1, 2005, Qwest filed a notice in the docket that requested Commission Staff to schedule a series of settlement discussions. At a February 2, 2005 Procedural Conference, the Administrative Law Judge suspended the procedural schedule to allow the parties to engage in settlement discussions. During a March 3, 2005 Procedural Conference, the parties reported they were continuing to engage in settlement discussions.

On February 10, 2004, in response to a Qwest Motion to Clarify, Or In the Alternative, To Terminate Price Cap Plan, the Commission issued Decision No. 66772. In its Motion, Qwest had requested that the Commission clarify that after the expiration of the initial term of the Price Cap Plan on March 30, 2004, that: 1) no further productivity adjustment for Basket 1 Services would be made after March 30, 2004; 2) no further annual reduction in the level of access charges under the Settlement Agreement and the Price Cap Plan would be made after April 1, 2004; and 3) the procedures for changes in Qwest's rates and charges, including the hard caps imposed on the specific Basket 1 Services, would continue to apply until superceded by a revised plan approved by the Commission or a Commission order setting new rates and charges for Qwest.

In Decision No. 66772 the Commission found that pursuant to the Continuation Clause in the Price Cap Plan, the Plan's terms and conditions, including the productivity adjustment, continue in effect until the Commission modifies or terminates the Plan. The Commission found that Qwest must make the adjustment for the third year of the Plan effective April 1, 2004, and that the productivity adjustment remains in place pending Commission action on a new Plan.[3]

In Decision No. 67047 (June 18, 2004), the Commission addressed a Qwest Motion for Reconsideration of Decision No. 66772 and a Qwest Motion to Revise Productivity Factor. In Decision No. 67047, the Commission found that with respect to the productivity adjustment for Basket 1, Decision No. 66772 should be affirmed, and the adjustment for the third year of the Plan should be made on April 1, 2004. In addition, the Commission held:

> Further adjustments after April 1, 2004, would be governed by the Continuation Clause of the Agreement and Basket 1 adjustments would remain in effect until the Commission approves a new or revised Plan.[4]

Qwest appealed both Decision Nos. 66772 and 67047, which appeals are currently pending before the Court of Appeals.

On February 3, 2005, Qwest filed an Emergency Motion to Suspend the Inflation Minus Productivity Factor Adjustment. In its current Motion, Qwest requests that the Commission suspend

[3] Decision No. 66772 at 10.
[4] Decision No. 67047 at 6-7.

the application of the productivity adjustment that would be required on April 1, 2005 under the terms of Decision Nos. 66772 and 67047. Qwest states that if required to make the adjustment, its annual revenues would be reduced by $12 million annually.

The Residential Utility Consumer Office ("RUCO") filed a Response to Qwest's Motion on February 8, 2005.

Commission Utility Division Staff ("Staff") filed a Response to the Motion on February 22, 2005.

Qwest filed a Reply on March 1, 2005.

Pursuant to Procedural Order dated February 16, 2005, oral argument on Qwest's Motion was held on March 3, 2005, at the Commission's offices in Phoenix, Arizona.

Qwest argues that if it is required to make the April 1, 2005 adjustment, it would jeopardize the settlement discussions that are currently on-going concerning Qwest's Renewed Plan. Qwest believes that an automatic reduction is not supported by the evidence in this case, as all testimony has been filed and no party is recommending a revenue reduction. Furthermore, Qwest argues that any rate reduction is very likely to be reversed in several months when the Commission ultimately approves a new plan and the resulting "yo-yo" effect on rates may be confusing for consumers, expensive for the Company to administer, and bad public policy. Qwest asserts that the Commission can suspend any further Basket 1 reduction until it issues its final decision concerning modification, amendment or termination of the Price Cap Plan and can then determine whether any further adjustment or true-up will be necessary.

RUCO opposes Qwest's Motion and requests that the Commission deny it. RUCO argues that suspending the April 1 adjustment would undermine the Commission's Decisions that confirm the adjustment is legally required. According to RUCO, the Commission has twice rejected Qwest's argument that claims of its under-earning justify the termination of the adjustment. RUCO also argues that the Commission cannot modify the existing rate structure prior to complying with the Arizona Constitution's requirements to find fair value prior to adopting new rates. To date, RUCO asserts, although pre-filed testimony from all parties indicates that under traditional rate of return analysis, Qwest is under-earning, it is still premature for the Commission to reach a conclusion prior

to a hearing on the evidence. If the Commission were to suspend the adjustment and not order a true-up relating back to April 1, 2005, to give effect to the adjustment when it ultimately considers the Renewed Plan, RUCO argues it would be engaging in impermissible retroactive rate making.

RUCO also asserts that the Commission has twice rejected Qwest's argument that requiring it to make the adjustment would result in "yo-yo" rates that would confuse consumers. RUCO urges the Commission to reject this argument again. RUCO claims that upon making the April 1 adjustment, Qwest will be permitted to determine which services in Basket 1 will have their prices decreased, and later, if the Commission adopts an order in the Renewed Plan Docket modifying the price cap plan that allows Qwest to increase prices on certain Basket 1 services, Qwest will be permitted to determine which Basket 1 services will have their prices raised in conformance with the Order.

Staff supports the suspension of the April 1, 2005 adjustment as long as the pending consolidated appeals of Decision Nos. 66772 and 67047 are suspended for the same period of time. Staff notes that it does not support the termination of the adjustment. Staff states that while it agrees with many of RUCO's arguments in opposition to the Motion, Staff does not believe those arguments are applicable to consideration of a suspension rather than a termination of the adjustment. Staff agrees that termination of the adjustment, which is an integral part of the Plan, could violate Scates.[5] Staff believes, however, that temporary suspension of the adjustment does not raise the same implications under Scates and that the Commission has the flexibility to temporarily suspend the adjustment pending the outcome of the docket considering the Renewed Plan. Staff believes that suspension is appropriate based upon the fact that settlement discussions are underway and the likelihood that any settlement reached between the parties would be a comprehensive settlement which addresses both the April 1, 2005, adjustment as well as the consolidated appeal now pending in the Arizona Court of Appeals. Staff's support for the suspension is conditioned upon Qwest agreeing to suspend the procedural schedule of the consolidated appeal of Decisions 66772 and 67042.[6] Staff states the consolidated appeal could result in the reversal of the most recent reduction made April 1,

[5] Scates v. Arizona Corporation Commission, 118 Ariz. 531, 578 P.2d 612 (App. 1978).

[6] At the March 3, 2005 Procedural Conference, Staff provided a copy of a Court of Appeals Order dated February 24, 2005, suspending the appeal pursuant to the stipulation of the parties.

2004. Staff believes that suspension of the consolidated appeal maintains the status quo during settlement discussion and litigation of the case, if necessary.

In response, Qwest argues that preserving the status quo without prejudicing any party will allow the parties to move forward with productive settlement negotiations. Qwest states that because it is not requesting termination of the adjustment, whether the parties are able to resolve the docket through settlement or a fully litigated hearing, the Commission can then address the value, if any, of continued application of the adjustment (on April 1, 2005 and in the future) on a permanent basis, and after considering all of the evidence. Further, Qwest argues, as all parties' pre-filed testimony indicates that Qwest's current rates produce a revenue requirement deficiency, further rate reductions on April 1, 2005 serve no useful purpose and would be illegal and confiscatory. Qwest claims that the transcript of the Commission's June 9, 2004 Special Open Meeting (at which time the Commission considered Decision No. 67047) shows that in the event the docket was not resolved prior to April 1, 2005, the Commission expressed concerns that it did not want to limit its ability to consider the issue of whether the April 1, 2005 adjustment was appropriate.

We agree with RUCO that based on the terms of the current Price Cap Plan, and our holdings in Decision Nos. 66772 and 67047 that unless we approve a new Plan or terminate the current Plan, Qwest is required under the Continuation Clause of the Plan to make the April 1, 2005 productivity adjustment. However, the Commission certainly has the discretion to suspend the April 1, 2005 reduction, to accommodate comprehensive settlement discussions in this case. We do not believe that a mere suspension of the April 1, 2005 reduction would violate Scates[7], or the principle that the Commission cannot modify rates absent a fair value finding. We are not terminating the April 1, 2005 adjustment. The liability associated with the April 1, 2005 adjustment will continue to accrue. We will address the accrued liability for the April 1, 2005 adjustment in the final rate order in this Docket.

We also do not believe that suspension of the April 1, 2005, reduction is by itself retroactive ratemaking. The Commission by suspending the adjustment is not declaring its earlier finding or

[7] *Scates v. Arizona Corporation Commission*, 118 Ariz. 531, 578 P.2d 612 (App. 1978).

Order to be unreasonable and is not instituting any new rates with retroactive impact.

We can also see that adjusting rates for basic services downward now, and then adjusting them again in the opposite direction in the near future as a result of final rates being set in the Renewed Plan, could cause consumer confusion. Therefore, we believe that a suspension of the adjustment is appropriate.

Our Decision granting Qwest's Motion is motivated solely by a desire to avoid consumer confusion and to accommodate comprehensive settlement discussions in this case. Qwest's claim that it is under-earning under traditional rate of return analysis has no bearing on our Decision. That is an issue to be determined through the evidentiary hearing process. Further, in no way does our conclusion indicate one way or the other how the Commission will decide the issue of whether there should be a productivity adjustment when we consider Qwest's Renewed Plan currently before us.

* * * * * * * * * *

Having considered the entire record herein and being fully advised in the premises, the Commission finds, concludes, and orders that:

FINDINGS OF FACT

1. In Decision No. 63487 (March 30, 2001), the Commission approved a Settlement Agreement in Qwest's then pending rate case which adopted a Price Cap Plan for Qwest.

2. On July 1, 2003, Qwest filed its Renewed Price Regulation Plan pursuant to the provisions of the Settlement Agreement approved in Decision No. 63487.

3. By Procedural Order dated November 17, 2003, the Commission determined that Phase I of the Access Charge Docket, which addresses Qwest's access charges, should be considered in conjunction with the Renewed Plan.

4. In Decision No. 66772 the Commission found that under the terns of the Price Cap Plan approved in Decision No. 63487, the terms and conditions, including the productivity adjustment, continue in effect until the Commission modifies or terminates the Plan. The Commission found that Qwest must make the adjustment for the third year of the Plan effective April 1, 2004, and that the productivity adjustment remains in place pending Commission action on a new Plan.

5. In Decision No. 67047, the Commission found that with respect to the productivity adjustment for Basket 1, Decision No. 66772 should be affirmed, and thus the adjustment for the third year of the Plan should be made on April 1, 2004. In addition, the Commission held "Further adjustments after April 1, 2004, would be governed by the Continuation Clause of the Agreement and Basket 1 adjustments would remain in effect until the Commission approves a new or revised Plan."

6. Qwest appealed both Decision Nos. 66772 and 67047, which appeals are currently pending before the Court of Appeals.

7. On February 3, 2005, Qwest filed an Emergency Motion to Suspend the Inflation Minus Productivity Factor Adjustment. In its current Motion Qwest requests that the Commission suspend the application of the productivity adjustment that is required on April 1, 2005 under the terms of Decision Nos. 66772 and 67047.

8. Qwest states that if required to make the adjustment, its annual revenues would be reduced by $12 million annually.

9. RUCO filed a Response to Qwest's Motion on February 8, 2005.

10. Staff filed a Response to the Motion on February 22, 2005.

11. Qwest filed a Reply on March 1, 2005.

12. Pursuant to Procedural Order dated February 16, 2005, oral argument on Qwest's Motion was held on March 3, 2005, at the Commission's offices in Phoenix, Arizona.

13. Pursuant to the Stipulation of the parties, the Arizona Court of Appeals entered an Order that suspends the procedural schedule for Qwest's appeal of Decisions Nos. 66772 and 67047.

14. The productivity adjustment required to be made on April 1, 2005 under the terms of Qwest's current Price Cap Plan is an integral part of the rates we approved in Decision No. 63487.

15. We reaffirm our findings and conclusions in Decision Nos. 66772 and 67047. Pursuant to the terms of the Price Cap Plan we approved in Decision No. 63487, the liability relating to the productivity adjustment on Basket 1 Services continues until the Commission approves new rates or terminates the Plan.

16. Evidence presented concerning whether Qwest would be under-earning under traditional rate of return regulation has not yet been admitted or subjected to cross examination.

Thus, it is premature to state that Qwest is under-earning or to make a determination as to the effect on rates.

17. A suspension of the April 1, 2005 productivity/inflation adjustment is appropriate to allow for comprehensive settlement discussions between the parties and to avoid customer confusion.

18. There may be consumer confusion if Qwest is required to make the April 1, 2005 productivity adjustment and then has to adjust rates again several months later to give effect to a final Commission Order on its Renewed Plan.

19. It is in the public interest to allow Qwest to suspend the implementation of the April 1, 2005 productivity adjustment until final rates are set in this docket, as long as the consolidated appeals are suspended for a similar time period, at which time the Commission will address issues surrounding the April 1, 2005 adjustment. However, the liability associated with the April 1, 2005 adjustment will continue to accrue, in accordance with the terms of the Continuation Clause of the Price Cap Plan.

20. Qwest has the burden of demonstrating that the terms of any Renewed Plan or other form of rate regulation that may ultimately be approved, whether produced by settlement or through litigation, include credit for the full value of the April 1, 2005 productivity adjustment being given to ratepayers.

CONCLUSIONS OF LAW

1. Qwest is a public service corporation within the meaning of the Arizona Constitution, Article XV, and under Arizona Revised Statutes, Title 40, generally.

2. The Commission has jurisdiction over Qwest and the subject matter of Qwest's Motion.

3. Pursuant to Arizona Constitution Article 15, Section 14, the Commission must determine the fair value of a utility's property before modifying its rates. Suspension of the April 1, 2005 adjustment by itself does not constitute a change in rates but merely delays collection, and therefore, does not violate *Scates*.

4. Suspending the April 1, 2005 productivity adjustment by itself does not violate the prohibition on retroactive ratemaking because the liability associated with the April 1, 2005

adjustment continues to accrue.

5. It is in the public interest to grant Qwest's Motion to suspend the April 1, 2005 productivity adjustment to the extent discussed herein and for the reasons set forth herein.

ORDER

IT IS THEREFORE ORDERED that Qwest Corporation's Emergency Motion to Suspend the Productivity Adjustment to Basket 1 required on April 1, 2005, is granted to the extent discussed herein and for the reasons set forth herein.

IT IS FURTHER ORDERED that the liability associated with the April 1, 2005 adjustment will continue to accrue, in accordance with the terms of the Continuation Clause of the Price Cap Plan.

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IT IS FURTHER ORDERED that Qwest shall demonstrate that final rates approved in this docket result in ratepayers receiving the full value of the April 1, 2005 productivity adjustment as if it had been effective April 1, 2005.

IT IS FURTHER ORDERED that this Decision shall become effective immediately.

BY ORDER OF THE ARIZONA CORPORATION COMMISSION.

CHAIRMAN COMMISSIONER COMMISSIONER

COMMISSIONER COMMISSIONER

IN WITNESS WHEREOF, I, BRIAN C. McNEIL, Executive Secretary of the Arizona Corporation Commission, have hereunto set my hand and caused the official seal of the Commission to be affixed at the Capitol, in the City of Phoenix, this 4th day of April, 2005.

BRIAN C. McNEIL
EXECUTIVE SECRETARY

DISSENT _____

DISSENT _____

JR:mj

SERVICE LIST FOR: QWEST CORPORATION

DOCKET NO.: T-01051B-03-0454

Timothy Berg
Teresa Dwyer
Darcy Renfro
FENNEMORE CRAIG, P.C.
3003 North Central Ave., Suite 2600
Phoenix, Arizona 85012-2913
Attorneys for Qwest Corporation

Todd Lundy
Qwest Law Department
1801 California Street
Denver, Colorado 80202

Scott S. Wakefield, Chief Counsel
RUCO
1110 West Washington, Suite 220
Phoenix, Arizona 85007

Richard S. Wolters
AT&T Law Department
1875 Lawrence Street, Suite 1503
Denver, CO 80202

Joan S. Burke
OSBORN MALEDON, P.A.
2929 North Central Avenue, Suite 2100
Phoenix, Arizona 85012-2794
Attorneys for AT&T

Thomas F. Dixon
WorldCom, Inc.
606 17th Street, 39th Floor
Denver, Colorado 80202

Thomas H. Campbell
Michael T. Hallam
LEWIS AND ROCA
40 N. Central Avenue
Phoenix, Arizona 85004
Attorneys for WorldCom, Inc.

Michael W. Patten
ROSHKA HEYMAN & DEWULF PLC
400 East Van Buren Street, Suite 800
Phoenix, Arizona 85004

Mark A. DiNunzio
Cox Arizona Telcom, LLC
20401 North 29th Avenue
Phoenix, Arizona 85027

Peter Q. Nyce Jr.
Regulatory Law Office
U.S. Army Litigation Center
901 N. Stuart Street, Suite 713
Arlington, VA 22203-1644

Richard Lee
Snavely King Majors O'Connor & Lee, Inc.
1220 L Street N.W., Suite 410
Washington, DC 20005

Christopher Kempley, Chief Counsel
ARIZONA CORPORATION COMMISSION
1200 West Washington Street
Phoenix, Arizona 85007

Ernest Johnson, Director
ARIZONA CORPORATION COMMISSION
1200 West Washington Street
Phoenix, Arizona 85007

EXHIBIT
tabbies
RUCO-4
Admitted

U.S. WEST COMMUNICATIONS, INC.
DOCKET NO. T-1051B-99-105

SURREBUTTAL TESTIMONY OF HARRY M. SHOOSHAN III STRATEGIC POLICY RESEARCH, INC.

SEPTEMBER 8, 2000

1 range of services subject to the "hard cap" and/or adjusting the price cap formula if
2 it wants to provide Qwest some additional flexibility within Basket 1.

3 For Basket 3, Qwest proposes to use a price cap based on the weighted average of
4 prices of the services in that basket plus 15 percent. Prices could be raised, and
5 terms and conditions of services changed with one-day's notice to the Commission.
6 Further, prices could be lowered with no notice to the Commission. This approach
7 has some advantages over the approach to Basket 3 pricing in the Staff Plan
8 [Shooshan at 12-13]. For consumers, it means that, should Qwest seek to raise
9 prices for some services in the Basket such that the adjusted weighted average price
10 cap would be exceeded, it must lower other prices. Under the Staff Plan, it is
11 possible that prices could only go up (unless "checked" by effective competition), as
12 long as they remain below the tariff ceiling set *for that service*. For the Commission,
13 the overall revenue cap proposed by Qwest could be easier to monitor and
14 administer than dozens of individual tariff-based caps. However, if the Commission
15 is to monitor such a cap, it must also have knowledge of price reductions. I
16 presume that Qwest intends to file a tariff or some form of notice on the effective
17 date of a price reduction to enable the Commission to track the effect on the cap.

18 The Competitive Zone Proposal. Mr. Inouye proposes the use of competitive
19 zones "with the basket approach" [Inouye at 12]. Specifically, Qwest proposes that
20 services within competitive zones (as defined by Commission rule) be moved to
21 Basket 3. While the use of competitive zones to move services to Basket 3 on a
22 geographic basis would be far less troubling to me in the context of true price
23 regulation than it is under the traditional rate-base rate of return regulation approach
24 initially favored by Qwest in this proceeding, Qwest's price regulation plan, as
25 presented, is really nothing more than a proposal to extend the "regulatory lag" for
26 three more years after which time *it* can decide whether to go back to traditional
27 rate-base rate of return regulation. Thus, my concerns about the use of competitive
28 zones are still as stated in my Testimony [at 3-4]. While Mr. Inouye is correct that
29 Oregon is using the competitive zone approach [Inouye at 13], it is currently doing
30 so within the context of a price regulation plan. Moreover, the Oregon legislature

has mandated that the Oregon Public Utility Commission no longer use rate of return regulation once a company elects price regulation.[19]

Q. WHAT ARE YOUR VIEWS ABOUT THE COMPANY'S PROVISION FOR TREATMENT OF "EXOGENOUS FACTORS"?

A. The Qwest Plan appropriately makes provision for adjustments to the price cap formula due to exogenous factors. I am concerned, however, that the standard Qwest would have the Commission apply is far too broad [Inouye Exhibits at 3]. The basis for adjusting the price cap formula to reflect exogenous changes should be defined as narrowly as possible. An exogenous factor should be employed in the instance of changes beyond Qwest's control that have a measurable effect on Qwest's costs or revenues. Exogenous changes that are appropriate would include tax law changes, accounting regulation changes and regulatory changes that cause more than a *de minimis* change in Qwest's costs or revenues in Arizona.

8. SUMMARY AND CONCLUSION

Q. WILL YOU PLEASE SUMMARIZE YOUR SURREBUTTAL TESTIMONY?

Yes. I respond both to criticisms of the Staff Plan proposed in my Testimony and to the alternative plan proposed by Qwest as a substitute for the Staff Plan. With regard to the Staff Plan, Qwest asserts that it does not afford adequate pricing flexibility, particularly to enable rate rebalancing. As I have described, Qwest may rebalance by a variety of means, including adjusting rates of non-basic services.

[19] Oregon Revised Statutes, O.R.S. 759.410.

EXHIBIT
RUCO-6
admitted

IN THE MATTER OF QWEST CORPORATION'S
FILING OF RENEWED PRICE REGULATION PLAN.

DOCKET NO. T-01051B-03-0454

and

IN THE MATTER OF THE INVESTIGATION OF THE
COST OF TELECOMMUNICATIONS ACCESS.

DOCKET NO. T-00000D-00-0672

DIRECT TESTIMONY

OF

MARYLEE DIAZ CORTEZ

(Redacted)

On Behalf of
The
RESIDENTIAL UTILITY CONSUMER OFFICE

November 18, 2004

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INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My name is Marylee Diaz Cortez. I am a Certified Public Accountant. I am the Chief of Accounting and Rates for the Residential Utility Consumer Office (RUCO) located at 1110 W. Washington, Phoenix, Arizona 85007.

Q. Please state your educational background and qualifications in the utility regulation field.

A. Appendix I, which is attached to this testimony, describes my educational background and includes a list of the rate case and regulatory matters in which I have participated.

Q. Please state the purpose of your testimony.

A. The purpose of my testimony is to present RUCO's revenue requirement recommendation for Qwest Corporation (Qwest) based on my own analyses as well as the analyses of other RUCO witnesses.

Q. Please describe your work effort on this project.

A. I obtained and reviewed data and performed analytical procedures necessary to understand the Company's application as it relates to operating income, rate base, and the Company's overall revenue requirements. I worked closely with RUCO consultants in formulating RUCO's position regarding a revised price cap plan, and was responsible,

along with RUCO witness William Rigsby, for reflecting the impact of those positions on Qwest's revenue requirements.

REVENUE REQUIREMENTS

Q. What revenue requirement results from your audit and review of Qwest's financial position?

A. My analysis of Qwest's test year financial position indicates that an increase in rates of $160 million, or 13.7% is warranted. This compares with the Company's revenue increase calculation of $322 million, or 28.7%.

Q. Is the Company requesting that its current rates and tariffs be increased by the $322 million it calculated in its rate of return analysis?

A. No. Qwest explains its ratemaking proposal as follows:

> Although Qwest's Rule 103 Filing shows a revenue requirement deficiency of $322 million, Qwest does not propose rate increases to recover this revenue requirement. Qwest does not believe that traditional revenue-requirement-based ratemaking is appropriate or sustainable in the increasingly competitive telecommunications market in Arizona. Rather, Qwest has proposed changes to the Price Cap Plan, rate rebalancing, and the use of AUSF funding for subscribers in Qwest's less dense service areas in order to (1) place Qwest in a position where it can compete fairly with its competitors in Arizona and (2) introduce competition in the provision of telephone service in less densely populated portions of the State. [Direct testimony Qwest witness Ziegler at page 3]

Q. Is RUCO recommending that Qwest's current rates and tariffs be increased by the $160 million it calculated in its rate of return analysis?

A. No, not on a rate by rate basis.

Q. What is RUCO's recommendation for recovery of the $160 million revenue deficiency?

A. RUCO recommends that Qwest be authorized an opportunity to recover RUCO's recommended revenue requirement through a price cap plan, as outlined by Dr. Johnson.

Q. Does RUCO's recommended modified price cap plan afford Qwest the opportunity to recover RUCO's recommended revenue requirement?

A. Yes. The modified price cap plan as proposed by RUCO witness Dr. Johnson grants additional pricing flexibility for Qwest in its truly competitive markets. Through that flexibility Qwest will have additional pricing freedom to compete in the telecommunication markets and the opportunity to increase its revenue streams so as to realize its recommended rate of return.

RATE BASE

Rate Base Adjustment #1 – Accumulated Depreciation

Q. Is Qwest proposing an adjustment to its historical test year accumulated depreciation balance?

A. Yes. Qwest has proposed an adjustment that reduces its test year accumulated depreciation balance by $109.7 million.

Q. What is the Company's rationale for restating its historical accumulated depreciation balance?

A. Qwest claims that the method it uses for depreciating its assets[1] requires it to periodically review the status of its depreciation rates and depreciation reserve and perform a "technical update". Qwest witness Wu claims that the results of this review indicate that its depreciation rates for certain accounts require a technical update. Mr. Wu then proposes a change in depreciation rates for these particular accounts.

Q. Why would a request for a change in certain depreciation rates result in a restatement of the historical accumulated depreciation balance?

A. It should not. A request for a change in depreciation rates, if granted, would only affect the amount of depreciation that is accrued and collected in rates on a prospective basis. Such a request cannot, as Qwest proposes, retroactively rewrite the amount of depreciation that was historically accrued and is embedded in Qwest's rates and tariffs.

Q. If Qwest's request for a restatement of its test year historical accumulated depreciation balance were granted, would it result in double counts?

[1] Remaining-Life Technique

A. Yes. Pursuant to Decision No. 62507, Qwest was granted accelerated depreciation rates that increased its annual depreciation accruals by over $100 million. This additional depreciation expense was included in Qwest's rates beginning in April 2000 pursuant to Decision No. 63487. Thus, ratepayers have been paying for this accelerated depreciation for the past three years. If Qwest is allowed to restate its test year accumulated depreciation balance, as if this accelerated depreciation had never been in included in test year rates, ratepayers will effectively pay for this portion of Qwest's plant investment twice, once in the test year and again through the rates and tariffs set in this docket.

Q. Have you made an adjustment to prevent this double recovery?

A. Yes. As shown on Schedule MDC-3, Column (B), I have restored Qwest's proposed write-off of $109.7 million to the test year accumulated depreciation balance. This will prevent ratepayers from having to pay for this portion of Qwest's investment in plant twice.

Rate Base Adjustment #2 – Capitalization of Software

Q. Has Qwest proposed an adjustment to its rate base to reflect a change in its method of accounting for computer software?

A. Yes. In 1998, the American Institute of Certified Public Accountants issued Statement of Position 98-1 (SOP 98-1). This statement called for a change in the method of accounting for computer software from expensing

of these costs in the year incurred to capitalization and amortization of the software costs over its useful life.

Q. How has Qwest reflected this change in this case?

A. Qwest has made an adjustment to its test year income statement to remove its test year recorded software expenses of $18.659 million and increased its test year rate base by the same amount to reflect capitalization of these costs. The Company also made conforming changes to reflect test year amortization of software costs.

Q. Do you agree with this adjustment?

A. Yes, in part. The accounting profession via SOP 98-1 has determined that software expenditures are more accurately reflected as assets in a company's financial statements than as annual expenses. It is therefore appropriate to reflect this change on Qwest's financial statements. However, I believe the Company's proposed adjustment fails to capture the entire effect of this change in accounting.

Q. Please explain.

A. Qwest's proposed adjustment merely reflects this change in accounting as it affects the test year. SOP98-1, however, took effect in January 1999, and accordingly, an adjustment needs to reflect capitalization accounting for software for this entire time.

Q. Does Qwest's now agree that this is appropriate?

A. Yes. Through data requests Qwest agreed that its financial statements should reflect the SOP98-1 change for 1999 through 2003, not just the test year.

Q. What adjustment have you made?

A. As shown on Schedule MDC-3, Column (C), I have increased rate base by a net amount of $50.782 million to reflect the effect on plant and accumulated amortization of having implemented SOP98-1 in 1999. This adjustment also effects test year expenses and will be discussed in the Operating Income section of my testimony.

Rate Base Adjustment #3 – Construction Work in Progress

Q. Is Qwest seeking to include some its Construction Work in Progress (CWIP) in rate base?

A. Yes. The Company is requesting the inclusion of $21.448 million in CWIP in rate base.

Q. Under ACC ratemaking policy is CWIP an appropriate element of rate base?

A. No. In Arizona the Commission has historically excluded CWIP from rate base primarily because Construction Work in Progress by definition is not used and useful in the provision of utility service and thus does not

warrant rate base inclusion. Utilities, however, are allowed to accrue the interest and capital costs of their Construction Work in Progress projects in the form of AFUDC. Once projects are completed the CWIP balances as well as the accrued AFUDC are then eligible for rate base inclusion.

Q. Given this policy, why has Qwest included its CWIP balances in rate base in the instant case?

A. According to the Company's testimony it wants to change the Commission's policy on the CWIP ratemaking methodology to what it calls the "revenue offset method".

Q. What is the "revenue offset method"?

A. Qwest's testimony explains this methodology as allowing rate base inclusion of CWIP balances in rate base, accrual of AFUDC, and a credit to revenue to offset the AFUDC accruals to prevent double recovery.

Q. Why does Qwest want to change the methodology used by the Commission to account for CWIP?

A. Qwest argues first that its proposed revenue offset method is the method authorized by the FCC. Second, the Company argues that the methodology used currently used by the Commission does not allow it to fully recover its construction costs (including carrying costs), whereas the revenue offset method will allow for full recovery. In support of this

argument Qwest provides an exhibit (PEG-D4) that it claims shows that the current CWIP accounting methodology does not allow full recovery.

Q. Do you agree that Exhibit PEG-D4 demonstrates that current CWIP accounting methodology does not allow full recovery of construction costs?

A. No. PEG-D4 merely demonstrates that there is a timing difference between when recovery begins under the offset method verses the current method. The PEG-D4 analysis is misleading because it assumes that new rates are set annually, and that there is no regulatory lag. Both assumptions are wrong and as a result the PEG-D4 analysis is flawed.

Q. What adjustment is necessary?

A. As shown on Schedule MDC-3, Column (D), I have removed $21.448 million in CWIP balances from rate base. I have also made a conforming adjustment to operating income to remove the AFUDC offset. These adjustments are necessary to reflect the methodology the Commission uses to account and set rates for CWIP.

Rate Base Adjustment #4 – Accumulated Depreciation - Station Apparatus

Q. Did you perform a reconciliation of the test year accumulated depreciation balance included in the Company's application with the accumulated depreciation balances reflected on Qwest's general ledger?

A. Yes. Pursuant to this audit procedure, I learned that Qwest's books and records reflect an accumulated depreciation balance in its Station Apparatus account of $12.363 million, which the Company has failed to include in its application.

Q. Is the Station Apparatus accumulated depreciation account an ACC jurisdictional account?

A. Yes. According to the Company, the FCC has deregulated this account but the ACC has not. Further, Qwest has included the Station Apparatus plant account balance of $32.899 million in its requested rate base, yet failed to include the accumulated depreciation associated with this account.

Q. What adjustment is necessary?

A. As shown on Schedule MDC-3, Column (E), I have decreased rate base by $12.363 million to include the accumulated depreciation balance for the Station Apparatus account. Since the Company has requested rate base recovery of the Station Apparatus plant it is appropriate that the accumulated depreciation on the Station Apparatus plant also be included.

Rate Base Adjustment #5 – Pension Asset

Q. Please discuss the Company's proposed adjustment to increase its rate base by $97.377 million to include a "pension asset".

A. Qwest claims that as a result of the accounting requirements of FAS 87 it currently has a pension asset on its books for Qwest Arizona operations of $97.377 million. The Company further asserts that the "pension asset" is a real asset that is supported by investor supplied funds and therefore should be afforded rate base recovery, as would any other utility asset.

Q. Do you agree with this position?

A. No. First, Qwest's Arizona Intrastate 2003 balance sheet[2] does not reflect a pension asset. In fact, the only item on Qwest's Arizona balance sheet that has not otherwise been accounted for in Qwest's Arizona rate base is an item entitled "Other Liabilities". When asked to identify each item that comprised the $511 million balance in this account Qwest indicated that this amount was merely a "reconciling item" or in other words a plug figure to accommodate the balancing of the Qwest Arizona balance sheet.

Q. Assuming theoretically the purported pension asset were a component of the $511 million balance sheet plug figure, would rate base inclusion be warranted?

A. No. Even if theoretically the claimed pension asset were part of the plug figure, the plug figure is a liability, not an asset. Thus, there must be at least $608 million ($97 million pension debit + $608 million liabilities credit

[2] Docket No. T-01051B-03-0454, Schedule E-1, page 1.

= $511 million net credit balance) in unidentified liabilities. These liabilities have not been recognized or otherwise reflected in Qwest's rate base and if recognized would more than offset any claimed pension asset.

Q. Are there any other reasons why you disagree with the Company's claim of an investor supplied pension asset?

A. Yes. In its application Qwest reflects an actual test year rate base, prior to adjustments, of $1,647 million[3]. Further, Qwest's test year actual capital structure, as reflected in its application is $1,653 million[4]. Thus, Qwest's claim of investor supplied capital for an Arizona pension asset is not possible since the $1,653 million in actual Arizona capital investment is sufficient only to support Qwest's test year rate base (which does not include a pension asset).

Q. Has Qwest requested rate base recognition of this claimed pension asset in prior rate cases?

A. Yes. Qwest requested rate base recovery of this same pension asset in its 1993 rate case. The Commission denied the request in Decision No. 58927.

Q. What adjustment have you made?

[3] Docket No. T-01051B-0454, Schedule B-2
[4] Docket No. T-01051B-0454, Schedule D-1

A. As shown on Schedule MDC-3, Column (F), I have decreased rate base by $97.377 million to remove the claimed pension asset. Qwest's balance sheet does not support its claim of this investor-supplied asset, since its invested capital is insufficient to support this claimed investment.

Rate Base Adjustment #6 – Materials and Supplies

Q. Has Qwest included its test year Material and Supplies balances in rate base?

A. Yes. Qwest has included $7.255 million in Material and Supplies balances in rate base.

Q. Do you agree with this inclusion?

A. Yes and no. I agree that rate base recovery of a company's investment in Materials and Supplies inventories is conceptually correct, as well as accepted ratemaking. However, I do not agree with $7.255 million amount reflected in the Company's application.

Q. Please explain.

A. Pursuant to discovery, Qwest acknowledged that certain Material and Supply subaccounts that were included in the $7.255 million should not have been included. Specifically, one of the accounts had been written off because it was no longer used in network operations and another

subaccount was determined not to be a rate base element subsequent to Qwest's initial filing in this docket.

Q. What adjustment have you made?

A. As shown on Schedule MDC-3, Column (G), I have decreased rate base by $2.204 million to remove these two subaccounts from Qwest's Materials and Supply balance. Qwest has acknowledged the need for this adjustment in its response to data request UTI 14-001.

Rate Base Adjustment #7 - Postretirement Benefits

Q. Has the Company made an adjustment to include its cost of Post Retirement Benefits pursuant to the Financial Accounting Standards Board's Statement No. 106?

A. Yes.

Q. Does RUCO oppose this adjustment?

A. No, not in concept. While RUCO opposed ratemaking recognition of FAS 106 when it first became effective over ten years ago, it has since been accepted by this Commission and incorporated in the ratemaking formula. The Company, however, has acknowledged certain errors in its post-retirement benefit calculation, as well as subsequently updated is estimate of the accumulated postretirement benefit obligation (APBO). The errors acknowledged by the Company affect the rate base portion of the post

retirement adjustment and the APBO estimate update affects test year operating income, and will be discussed later in that section of my testimony.

Q. What rate base adjustment is necessary?

A. As shown on Schedule MDC-5, an increase in plant in service of $4.7 million and a decrease in accumulated depreciation of $0.25 million is necessary. These errors were identified by Qwest in its response to RUCO data request 3.10.

Rate Base Adjustment #8 – Cash Working Capital

Q. Is the Company requesting rate base recognition of a cash working capital element?

A. Yes. The Company is requesting recognition of negative $52.173 million in cash working capital.

Q. How did Qwest calculate its cash working capital requirement?

A. The Company used a lead/lag study to quantify its cash working capital requirement.

Q. Do you agree with the methodology used by Qwest?

A. I agree that a lead/lag study is the most accurate way to measure a company's cash working capital requirement. However, I disagree with certain elements of the Company's cash working capital calculation.

Q. Please discuss those elements of Qwest's cash working capital calculation that are inappropriate.

A. First, the Company has included a number of expenses in its calculation of cash working capital that the ACC historically has precluded from the calculation. These items include depreciation expense, interest expense, and accrued liabilities. Second, I disagree with Qwest's calculation of its revenue lead/lag, particularly for local service revenues. Third, Qwest has failed to include the effects of its rate case proposals on the cash working capital requirement.

Q. Does your calculation of Qwest's working capital requirement correct these elements?

A. Yes. As shown on Schedule MDC-6, I have precluded those items that the ACC historically has not recognized from my calculation of Qwest's cash working capital requirement. Second, I have recalculated the lead/lag days for Qwest's local service revenues. My calculation is based on the service period and billing dates from actual Qwest residential and business local service bills. Qwest bills its local service customers for monthly service prior to rendering a full month of service. My calculation

recognizes this local service billing practice and results in a revenue lag of 4 days verses the 20.2 lags days utilized by the Company. Third, my calculation of Qwest's cash working capital requirement includes the effects of my revenue requirement recommendations in this docket. These adjustments are shown on Schedule MDC-6 and result in a decrease to the cash working capital requirement.

OPERATING INCOME

Operating Adjustment #1 – Out-of-Period Adjustments

Q. Has the Company proposed an adjustment to remove and/or include from test year certain out-of-period revenues and expenses?

A. Yes. The Company analyzed its test year and post test year revenues and expenses and identified a number of items that were recorded in a particular period that related to another period. Qwest's adjustment includes or removes those out of period items from the test year as appropriate.

Q. Do you agree with this adjustment?

A. Yes. It is appropriate to delete or insert, as appropriate, out-of-test-year items in the context of setting fair and reasonable rates. The discovery process in this proceeding however, revealed additional out-of-period items that Qwest had failed to include in its initial adjustment.

Q. Are you recommending an adjustment for these additional out-of-period items?

A. Yes. On Schedule MDC-9 I have listed these additional items and reflected their impact on the test year income statement. I have also referenced each Qwest data response where the additional item was recognized. This adjustment reduces the test year expenses by $7.9 million.

Q. Is it your understanding that Qwest agrees with these items?

A. Yes. Pursuant to the data responses identified on Schedule MDC-9, Qwest acknowledges the appropriateness of this adjustment.

Operating Adjustment #2 – Projected Changes in Test Year Revenues

Q. Please discuss Qwest's proposed adjustment to test year revenue levels.

A. Qwest has proposed an adjustment to decrease test year revenues by $54.080 million to reflect projected future decreases in Qwest customer levels.

Q. Is this adjustment appropriate?

A. No. Despite Qwest's high-level discussion of its use of statistical measures (regression analyses, R-squared factors, and T-scores), this adjustment amounts to nothing more than speculation of future customer levels. The adjustment does not meet the known and measurable standard, matching principle, or historical test year concepts of

ratemaking. Further, even if one could get passed these numerous violations of ratemaking principles, the adjustment is illogical in the context of Qwest's ratemaking proposal in this case.

Q. Please explain.

A. Qwest's proposed adjustment is based on its premise that it will continue to lose customers at the same rate that it has in recent years. However, at the same time it is proposing changes in its price cap plan to allow it to more effectively compete. In fact Qwest is so confident that its proposed additional competitive freedom will be successful that it is willing to waive its claimed revenue deficiency of $322 million. These two premises are mutually exclusive.

Q. What adjustment are you recommending?

A. As shown on Schedule MDC-8, Column (C), I have restored the $54.080 million in test year revenues to Qwest's income statement. Loss of this revenue is mere speculation on Qwest's part, as well as incompatible with Qwest's request for greater pricing freedom.

Operating Adjustment #3 – Correction to Deregulated Service Accounts

Q. Does Qwest's rate application include the revenues and expenses associated with certain FCC deregulated services?

A. Yes. According to Qwest, it has included in its Arizona jurisdictional revenue requirement the revenues and expenses attributable to services that have been deregulated by the FCC, because these services have not yet been deregulated by the ACC.

Q. How did the revenues and expenses associated with FCC deregulated service impact the test year historical test year?

A. According to Qwest's test year books and records these FCC deregulated services operated at a loss of over $10 million.

Q. Under Qwest's currently effective price cap plan through which basket does it recover the costs of these FCC deregulated services?

A. These FCC deregulated services are included primarily in basket 3 under the current price cap plan.

Q. Doesn't the current price cap plan afford pricing flexibility for those services included in basket 3?

A. Yes. Thus, the test year losses associated with these deregulated services beg the question why the Company allowed these services to operate at a loss when they had the ability to raise their prices. These questions were pursued during the discovery process.

Q. What was revealed in discovery regarding this issue?

A. Pursuant to answering discovery on this issue the Company became aware that it had incorrectly booked certain expenses to the FCC deregulated accounts during the test year. Correction of these entries reveals that the FCC deregulated accounts did not operate at a loss during test year.

Q. Have you made an adjustment to correct the expenses recorded in the test year for the FCC deregulated accounts?

A. Yes. As shown on Schedule MDC-8, Column (D), this adjustment reduces test year expenses by $9.892 million.

Q. Does Qwest agree with this adjustment?

A. Yes. In response to data request UTI 9-008 Qwest agreed that this test year expense correction is appropriate.

Operating Adjustment #4 – Capitalization of Software

Q. Please explain your recommended adjustment to test year software expenses.

A. As discussed earlier in my testimony regarding rate base, the accounting profession instituted a change in the appropriate manner of accounting for software expenses. Qwest's application reflected the impact of this accounting change for the test year only. The Company now agrees that it is appropriate to reflect this change from its inception in 1999. As

shown on Schedule MDC-10 my operating adjustment #4 adjusts the test year income statement to reflect the 1999 adoption of SOP98-1.

Operating Adjustment #5 - Postretirement Benefit Amortization

Q. Are you recommending an adjustment to Qwest's postretirement benefit amortization expense?

A. Yes. Under FAS 106, the calculation of postretirement benefit amortization expense is based in part on an estimate of a company's accumulated postretirement benefit obligation (APBO). In response to data request UTI 1-1S1, Qwest provided an updated APBO amount. I have incorporated this APBO update in the calculation of postretirement benefit amortization expense. This calculation is shown on Schedule MDC-11 and results in a $7.520 million decrease in annual postretirement benefit amortization expense.

Operating Adjustment #6 - Depreciation Expense

Q. Please discuss Qwest's proposed depreciation expense adjustment.

A. As discussed earlier in the rate base section of my testimony, Qwest is requesting a "technical update" to its depreciation rates. The results of Qwest's technical update indicate that a decrease in annual depreciation accruals of approximately $110 million is warranted.

Q. Do you agree?

A. Yes, I agree that on a prospective basis a de-acceleration of depreciation rates is appropriate. The current depreciation rates are a product of the Commission's authorization[5] of Qwest's request for accelerated depreciation rates. In that case, RUCO opposed the accelerated depreciation rate request and argued against the appropriateness of the abbreviated lives of certain assets. The lower depreciation rates proposed in this docket are more closely aligned with the rates recommended by RUCO in the prior depreciation docket.

Q. What adjustment are you recommending to Qwest's depreciation expense?

A. I have recalculated Qwest's test year depreciation expense utilizing the Company's proposed depreciation rates and test year-end plant balances. There is no difference between the annual accruals calculated by the Company and those calculated by RUCO. Accordingly, I have made no adjustment to proforma depreciation expense.

Operating Adjustment #7 – AFUDC Offset Adjustment

Q. Please explain adjustment #7.

A. Adjustment #7 removes the revenue offset credit and the depreciation expense associated with the Company's proposed change in accounting for CWIP from test year operating income. This adjustment is shown on

[5] Decision No. 62507

Schedule MDC-8, page 1, Column (H). As discussed earlier in the rate base portion of my testimony a change in the Commission's methodology of accounting for CWIP is not warranted.

Operating Adjustment #8 - Property Taxes

Q. What amount of property tax expense is Qwest requesting be included in rates?

A. Included in Qwest's rate application is an estimated property tax expense of $64.128 million. According to the Company, this estimate is based on current property tax rates and its current level of investment.

Q. Do you agree with Qwest's estimate of property taxes?

A. No. As shown on Schedule MDC-12 I have applied the formula utilized by the Arizona Department of Revenue to Qwest's adjusted test year plant and current ADOR property tax rates. The ADOR formula results in $54.847 million in property taxes verses the Company's estimate (which uses an unidentified formula) of $64.128.

Q. What adjustment have you made?

A. As shown on Schedule MDC-12, the ADOR formula renders a property tax expense that is $9.505 million lower than the amount estimated by the Company. Since the actual property tax bill that Qwest will be required to

pay is based on this same formula, by definition it renders a much more accurate level of property tax expense.

Operating Adjustment #9 - Incentive Compensation

Q. Does Qwest's test year income statement include any employee bonuses or other type incentive compensation?

A. Yes. Qwest's test year expenses include $**Confidential** in incentive compensation that was awarded to employees under Qwest's annual bonus plan.

Q. Please describe the terms of Qwest's annual bonus program.

A. Qwest's annual bonus program is based on achievement of targets for such operating statistics as **Confidential**.

Q. What were Qwest's operating results for 2003?

A. According to Qwest's 2003 10-K Report the Company as a whole had an operating loss of $254 million. On an Arizona jurisdictional basis the Company had an operating loss of $154 million.

Q. Should Arizona ratepayers be required to fund $**Confidential** in salary bonuses for a Company that is operating at a loss?

A. No. Certainly, Qwest has the prerogative of rewarding employees for achieving operating losses, if it chooses. However, ratepayers should not be required to pay higher rates to fund rewards for poor operating results.

Q. What adjustment have you made?

A. As shown on Schedule MDC-8, Column (J), I have removed $**Confidential** in incentive compensation from test year operating expenses.

Operating Adjustment #10 - Income Tax Expense

Q. Have you adjusted income tax expense?

A. Yes. I have recalculated test year income tax based on RUCO's recommended level of test year operating income. My test year income tax calculations are shown on Schedule MDC-14. I have also recalculated income taxes for RUCO's recommended revenue increase utilizing the gross revenue conversion factor. These calculations are shown on Schedule MDC-1, page 3.

Q. Does this conclude your direct testimony?

A. Yes.

APPENDIX I

Qualifications of Marylee Diaz Cortez

EDUCATION: University of Michigan, Dearborn
B.S.A., Accounting 1989

CERTIFICATION: Certified Public Accountant - Michigan
Certified Public Accountant - Arizona

EXPERIENCE: Audit Manager
Residential Utility Consumer Office
Phoenix, Arizona 85007
July 1994 - Present

Responsibilities include the audit, review and analysis of public utility companies. Prepare written testimony, schedules, financial statements and spreadsheet models and analyses. Testify and stand cross-examination before Arizona Corporation Commission. Advise and work with outside consultants. Work with attorneys to achieve a coordination between technical issues and policy and legal concerns. Supervise, teach, provide guidance and review the work of subordinate accounting staff.

Senior Rate Analyst
Residential Utility Consumer Office
Phoenix, Arizona 85004
October 1992 - June 1994

Responsibilities included the audit, review and analysis of public utility companies. Prepare written testimony and exhibits. Testify and stand cross-examination before Arizona Corporation Commission. Extensive use of Lotus 123, spreadsheet modeling and financial statement analysis.

Auditor/Regulatory Analyst
Larkin & Associates - Certified Public Accountants
Livonia, Michigan
August 1989 - October 1992

Performed on-site audits and regulatory reviews of public utility companies including gas, electric, telephone, water and sewer throughout the continental United States. Prepared integrated proforma financial statements and rate models for some of the largest public utilities in the United States. Rate models consisted

of anywhere from twenty to one hundred fully integrated schedules. Analyzed financial statements, accounting detail, and identified and developed rate case issues based on this analysis. Prepared written testimony, reports, and briefs. Worked closely with outside legal counsel to achieve coordination of technical accounting issues with policy, procedural and legal concerns. Provided technical assistance to legal counsel at hearings and depositions. Served in a teaching and supervisory capacity to junior members of the firm.

RESUME OF RATE CASE AND REGULATORY PARTICIPATION

Utility Company	Docket No.	Client
Potomac Electric Power Co.	Formal Case No. 889	Peoples Counsel of District of Columbia
Puget Sound Power & Light Co.	Cause No. U-89-2688-T	U.S. Department of Defense - Navy
Northwestern Bell-Minnesota	P-421/EI-89-860	Minnesota Department of Public Service
Florida Power & Light Co.	890319-EI	Florida Office of Public Counsel
Gulf Power Company	890324-EI	Florida Office of Public Counsel
Consumers Power Company	Case No. U-9372	Michigan Coalition Against Unfair Utility Practices
Equitable Gas Company	R-911966	Pennsylvania Public Utilities Commission
Gulf Power Company	891345-EI	Florida Office of Public Counsel

Jersey Central Power & Light	ER881109RJ	New Jersey Department of Public Advocate Division of Rate Counsel
Green Mountain Power Corp.	5428	Vermont Department of Public Service
Systems Energy Resources	ER89-678-000 & EL90-16-000	Mississippi Public Service Commission
El Paso Electric Company	9165	City of El Paso
Long Island Lighting Co.	90-E-1185	New York Consumer Protection Board
Pennsylvania Gas & Water Co.	R-911966	Pennsylvania Office of Consumer Advocate
Southern States Utilities	900329-WS	Florida Office of Public Counsel
Central Vermont Public Service Co.	5491	Vermont Department of Public Service
Detroit Edison Company	Case No. U-9499	City of Novi
Systems Energy Resources	FA-89-28-000	Mississippi Public Service Commission
Green Mountain Power Corp.	5532	Vermont Department of Public Service
United Cities Gas Company	176-717-U	Kansas Corporation Commission

General Development Utilities	911030-WS & 911067-WS	Florida Office of Public Counsel
Hawaiian Electric Company	6998	U.S. Department of Defense - Navy
Indiana Gas Company	Cause No. 39353	Indiana Office of Consumer Counselor
Pennsylvania American Water Co.	R-00922428	Pennsylvania Office of Consumer Advocate
Wheeling Power Co.	Case No. 90-243-E-42T	West Virginia Public Service Commission Consumer Advocate Division
Jersey Central Power & Light Co.	EM89110888	New Jersey Department of Public Advocate Division of Rate Counsel
Golden Shores Water Co.	U-1815-92-200	Residential Utility Consumer Office
Consolidated Water Utilities	E-1009-92-135	Residential Utility Consumer Office
Sulphur Springs Valley Electric Cooperative	U-1575-92-220	Residential Utility Consumer Office
North Mohave Valley Corporation	U-2259-92-318	Residential Utility Consumer Office
Graham County Electric Cooperative	U-1749-92-298	Residential Utility Consumer Office

Graham County Utilities	U-2527-92-303	Residential Utility Consumer Office
Consolidated Water Utilities	E-1009-93-110	Residential Utility Consumer Office
Litchfield Park Service Co.	U-1427-93-156 & U-1428-93-156	Residential Utility Consumer Office
Pima Utility Company	U-2199-93-221 & U-2199-93-222	Residential Utility Consumer Office
Arizona Public Service Co.	U-1345-94-306	Residential Utility Consumer Office
Paradise Valley Water	U-1303-94-182	Residential Utility Consumer Office
Paradise Valley Water	U-1303-94-310 & U-1303-94-401	Residential Utility Consumer Office
Pima Utility Company	U-2199-94-439	Residential Utility Consumer Office
SaddleBrooke Development Co.	U-2492-94-448	Residential Utility Consumer Office
Boulders Carefree Sewer Corp.	U-2361-95-007	Residential Utility Consumer Office
Rio Rico Utilities	U-2676-95-262	Residential Utility Consumer Office
Rancho Vistoso Water	U-2342-95-334	Residential Utility Consumer Office
Arizona Public Service Co.	U-1345-95-491	Residential Utility Consumer Office
Citizens Utilities Co.	E-1032-95-473	Residential Utility Consumer Office
Citizens Utilities Co.	E-1032-95-417 et al.	Residential Utility Consumer Office

Paradise Valley Water	U-1303-96-283 & U-1303-95-493	Residential Utility Consumer Office
Far West Water	U-2073-96-531	Residential Utility Consumer Office
Southwest Gas Corporation	U-1551-96-596	Residential Utility Consumer Office
Arizona Telephone Company	T-2063A-97-329	Residential Utility Consumer Office
Far West Water Rehearing	W-0273A-96-0531	Residential Utility Consumer Office
SaddleBrooke Utility Company	W-02849A-97-0383	Residential Utility Consumer Office
Vail Water Company	W-01651A-97-0539 & W-01651B-97-0676	Residential Utility Consumer Office
Black Mountain Gas Company Northern States Power Company	G-01970A-98-0017 G-03493A-98-0017	Residential Utility Consumer Office
Paradise Valley Water Company Mummy Mountain Water Company	W-01303A-98-0678 W-01342A-98-0678	Residential Utility Consumer Office
Bermuda Water Company	W-01812A-98-0390	Residential Utility Consumer Office
Bella Vista Water Company Nicksville Water Company	W-02465A-98-0458 W-01602A-98-0458	Residential Utility Consumer Office
Paradise Valley Water Company	W-01303A-98-0507	Residential Utility Consumer Office
Pima Utility Company	SW-02199A-98-0578	Residential Utility Consumer Office
Far West Water & Sewer Company	WS-03478A-99-0144 Interim Rates	Residential Utility Consumer Office
Vail Water Company	W-01651B-99-0355 Interim Rates	Residential Utility Consumer Office

Far West Water & Sewer Company	WS-03478A-99-0144	Residential Utility Consumer Office
Sun City Water and Sun City West	W-01656A-98-0577 & SW-02334A-98-0577	Residential Utility Consumer Office
Southwest Gas Corporation ONEOK, Inc.	G-01551A-99-0112 G-03713A-99-0112	Residential Utility Consumer Office
Table Top Telephone	T-02724A-99-0595	Residential Utility Consumer Office
U S West Communications Citizens Utilities Company	T-01051B-99-0737 T-01954B-99-0737	Residential Utility Consumer Office
Citizens Utilities Company	E-01032C-98-0474	Residential Utility Consumer Office
Southwest Gas Corporation	G-01551A-00-0309 & G-01551A-00-0127	Residential Utility Consumer Office
Southwestern Telephone Company	T-01072B-00-0379	Residential Utility Consumer Office
Arizona Water Company	W-01445A-00-0962	Residential Utility Consumer Office
Litchfield Park Service Company	W-01427A-01-0487 & SW-01428A-01-0487	Residential Utility Consumer Office
Bella Vista Water Co., Inc.	W-02465A-01-0776	Residential Utility Consumer Office
Generic Proceedings Concerning Electric Restructuring Issues	E-00000A-02-0051	Residential Utility Consumer Office
Arizona Public Service Company	E-01345A-02-0707	Residential Utility Consumer Office
Qwest Corporation	RT-00000F-02-0271	Residential Utility Consumer Office

Arizona Public Service Company	E-01345A-02-0403	Residential Utility Consumer Office
Citizens/UniSource	G-01032A-02-0598 E-01032C-00-0751 E-01933A-02-0914 E-01302C-02-0914 G-01302C-02-0914	Residential Utility Consumer Office
Arizona-American Water Company	WS-01303A-02-0867	Residential Utility Consumer Office
Arizona Public Service Company	E-01345A-03-0437	Residential Utility Consumer Office
UniSource	E-04230A-03-0933	Residential Utility Consumer Office
Arizona Public Service Company	E-01345A-04-0407	Residential Utility Consumer Office

QWEST CORPORATION
DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672

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QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2002
ARIZONA INTRASTATE REVENUE REQUIREMENTS (000'S)

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-1

LINE NO.	DESCRIPTION	(A) COMPANY ORIGINAL COST	(B) COMPANY RCND	(C) COMPANY FAIR VALUE	(D) RUCO ORIGINAL COST	(E) RUCO RCND	(F) RUCO FAIR VALUE
1	ADJUSTED RATE BASE	$ 1,643,000	$ 3,190,550	$ 2,416,775	$ 1,489,135	$ 3,080,606	$ 2,284,871
2	ADJUSTED OPERATING INCOME	(5,054)	(5,054)	(5,054)	35,579	35,579	35,579
3	CURRENT RATE OF RETURN (L2 / L1)	-0.31%	-0.16%	-0.21%	2.39%	1.15%	1.56%
4	REQUIRED RATE OF RETURN	11.18%	5.76%	7.60%	8.73%	4.22%	5.69%
5	REQUIRED OPERATING INCOME (L4 * L1)	183,687	183,687	183,687	130,001	130,001	130,001
6	OPERATING INCOME DE(SUF)FICIENCY (L5 - L2)	188,741	188,741	188,741	94,423	94,423	94,423
7	GROSS REVENUE CONVERSION FACTOR	1.6876	1.6876	1.6876	1.6896	1.6896	1.6896
8	GROSS REVENUE INCREASE	$ 318,525	$ 318,525	$ 318,525	$ 159,537	$ 159,537	$ 159,537
9	CURRENT REVENUES T/Y ADJUSTED	$ 1,111,068	$ 1,111,068	$ 1,111,068	$ 1,165,053	$ 1,165,053	$ 1,165,053
10	PROPOSED ANNUAL REVENUE (L8 + L9)	$ 1,429,593	$ 1,429,593	$ 1,429,593	$ 1,324,590	$ 1,324,590	$ 1,324,590
11	PERCENTAGE AVERAGE INCREASE	28.67%	28.67%	28.67%	13.69%	13.69%	13.69%

REFERENCES:
COLUMNS (A) THRU (C): COMPANY FILING A SCHEDULES
COLUMNS (D) THRU (F): SCHEDULES MDC-1, PG 2, MDC-2, MDC-7, AND MDC-15

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
ARIZONA INTRASTATE RCND RATE BASE (000'S)

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-1

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) RUCO ADJUSTMENTS	(C) RUCO ADJUSTED
1	PLANT IN SERVICE	$ 5,867,828	$ 188,284	$ 6,056,112
2	LESS: DEPRECIATION RESERVE	2,512,352	158,450	2,670,802
3	NET PLANT IN SERVICE	$ 3,373,405	$ 29,834	$ 3,385,310
4	SHORT TERM PLANT UNDER CONSTRUCTION	$ 21,448	$ (21,448)	$ -
5	MATERIALS AND SUPPLIES	7,255	(2,204)	5,051
6	ALLOWANCE FOR CASH WORKING CAPITAL	(52,173)	(10,618)	(62,791)
7	DEFERRED INCOME TAXES	251,439	(9,797)	241,642
8	CUSTOMER DEPOSITS	3,299	-	3,299
9	LAND DEVELOPMENT AGREEMENT DEPOSITS	2,023	-	2,023
10	OTHER ASSETS AND LIABILITIES	97,377	(97,377)	-
11	TOTAL RATE BASE	$ 3,190,550	$ (92,015)	$ 3,080,606

REFERENCES:
COLUMN (A): COMPANY FILING B SCHEDULES
COLUMN (B): SCHEDULE MDC-2 x RCND FACTOR
COLUMN (C): COLUMN (A) + COLUMN (B)

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
GROSS REVENUE CONVERSION FACTOR (000'S)

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-1

LINE NO.	DESCRIPTION	TOTAL AMOUNT	REFERENCE
1	REVENUE	1.0000000	
2	UNCOLLECTIBLES	0.021220	COMPANY SCH. C-3
3	SUB-TOTAL	0.978780	LINE 1 - LINE 2
4	LESS: TAX RATE	38.69%	NOTE (a)
5	TOTAL	0.5919	LINE 3 - LINE 4
6	REVENUE CONVERSION FACTOR	1.68960	LINE 1/LINE 5

NOTE (a):
CALCULATION OF EFFECTIVE TAX RATE

OPERATING INCOME BEFORE TAXES	100.00%
ARIZONA STATE TAX	6.97%
TAXABLE INCOME FEDERAL	93.03%
FEDERAL INCOME TAX RATE	35.00%
SUBTOTAL	32.56%
ADD STATE TAX RATE	39.53%
LINE 3 ABOVE	97.88%
EFFECTIVE TAX RATE	38.69%

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
ARIZONA INTRASTATE ORIGINAL COST RATE BASE (000'S)

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-2

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) RUCO ADJUSTMENTS	(C) RUCO ADJUSTED
1	PLANT IN SERVICE	$ 4,750,352	$ 152,427	$ 4,902,779
2	LESS: DEPRECIATION RESERVE	2,924,497	184,443	3,108,940
3	NET PLANT IN SERVICE	**$ 1,825,855**	**$ (32,016)**	**$ 1,793,839**
4	SHORT TERM PLANT UNDER CONSTRUCTION	$ 21,448	$ (21,448)	$ -
5	MATERIALS AND SUPPLIES	7,255	(2,204)	5,051
6	ALLOWANCE FOR CASH WORKING CAPITAL	(52,173)	(10,618)	(62,791)
7	DEFERRED INCOME TAXES	251,439	(9,797)	241,642
8	CUSTOMER DEPOSITS	3,299	-	3,299
9	LAND DEVELOPMENT AGREEMENT DEPOSITS	2,023	-	2,023
10	OTHER ASSETS AND LIABILITIES	97,377	(97,377)	-
11	TOTAL RATE BASE	**$ 1,643,001**	**$ (153,866)**	**$ 1,489,135**

REFERENCES:
COLUMN (A): COMPANY SCHEDULE B-1
COLUMN (B): SCHEDULE MDC-3
COLUMN (C): COLUMN (A) + COLUMN (B)

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-3

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
SUMMARY OF RATE BASE ADJUSTMENTS (000'S)

LINE NO.	DESCRIPTION	(A) COMPANY	(B) ADJ. #1	(C) ADJ. #2	(D) ADJ. #3	(E) ADJ. #4	(F) ADJ. #5	(G) ADJ. #6	(H) ADJ. #7	(I) ADJ #8	(J) RUCO ADJUSTED
1	PLANT IN SERVICE	$4,750,352		146,657	1,047				4,723		$ 4,902,779
2	LESS: DEPRECIATION RESERVE	2,924,497	109,701	62,632		12,363			(253)		3,108,940
3	NET PLANT IN SERVICE	$1,825,855	$(109,701)	$ 84,025	$ 1,047	$ (12,363)	$ -	$ -	$ 4,976	$ -	$ 1,793,839
4	SHORT TERM PLANT UNDER CONSTRUCTION	$ 21,448			$ (21,448)						$ -
5	MATERIALS AND SUPPLIES	7,255						(2,204)			5,051
6	ALLOWANCE FOR CASH WORKING CAPITAL	(52,173)								(10,618)	(62,791)
7	DEFERRED INCOME TAXES	251,439	(43,040)	33,243							241,642
8	CUSTOMER DEPOSITS	3,299									3,299
9	LAND DEVELOPMENT AGREEMENT DEPOSITS	2,023									2,023
10	OTHER ASSETS AND LIABILITIES	97,377					(97,377)				-
11	TOTAL RATE BASE	$1,643,001	$ (66,661)	$ 50,782	$ (20,401)	$ (12,363)	$ (97,377)	$ (2,204)	$ 4,976	$ (10,618)	$ 1,489,135

ADJUSTMENT #:	REFERENCE:
1. REINSTATE HISTORICAL ACCUM. DEPREC.	TESTIMONY MDC
2. SOFTWARE CAPITALIZATION CORRECTION	SCHEDULE MDC-4
3. CWIP	TESTIMONY MDC
4. STATION APPARATUS - ACCUM. DEPREC.	TESTIMONY MDC
5. PENSION ASSET	TESTIMONY MDC
6. MATERIALS & SUPPLIES	TESTIMONY MDC
7. POST RETIREMENT BENEFITS	SCHEDULE MDC-5
8. WORKING CAPITAL	SCHEDULE MDC-6

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
RATE BASE ADJ #2 - CAPITALIZATION OF SOFTWARE
CORRECTIONS TO COMPANY ADJUSTMENT

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-4

LINE NO.	DESCRIPTION	AMOUNT	REFERENCE
	PLANT		
1	SOFTWARE CAPITALIZED PER FILING (ASSUMES CAPITALIZATION OF 2003 ONLY)	$0	QWEST W/P PFA-03
2	SOFTWARE CAPITALIZATION AS CORRECTED (ASSUMES CAPITALIZATION SINCE 1998)	146,657	DR UTI 04-002
3	INCREASE IN PLANT	$146,657	LINE 1 + LINE 2
	ACCUM. DEPREC. & AMORTIZATION		
4	SOFTWARE ACCUM. DEPR. & AMORT. PER FILING	6,001	QWEST W/P PFA-03
5	SOFTWARE ACCUM. DEPR. & AMORT. AS CORRECTED	68,633	DR UTI 04-002
6	INCREASE IN ACCUM. DEPR. & AMORT.	$62,632	LINE 5 - LINE 4
	ACCUMULATED DEFERRED INCOME TAXES		
7	SOFTWARE ADIT PER FILING	(2,354)	QWEST W/P PFA-03
8	SOFTWARE ADIT AS CORRECTED	30,889	DR UTI 04-002
9	INCREASE IN ADIT	$33,243	LINE 8 - LINE 7

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
RATE BASE ADJ #7 - POSTRETIREMENT BENEFITS

DOCKET NO. T-0105B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-5

LINE NO.	DESCRIPTION	AMOUNT	REFERENCE
1	PLANT IN SERVICE ADJ. PER FILING	($131,998)	SCHEDULE B-2, PAGE 4
2	PLANT IN SERVICE ADJ. AS CORRECTED	(127,275)	DR RUCO 3-10
3	ADJUSTMENT TO PLANT IN SERVICE	$4,723	LINE 2 - LINE 1
4	ACCUM. DEPREC. AND AMORT. PER FILING	(80)	SCHEDULE B-2, PAGE 4
5	ACCUM. DEPREC. AND AMORT. AS CORRECTED	(333)	DR RUCO 3-10
6	ADJUSTMENT TO ACCUM. DEPREC. AND AMORT.	($253)	LINE 5 - LINE 4

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
RATE BASE ADJ #8 - WORKING CAPITAL

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-6

LINE NO.	DESCRIPTION	(A) AMOUNT AS FILED	(B) RUCO ADJS.	© RUCO ADJUSTED	(D) LEAD/LAG DAYS	(E) DOLLAR DAYS
	OPERATING EXPENSES					
1	MAINTENANCE	$201,587	(2,715)	198,872	22.80	4,534,278
2	ENGINEERING	8,836	(3,008)	5,828	25.40	148,036
3	NETWORK OPERATIONS	46,464	(7,386)	39,078	21.90	855,817
4	NETWORK ADMINISTRATION	1,417	(28)	1,389	22.50	31,243
5	ACCESS	9,041	0	9,041	54.70	494,543
6	OTHER	390	(18)	372	35.30	13,143
7	CUSTOMER OPERATIONS	164,981	(18,156)	146,825	26.70	3,920,220
8	CORPORATE OPERATIONS	179,839	(20)	179,819	35.00	6,293,676
9	PROPERTY TAXES	63,033	(9,505)	53,528	202.60	10,844,705
10	OTHER TAXES	3,382		3,382	(183.90)	(621,950)
11	UNCOLLECTIBLES	18,119		18,119	22.70	411,301
12	INCOME TAXES	(36,251)	67,416	31,165	61.10	1,904,195
						0
13	TOTAL OPERATING EXPENSES	$660,838	$26,580	$687,418		28,829,209
14	AVERAGE EXPENSE LAG				41.94	
15	AVERAGE REVENUE LAG				8.60	
16	NET LEAD/LAG				(33.34)	
17	TOTAL EXPENSE				687,418	
18	CASH WORKING CAPITAL REQUIREMENT				(62,791)	
19	CASH WORKING CAPITAL PER COMPANY				(52,173)	
20	ADJUSTMENT TO CASH WORKING CAPITAL				($10,618)	

REFERENCES
COLUMN (A): DR UTI 02-013
COLUMN (B): SCHEDULE MDC-8
COLUMN (C): COLUMN (A) + COLUMN (B)
COLUMN (D): DR UTI 02-013
COLUMN (E): COLUMN (C) x COLUMN (D)

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
RATE BASE ADJ #8 - WORKING CAPITAL
CALCULATION OF REVENUE LEAD/LAGS

LINE NO.	(A) ACCT. NOS.	(B) REVENUE TYPE	© PAYMENT DUE DATE	(D) SERVICE PERIOD MIDPOINT	(E) REVENUE (LEAD)/LAG	(F) ANNUAL REVENUE	(G) DOLLAR DAYS	REFERENCE
1	5000	LOCAL - ADVANCE	9/5/2003	9/1/2003	4	$788,477,214	3,153,908,856	ACTUAL QWEST LOCAL SERVICE BILLS
2		LOCAL - ARREARS			15.2	54,195,999	823,779,185	COMPANY WORKSHEET WS1C1
3	5080	ACCESS	11/3/2003	9/17/2003	45.2	72,786,000	3,289,927,200	COMPANY WORKSHEET WS2A2
4	5100	LONG DISTANCE	10/17/2003	9/1/2003	46.7	11,163,000	521,312,100	COMPANY WORKSHEET WS3B1
5	5270	BILL & COLLECT	11/3/2003	9/17/2003	45.2	5,330,000	240,916,000	COMPANY WORKSHEET WS3B1
6	5260	MISCELLANEOUS			23.2	97,735,000	2,267,452,000	COMPANY WORKSHEET WS5C1
7		TOTAL				$1,029,687,213	8,029,843,341	SUM LINES 1 THROUGH 6
8		REVENUE LAG				7.80		LINE 7 COLUMN (E)/LINE 7 COLUMN (D)
9		DEPOSIT LAG				0.80		COMPANY WORK SHEET 1
10		TOTAL REVENUE LAG				-8.60		

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
ARIZONA INTRASTATE OPERATING INCOME (000'S)

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-7

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) RUCO ADJUSTMENTS	(C) RUCO TEST YEAR AS ADJUSTED	(D) RUCO PROPOSED CHANGES	(E) RUCO RECOMMENDED
	OPERATING REVENUES:					
1	LOCAL SERVICE REVENUES	$ 775,134	$ 47,162	$ 822,296	$ 159,537	$ 981,833
2	NETWORK ACCESS SERVICE REVENUES	65,547	334	65,881	-	65,881
3	LONG DISTANCE NETWORK SERVICE REVENUES	8,586	2,577	11,163	-	11,163
4	MISCELLANEOUS REVENUES	261,801	3,912	265,713	-	265,713
5	TOTAL OPERATING REVENUES	**$ 1,111,068**	**$ 53,985**	**$ 1,165,053**	**$ 159,537**	**$ 1,324,590**
	EXPENSES:					
6	MAINTENANCE	$ 246,117	$ (2,715)	$ 243,401	$ -	$ 243,401
7	ENGINEERING EXPENSE	10,519	(3,008)	7,511	-	7,511
8	NETWORK OPERATIONS	69,967	(7,386)	62,581	-	62,581
9	NETWORK ADMINISTRATION	1,681	(28)	1,652	-	1,652
10	ACCESS EXPENSE	9,041	-	9,041	-	9,041
11	OTHER EXPENSE	555	(18)	537	-	537
12	CUSTOMER OPERATIONS	188,545	(18,156)	170,389	-	170,389
13	CORPORATE OPERATIONS	202,806	(20)	202,786	-	202,786
14	PROPERTY & OTHER TAXES	67,424	(9,505)	57,919	-	57,919
15	UNCOLLECTIBLES	19,634	-	19,634	-	19,634
16	OTHER OPERATING INCOME & EXPENSE	(44)	-	(44)	-	(44)
17	DEPRECIATION EXPENSE	364,079	23,939	388,018	-	388,018
18	UNIVERSAL SERVICE FUND	-	-	-	-	-
19	LINK UP AMERICA	(2)	-	(2)	-	(2)
20	TOTAL OPERATING EXPENSES	**$ 1,180,320**	**$ (16,897)**	**$ 1,163,423**	**$ -**	**$ 1,163,423**
	TAXES:					
21	FEDERAL INCOME TAX	$ (52,028)	$ 24,064	$ (27,964)	$ 53,636	$ 25,672
22	STATE & LOCAL INCOME TAX	(12,170)	6,186	(5,984)	11,478	5,494
23	TOTAL OPERATING INCOME	**$ (5,054)**	**$ 40,633**	**$ 35,579**	**$ 94,423**	**$ 130,001**

REFERENCES:
COLUMN (A): COMPANY SCHEDULE C-1
COLUMN (B): SCHEDULE MDC-8
COLUMN (C): COLUMN (A) + COLUMN (B)
COLUMN (D): SCHEDULE MDC-1
COLUMN (E): COLUMN (C) + COLUMN (D)

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
SUMMARY OF OPERATING ADJUSTMENTS (000'S)

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-8

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) ADJ. #1	(C) ADJ. #2	(D) ADJ. #3	(E) ADJ. #4	(F) ADJ. #5	(G) ADJ. #6	(H) ADJ. #7
	OPERATING REVENUES:								
1	LOCAL SERVICE REVENUES	$ 775,134	$ -	$ 47,162	$ -	$ -	$ -	$ -	$ -
2	NETWORK ACCESS SERVICE REVENUES	65,547	-	334	-	-	-	-	-
3	LONG DISTANCE NETWORK SERVICE REVENUES	8,586	-	2,577	-	-	-	-	-
4	MISCELLANEOUS REVENUES	261,801	-	4,007	-	-	-	-	(95)
5	TOTAL OPERATING REVENUES	$ 1,111,068	$ -	$ 54,080	$ -	$ -	$ -	$ -	$ (95)
	EXPENSES:								
6	MAINTENANCE	$ 246,117	$ -	$ -	$ -	$ -	$ (2,715)	$ -	$ -
7	ENGINEERING EXPENSE	10,519	-	-	-	-	(203)	-	-
8	NETWORK OPERATIONS	69,967	-	-	-	-	(1,776)	-	-
9	NETWORK ADMINISTRATION	1,681	-	-	-	-	(28)	-	-
10	ACCESS EXPENSE	9,041	-	-	-	-	0	-	-
11	OTHER EXPENSE	555	-	-	-	-	(18)	-	-
12	CUSTOMER OPERATIONS	188,545	(7,909)	2,405	(9,892)	-	(2,760)	-	-
13	CORPORATE OPERATIONS	202,806	-	-	-	-	(20)	-	-
14	PROPERTY & OTHER TAXES	67,424	-	-	-	-	-	-	-
15	UNCOLLECTIBLES	19,634	-	-	-	-	-	-	-
16	OTHER OPERATING INCOME & EXPENSE	(44)	-	-	-	-	-	-	-
17	DEPRECIATION EXPENSE	364,079	-	-	-	23,868	-		71
18	UNIVERSAL SERVICE FUND	-	-	-	-	-	-	-	-
19	LINK UP AMERICA	(2)	-	-	-	-	-	-	-
20	TOTAL OPERATING EXPENSES	$ 1,180,320	$ (7,909)	$ 2,405	$ (9,892)	$ 23,868	$ (7,521)	$ -	$ 71
	TAXES:								
21	FEDERAL INCOME TAX	$ (52,028)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	STATE & LOCAL INCOME TAX	(12,170)	-	-	-	-	-	-	-
23	TOTAL OPERATING INCOME	$ (5,054)	$ 7,909	$ 51,675	$ 9,892	$ (23,868)	$ 7,521	$ -	$ (166)

ADJUSTMENT #:	REFERENCE:
1. CORRECTIONS & TRUE-UPS FOR PFN-01	SCHEDULE MDC-9
2. REMOVE PROJECTED REVENUE CHANGES	TESTIMONY MDC
3. CORRECT ERROR IN DEREG. ACCOUNTS	TESTIMONY MDC
4. SOFTWARE CAPITALIZATION CORRECTION	SCHEDULE MDC-10
5. POST RETIREMENT BENEFIT AMORT.	SCHEDULE MDC-11
6. DEPRECIATION EXPENSE	TESTIMONY MDC
7. REMOVE AFUDC REVENUE RECOGNITION	TESTIMONY MDC

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
SUMMARY OF OPERATING ADJUSTMENTS (000'S)

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-8

LINE NO.	DESCRIPTION	(I) ADJ. #8	(J) ADJ. #9	(K) ADJ. #10	(L) RUCO TEST YEAR AS ADJUSTED
	OPERATING REVENUES:				
1	LOCAL SERVICE REVENUES	$ -	$ -	$ -	$ 822,296
2	NETWORK ACCESS SERVICE REVENUES	-	-	-	65,881
3	LONG DISTANCE NETWORK SERVICE REVENUES	-	-	-	11,163
4	MISCELLANEOUS REVENUES	-	-	-	265,713
5	TOTAL OPERATING REVENUES	$ -	$ -	$ -	$ 1,165,053
	EXPENSES:				
6	MAINTENANCE	$ -	$ -	$ -	$ 243,401
7	ENGINEERING EXPENSE	-	(2,805)	-	7,511
8	NETWORK OPERATIONS	-	(5,609)	-	62,581
9	NETWORK ADMINISTRATION	-		-	1,652
10	ACCESS EXPENSE	-	-	-	9,041
11	OTHER EXPENSE	-	-	-	537
12	CUSTOMER OPERATIONS	-	-	-	170,389
13	CORPORATE OPERATIONS	-	-	-	202,786
14	PROPERTY & OTHER TAXES	(9,505)	-	-	57,919
15	UNCOLLECTIBLES	-	-	-	19,634
16	OTHER OPERATING INCOME & EXPENSE			-	(44)
17	DEPRECIATION EXPENSE	-	-	-	388,018
18	UNIVERSAL SERVICE FUND	-	-	-	-
19	LINK UP AMERICA	-	-	-	(2)
20	TOTAL OPERATING EXPENSES	$ (9,505)	$ (8,414)	$ -	$ 1,163,423
	TAXES:				
21	FEDERAL INCOME TAX	$ -	$ -	$ 24,064	$ (27,964)
22	STATE & LOCAL INCOME TAX	-	-	6,186	(5,984)
23	TOTAL OPERATING INCOME	$ 9,505	$ 8,414	$ (30,249)	$ 35,579

ADJUSTMENT #:	REFERENCE
8. PROPERTY TAXES	SCHEDULE MDC-12
9. INCENTIVE COMPENSATION	SCHEDULE MDC-13
10. INCOME TAX EXPENSE	SCHEDULE MDC-14

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
OPERATING ADJ #1 - CORRECT OUT OF PERIOD
PROFORMA ADJUSTMENT

DOCKET NO. T-01051B-00-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-9

LINE NO.	DESCRIPTION	ADJUSTMENT TO CORRECT FILED AMT.	REFERENCE
1	BRI RENT TRUE-UP	($336,480)	DR UTI 08-001
2	QLDC TRUE-UP	(129,145)	DR UTI 04-032, UTI 07-002
3	QCC TRUE-UP	(127,739)	DR UTI 04-032, UTI 07-002
4	BSI COLLOCATION TRUE-UP	529,800	DR UTI 07-002
5	QSC PAYABLE	107,354	DR UTI 04-031, UTI 07-002
6	BRI ADJUSTMENT	159,619	DR UTI 04-031, UTI 07-002
7	QIT ADJUSTMENT	(9,094,140)	DR UTI 04-031, UTI 07-002
8	BRI ADJ. LEASE VS. HEADCOUNT	(1,140,052)	DR UTI 04-033
9	WIRELESS B&C REVENUE	2,121,837	DR UTI 03-036S1
10	TOTAL ADJUSTMENT	($7,908,946)	

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
OPERATING ADJ #4 - CAPITALIZATION OF SOFTWARE
CORRECTIONS TO COMPANY ADJUSTMENT

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-10

LINE NO.	DESCRIPTION	AMOUNT	REFERENCE
	CUSTOMER OPERATIONS EXPENSE		
1	DECREASE IN CUSTOMER EXPENSE PER FILING (ASSUMES CAPITALIZATION OF 2003 ONLY)	$18,659	COMPANY W/P PFA-03
2	DECREASE IN CUSTOMER EXPENSE AS CORRECTED	18,659	DR UTI 04-001
3	CUSTOMER EXPENSE ADJUSTMENT	0	LINE 1 - LINE 2
	DEPRECIATION & AMORTIZATION EXPENSE		
4	INCREASE IN DEPRECIATION EXPENSE PER FILING	4,332	COMPANY W/P PFA-03
5	INCREASE IN DEPRECATION EXPENSE AS CORRECTED	28,200	DR UTI 04-001
6	DEPRECIATION & AMORTIZATION ADJUSTMENT	$23,868	LINE 5 - LINE 4

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
OPERATING ADJ #5 - POST RETIREMENT BENEFITS

DOCKET NO. T-0105B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-11

LINE NO.	DESCRIPTION	MEDICAL AMOUNT	LIFE AMOUNT	TOTAL	REFERENCE
1	UPDATED APBO	$4,537,218,343	578,942,361	5,116,160,704	UTI 1-1S1
2	AZ ALLOCATION FACTOR	17.29%	17.29%	17.29%	UTI 1-1S1
3	SUBTOTAL	784,702,838	100,126,923	884,829,761	LINE 1 x LINE 2
4	AZ INTRASTATE FACTOR	76.09%	76.09%	76.09%	UTI 1-1S1
5	AZ INTRASTATE APBO	597,042,724	76,181,770	673,224,494	LINE 3 x LINE 4
6	AMORTIZATION EXPENSE	59,704,272	7,618,177	67,322,449	LINE 5/10 YEARS
7	AMORTIZATION EXP. PER FILING	67,210,000	7,633,000	74,843,000	UTI 1-1S1
8	ADJUSTMENT	($7,505,728)	($14,823)	($7,520,551)	LINE 6 - LINE 7

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
OPERATING ADJ #8 - PROPERTY TAX EXPENSE

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-12

LINE NO.	DESCRIPTION	AMOUNT	REFERENCE
1	PLANT IN SERVICE	$ 4,902,779,000	SCHEDULE MDC-2
2	ACCUMULATED DEPRECIATION	3,108,940,000	SCHEDULE MDC-2
3	NET PLANT	$ 1,793,839,000	LINE 1 - LINE 2
4	NON-CAPITAL LEASES		
5	FULL CASH VALUE	$ 1,793,839,000	LINE 3 + LINE 4
6	ASSESSMENT RATIO	0.25	ADOR
7	ASSESSED VALUE	$ 448,459,750	LINE 5 x LINE 6
8	TAX RATE	0.1218	ADOR
9	T/Y PROPERTY TAXES	$ 54,622,398	LINE 7 x LINE 8
10	PER COMPANY	64,127,734	CO. W/P ADJ# PFN-10
11	ADJUSTMENT	$ (9,505,336)	LINE 10 - LINE 9

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
OPERATING ADJ #9 - INCENTIVE COMPENSATION

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-13

LINE NO.	DESCRIPTION	AMOUNT	REFERENCE
1	T/Y INCENTIVE COMPENSATION ACCRUED	**CONFIDENTIAL**	DR RUCO # 6-1
2	LESS: PORTION CAPITALIZED	_____	12% CAPITALIZATION RATE
3	T/Y INCENTIVE COMPENSATION EXPENSE	**CONFIDENTIAL**	LINE 1 - LINE 2

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
OPERATING INCOME ADJ # - INCOME TAX EXPENSE (000'S)

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-14

LINE NO.	DESCRIPTION	TOTAL AMOUNT	REFERENCE
	FEDERAL INCOME TAXES:		
1	OPERATING INCOME BEFORE INCOME TAXES	$ 1,630	SCH. MDC-7
	LESS:		
2	ARIZONA STATE TAX	(5,984)	LINE 11
3	INTEREST EXPENSE	87,512	NOTE (a)
4	FEDERAL TAXABLE INCOME	(79,898)	LINE 1 - LINES 2 & 3
5	FEDERAL INCOME TAX RATE	35.00%	TAX RATE
6	FEDERAL INCOME TAX EXPENSE	(27,964)	LINE 4 X LINE 5
7	FEDERAL INCOME TAXES PER COMPANY	(52,028)	COMPANY SCH. C-1
8	FEDERAL INCOME TAX ADJUSTMENT	$ 24,064	LINE 6 - LINE 7
	STATE INCOME TAXES:		
9	OPERATING INCOME BEFORE INCOME TAXES	1,630	LINE 1
	LESS:		
10	INTEREST EXPENSE	87,512	NOTE (a)
11	STATE TAXABLE INCOME	(85,883)	LINE 7 - LINE 8
12	STATE TAX RATE	6.968%	TAX RATE
13	STATE INCOME TAX EXPENSE	(5,984)	LINE 11 X LINE 12
14	STATE INCOME TAXES PER COMPANY	(12,170)	COMPANY SCH. C-1
15	STATE INCOME TAX ADJUSTMENT	$ 6,186	LINE 13 - LINE 14

NOTE (a)
INTEREST SYCHRONIZATION

ADJUSTED RATE BASE	$ 1,489,135	SCHEDULE MDC-2
WEIGHTED COST OF DEBT	5.88%	SCHEDULE MDC-15
INTEREST EXPENSE	$ 87,512	

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
COST OF CAPITAL (000's)

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-15

LINE NO.	TYPE OF CAPITAL	(A) PER COMPANY	(B) RUCO ADJUSTMENT	(C) RUCO ADJUSTED	(D) PERCENT	(E) COST RATE	(F) WEIGHTED AVG. COST RATE
1	COMMON EQUITY	$ 410,503	$ 0	$ 410,503	24.80%	11.50%	2.85%
2	LONG-TERM DEBT	1,098,801	-	1,098,801	66.50%	7.89%	5.25%
3	SHORT-TERM DEBT	144,202	-	144,202	8.70%	7.24%	0.63%
4	TOTAL CAPITAL	$ 1,653,506	$ 0	$ 1,653,506	100.00%		8.73%

REFERENCES:
COLUMN (A): COMPANY SCHEDULE D-1
COLUMN (B): TESTIMONY, WILLIAM A. RIGSBY
COLUMN (C): COLUMN (A) + COLUMN (B)
COLUMN (D): COLUMN (C) ÷ COLUMN (C), LINE 4
COLUMN (E): TESTIMONY, WILLIAM A. RIGSBY
COLUMN (F): COLUMN (D) x COLUMN (E)

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
OPERATING ADJ #4 - CAPITALIZATION OF SOFTWARE
CORRECTIONS TO COMPANY ADJUSTMENT

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-10

LINE NO.	DESCRIPTION	AMOUNT	REFERENCE
	CUSTOMER OPERATIONS EXPENSE		
1	DECREASE IN CUSTOMER EXPENSE PER FILING (ASSUMES CAPITALIZATION OF 2003 ONLY)	$18,659	COMPANY W/P PFA-03
2	DECREASE IN CUSTOMER EXPENSE AS CORRECTED	18,659	DR UTI 04-001
3	CUSTOMER EXPENSE ADJUSTMENT	0	LINE 1 - LINE 2
	DEPRECIATION & AMORTIZATION EXPENSE		
4	INCREASE IN DEPRECIATION EXPENSE PER FILING	4,332	COMPANY W/P PFA-03
5	INCREASE IN DEPRECATION EXPENSE AS CORRECTED	28,200	DR UTI 04-001
6	DEPRECIATION & AMORTIZATION ADJUSTMENT	$23,868	LINE 5 - LINE 4

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
OPERATING ADJ #5 - POST RETIREMENT BENEFITS

DOCKET NO. T-0105B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-11

LINE NO.	DESCRIPTION	MEDICAL AMOUNT	LIFE AMOUNT	TOTAL	REFERENCE
1	UPDATED APBO	$4,537,218,343	578,942,361	5,116,160,704	UTI 1-1S1
2	AZ ALLOCATION FACTOR	17.29%	17.29%	17.29%	UTI 1-1S1
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6	AMORTIZATION EXPENSE	59,704,272	7,618,177	67,322,449	LINE 5/10 YEARS
7	AMORTIZATION EXP. PER FILING	67,210,000	7,633,000	74,843,000	UTI 1-1S1
8	ADJUSTMENT	($7,505,728)	($14,823)	($7,520,551)	LINE 6 - LINE 7

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
OPERATING ADJ #8 - PROPERTY TAX EXPENSE

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-12

LINE NO.	DESCRIPTION	AMOUNT	REFERENCE
1	PLANT IN SERVICE	$ 4,902,779,000	SCHEDULE MDC-2
2	ACCUMULATED DEPRECIATION	3,108,940,000	SCHEDULE MDC-2
3	NET PLANT	$ 1,793,839,000	LINE 1 - LINE 2
4	NON-CAPITAL LEASES		
5	FULL CASH VALUE	$ 1,793,839,000	LINE 3 + LINE 4
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10	PER COMPANY	64,127,734	CO. W/P ADJ# PFN-10
11	ADJUSTMENT	$ (9,505,336)	LINE 10 - LINE 9

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
OPERATING ADJ #9 - INCENTIVE COMPENSATION

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-13

LINE NO.	DESCRIPTION	AMOUNT	REFERENCE
1	T/Y INCENTIVE COMPENSATION ACCRUED	**CONFIDENTIAL**	DR RUCO # 6-1
2	LESS: PORTION CAPITALIZED	_____	12% CAPITALIZATION RATE
3	T/Y INCENTIVE COMPENSATION EXPENSE	**CONFIDENTIAL**	LINE 1 - LINE 2

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
OPERATING INCOME ADJ # - INCOME TAX EXPENSE (000'S)

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-14

LINE NO.	DESCRIPTION	TOTAL AMOUNT	REFERENCE
	FEDERAL INCOME TAXES:		
1	OPERATING INCOME BEFORE INCOME TAXES	$ 1,630	SCH. MDC-7
	LESS:		
2	ARIZONA STATE TAX	(5,984)	LINE 11
3	INTEREST EXPENSE	87,512	NOTE (a)
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	LESS:		
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14	STATE INCOME TAXES PER COMPANY	(12,170)	COMPANY SCH. C-1
15	STATE INCOME TAX ADJUSTMENT	$ 6,186	LINE 13 - LINE 14

NOTE (a)
INTEREST SYCHRONIZATION

ADJUSTED RATE BASE	$ 1,489,135	SCHEDULE MDC-2
WEIGHTED COST OF DEBT	5.88%	SCHEDULE MDC-15
INTEREST EXPENSE	$ 87,512	

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
COST OF CAPITAL (000's)

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE MDC-15

LINE NO.	TYPE OF CAPITAL	(A) PER COMPANY	(B) RUCO ADJUSTMENT	(C) RUCO ADJUSTED	(D) PERCENT	(E) COST RATE	(F) WEIGHTED AVG. COST RATE
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3	SHORT-TERM DEBT	144,202	-	144,202	8.70%	7.24%	0.63%
4	TOTAL CAPITAL	$ 1,653,506	$ 0	$ 1,653,506	100.00%		8.73%

REFERENCES:
COLUMN (A): COMPANY SCHEDULE D-1
COLUMN (B): TESTIMONY, WILLIAM A. RIGSBY
COLUMN (C): COLUMN (A) + COLUMN (B)
COLUMN (D): COLUMN (C) ÷ COLUMN (C), LINE 4
COLUMN (E): TESTIMONY, WILLIAM A. RIGSBY
COLUMN (F): COLUMN (D) x COLUMN (E)

EXHIBIT
RUCO-7
admitted

IN THE MATTER OF QWEST CORPORATION'S
FILING OF RENEWED PRICE REGULATION PLAN

DOCKET NO. T-01051B-03-0454

and

IN THE MATTER OF THE INVESTIGATION OF
THE COST OF TELECOMMUNICATIONS ACCESS

DOCKET NO. T-00000D-00-0672

SURREBUTTAL TESTIMONY

OF

MARYLEE DIAZ-CORTEZ

ON BEHALF OF THE

RESIDENTIAL UTILITY CONSUMER OFFICE

JANUARY 12, 2005

INTRODUCTION 1
RATE BASE 2
Rate Base Adjustment #1 - Accumulated Depreciation 2
Rate Base Adjustment #2 -Capitalization of Software 3
Rate Base Adjustment #3 - CWIP 3
Rate Base Adjustment #4 - Accumulated Depreciation - Station Apparatus 5
Rate Base Adjustment #5 - Pension Asset 6
Rate Base Adjustment #6 - Postretirement Benefits 8
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OPERATING INCOME 11
Operating Adjustment #2 - Projected Changes in Test Year Revenues 11
Operating Adjustment #8 - Property Tax Expense 12
Operating Adjustment #9 - Incentive Compensation 14
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INTRODUCTION

Q. Please state your name for the record.

A. My name is Marylee Diaz Cortez.

Q. Have you previously filed testimony in this docket?

A. Yes. I filed direct testimony in this docket on November 18, 2004.

Q. What is the purpose of your surrebuttal testimony?

A. The purpose of my surrebuttal testimony is to respond to various arguments and opinions Qwest witnesses have set forth in their rebuttal testimony.

Q. What issues will you discuss in your surrebuttal testimony?

A. In my surrebuttal testimony I will respond to Qwest's rebuttal arguments concerning the following RUCO recommended adjustments:

* Rate Base Adjustment #1 - Accumulated Depreciation
* Rate Base Adjustment #2 - Capitalization of Software
* Rate Base Adjustment #3 - Construction Work in Progress
* Rate Base Adjustment #4 - Accumulated Depreciation - Station Apparatus
* Rate Base Adjustment #5 - Pension Asset
* Rate Base Adjustment #6 - Postretirement Benefits
* Fair Value Rate Base

* Operating Adjustment #2 - Projected Changes in Test Year Revenues
* Operating Adjustment #8 - Property Taxes
* Operating Adjustment #9 - Incentive Compensation
* Other Agreed on Adjustments

RATE BASE

Rate Base Adjustment #1 - Accumulated Depreciation

Q. Please discuss the Company's rebuttal comments concerning Rate Base Adjustment #1 - Accumulated Depreciation.

A. The Company argues that because it is not restating its books and records to reflect it's proposed proforma decrease to the test year Accumulated Depreciation balance, there is no potential for double recovery.

Q. Does your concern regarding double recovery of prior depreciation expense have any connection to whether or not the Accumulated Depreciation balance is actually decreased on Qwest's books and records?

A. No. Whether or not Qwest's proforma decrease in the Accumulated Depreciation balance is recorded on the Company's books and records has no bearing on double recovery. If Qwest is allowed to restate its test year Accumulated Depreciation, as if the test year depreciation had never been collected through rates, Qwest will recover the test year

depreciation expense twice, once in the rates that were in place during the test year and again through the rates and tariffs set in this docket.

Rate Base Adjustment #2 -Capitalization of Software

Q. Have you reviewed the Company's rebuttal comments regarding your Rate Base Adjustment #2 and Operating Adjustment #4 - Capitalization and Amortization of Software?

A. Yes.

Q. Are RUCO and Qwest in agreement on the appropriate adjustment for the capitalization of software costs?

A. Yes. Qwest has revised its requested rate base and operating income to reflect the same adjustment as recommended in my direct testimony. There are some small discrepancies in amounts of the two adjustments however the adjustments are materially and conceptually the same. The Company's revisions are shown on Company Exhibit PEG-R4.

Rate Base Adjustment #3 - CWIP

Q. Please discuss Qwest's rebuttal comments regarding Rate Base Adjustment #3 and Operating Adjustment #7.

A. Qwest continues to argue that its CWIP balances should be included in rate base with a credit to operating revenues to avoid double counting AFUDC (interest) accruals with the proposed rate base recovery

treatment. The Company claims that it proposed treatment is the only method that will allow full recovery of its CWIP capital costs and accordingly recommends that Staff and RUCO's recommendation for rate base exclusion and AFUDC accrual be denied.

Q. Typically, does the Commission include CWIP balances in rate base?

A. No. The Commission typically applies the used and useful test in determining rate base treatment, which by definition excludes rate base recognition of CWIP.

Q. How does the utility recover the carrying costs of its CWIP if it is excluded from rate base?

A. Under the Uniform System of Accounts a utility is allowed to accrue its construction carrying costs in the form of AFUDC. These AFUDC accruals are capitalized and then recovered over the useful life of the asset through depreciation expense.

Q. Do you agree with the Company's argument that only its proposed "revenue offset" method allows it to recover its full cost of construction?

A. No. The Company's exhibit (PEG-D4) that purports to prove this argument is not accurate. First it assumes that only 80% of the AFUDC accruals under RUCO's recommended methodology will be ultimately rate based. The analysis on exhibit PEG-D4 also assumes that the rate base

value of the asset will decrease each year as the asset depreciates, and therefore the recovery of the return will decrease each year. This is inaccurate. Yes, the net book value of the asset will decrease each year on the Company's books, but unless there is a rate case each year, the rate base value will remain unchanged. This continues to allow the Company to earn on the undepreciated value of the asset.

Q. Do you continue to oppose the Company's "revenue offset" method of accounting for CWIP?

A. Yes. The Company has presented no compelling reason why the Commission should depart from its typical CWIP ratemaking treatment and has failed to prove its argument that the typical Commission treatment does not afford the Company an opportunity to recover its full cost.

Rate Base Adjustment #4 - Accumulated Depreciation - Station Apparatus

Q. Please discuss Qwest's rebuttal arguments concerning your Rate Base Adjustment #4 - Accumulated Depreciation Station Apparatus.

A. The Company claims in its rebuttal testimony that the accumulated depreciation balance associated with the Station Apparatus account *is* included in the test year rate base balance, and thus RUCO's adjustment is unnecessary.

Q. In light of the Company's claims have you revisited this issue?

A. Yes. I reviewed Schedule B-4 of the Company's application which clearly shows a balance in plant account 2311 - Station Apparatus of $32.9 million. I also reviewed the Company's response to RUCO data request 4-6 which provided a schedule of test year accumulated depreciation balances for each plant account. There is no accumulated depreciation in account 2311 - Station Apparatus. Thus, based on the data provided to me by the Company, it continues to appear that the Station Apparatus accumulated depreciation balance has been omitted from the Company's rate base, and that RUCO's adjustment is necessary.

Rate Base Adjustment #5 - Pension Asset

Q. Please discuss the Company's rebuttal arguments regarding RUCO Rate Base Adjustment #5 - Pension Asset.

A. The Company's rebuttal claims that the RUCO Pension Asset adjustment is a "red herring" and should be rejected.

Q. What is the Company's basis for this conclusion?

A. It is not entirely clear how the Company reached this conclusion. The Company's argument centers around the assumption that RUCO has excluded the Pension Asset from rate base because the Company has failed to recognize $511 million in Other Liabilities on its balance sheet in

rate base. Qwest further claims that no weight can be given the Company's balance sheet (Schedule E-1) in determining rate base.

Q. Do you agree with the Company's comments?

A. No. While I do point out in direct testimony that recognition of a Pension Asset of over $97 million in rate base without a corresponding analysis of the Other Liabilities account is inherently biased, this is not the only reason for my recommendation to exclude the Pension Asset balance from rate base.

Q. What other reasons did you have for your recommendation?

A. As previously discussed in my direct testimony, Qwest has a test year rate base of $1,647 million and a test year capital structure of $1,653 million. Thus, Qwest's claim of investor supplied capital for an Arizona pension asset is not possible since the $1,653 million in actual Arizona capital investment is sufficient only to support Qwest's test year rate base (which does not include a pension asset). I also note that the Commission denied Qwest's rate base treatment of the Pension Asset in a prior case. These points remain unrebutted in the Company's testimony.

Rate Base Adjustment #6 - Postretirement Benefits

Q. Have you reviewed the Company's rebuttal comments to your Rate Base Adjustment #6 and Operating Adjustment #5 - Postretirement Benefits?

A. Yes. It appears RUCO's position is consistent with the Company's position on the treatment of the Post Retirement Benefits. In its rebuttal testimony, the Company updates its adjustment to reflect the most recent estimate of the accumulated postretirement benefit obligation, and to correct and error in the rate base portion of this adjustment. These Company acknowledged corrections and updates accomplish the same purpose as RUCO Rate Base Adjustment #7 and Operating Adjustment #5.

Fair Value Rate Base

Q. Please discuss the Company's rebuttal comments regarding fair value rate base.

A. The Company argues in its rebuttal testimony that Arizona law requires that the Commission make a finding of fair value rate base in the context of setting rates.

Q. Do your agree with this position?

A. Yes. The Company is correct. Arizona law requires a finding of fair value rate base. However, I do not agree that the Commission must apply an

original cost rate of return to that fair value rate base, as argued by the Company.

Q. How does the Commission calculate fair value rate base and fair value rate of return?

A. In determining a utility's fair value rate base (FVRB), the Commission averages the utility's original cost rate base (OCRB) and its reconstruction cost new depreciated rate base (RCND). The Commission then determines the revenue requirement by multiplying the OCRB by the original cost cost of capital. The fair value rate of return is equal to the revenue requirement divided by FVRB.

Q. How does the Commission methodology differ from what Qwest has proposed?

A. The error in the Company's calculation is its application of the original cost rate of return to the FVRB, thereby deriving a larger than warranted revenue requirement. This methodology is incorrect. When the correct rate of return is applied to the OCRB, RCND, or FVRB *the revenue requirement remains constant.* The Company's proposed methodology derives a higher revenue requirement through the use of the FVRB.

Q. Why is this incorrect?

A. The revenue requirement that a utility is entitled an opportunity to recover through rates is in large part dependant on two factors: the value of its rate base and its cost of capital. Both factors need to be stated on the same basis in order to generate fair and reasonable rates. When an original cost rate base and original cost of capital basis are used these two factors are appropriately matched. The original cost rate base does not consider inflation, as does the RCND rate base. However, the original cost of capital utilized in a rate case *does* consider inflation in both the cost of debt analysis (i.e. as an interest rate component) and the cost of equity analysis (i.e. in the risk component). Thus, when an original cost rate base is multiplied by an original cost of capital the inflation element is present in the resultant revenue requirement as a component of the cost of capital. If an original cost rate base is replaced with a FVRB rate base the inflation factor will be double counted in the revenue requirement calculation. This double count results because both the RCND rate base (which represents 50% of the FVRB) and the original cost of capital include an inflation factor. When multiplied together in the revenue requirement calculation, the inflation factor will be compounded and result in a double count, which will overstate the revenue requirement.

OPERATING INCOME

Operating Adjustment #2 - Projected Changes in Test Year Revenues

Q. Have you reviewed Qwest's rebuttal comments concerning your Operating Adjustment #2 - Projected Changes in Test Year Revenues?

A. Yes. Qwest denies that its proposed revenue decrease adjustment is based on projections, and further claims that the $44.7 million decrease in revenues it has proposed is "known and measurable".

Q. Do you agree that the proforma decrease in revenue the Company has reflected in its filing is "known and measurable"?

A. No. The proforma decrease in revenues is based on a number of assumptions, which include the assumption that a change in certain independent variables will have a one-to-one impact on the dependent variable, which in Qwest's proposed adjustment is its revenue. Qwest relies on regression analyses to support this assumption. Yet, none of the Company's regression analyses show a one-to-one correlation between the independent variable and Qwest revenue. Despite the absence of a one-to-one correlation, the Company's projected revenue decrease adjustment relies on the existence of a one-to-one relationship.

Q. How did Qwest characterize this adjustment in its original filing?

A. Qwest characterized the proposed proforma revenue decreases as "Forecast Amounts" in its filing.

Operating Adjustment #8 - Property Tax Expense

Q. Please discuss Qwest's rebuttal comments pertaining to Operating Adjustment #8 - Property Taxes.

A. Qwest's claims that the property tax rate and the full cash value used in RUCO's property tax calculation are incorrect.

Q. Do you agree that your calculation does not render an accurate full cash value?

A. No. My calculation utilizes the formula ADOR uses to calculate telephone property taxes, which is defined under Arizona Revised Statute §42-14403. The formula is based primarily on the book value of Qwest's Arizona property. By utilizing the test year adjusted net plant in my calculation I have captured only the property tax related to regulated Arizona jurisdictional plant. This is the only portion of the property tax expense that ACC jurisdictional customers should be responsible for. Qwest has suggested that I should have used the full cash value as determined by ADOR on its 2004 notice of valuation, which has not been adjusted to reflect solely the regulated ACC jurisdictional property.

Q. Had you utilized the amount suggested by Qwest, how would that differ from your calculation using test year adjusted net plant?

A. The full cash value shown on ADOR's 2004 notice of valuation is $2,583,351,359. That amount would have to be jurisdictionalized and

then the ACC jurisdictional amount multiplied by the 25% assessment ratio. This methodology would yield a property tax expense of approximately $1.2 million more than my calculation does using the net adjusted test year values and a property tax expense that is $8 million less than the amount proposed by Qwest.

Q. Please respond to the Company's comments regarding the property tax rate used in your calculation.

A. The Company claims the 2004 average state property tax utilized in my calculation is incorrect, and that I should have used the actual 2003 tax rate, which is slightly higher.

Q. How did you obtain the 2004 average state property tax rate that you used in your property tax calculation?

A. I spoke with an ADOR employee in the telephone property tax division and was provided with the 12.18% 2004 rate. ADOR applies the 2004 tax rate to the 2003 net plant values to determine the 2004 property tax assessment. My calculations employ this same methodology.

Q. Even if you were to modify your calculations based on the Company's rebuttal arguments would the resultant property tax expense be materially different that than in your original calculation?

A. No.

Operating Adjustment #9 - Incentive Compensation

Q. Have you reviewed the Company's rebuttal comments regarding Operating Adjustment #9 - Incentive Compensation?

A. Yes. In response to my direct testimony stating that ratepayers should not be required to pay higher rates to fund rewards for poor operating results, the Company opines that I have not shown that the test year incentive compensation costs are unreasonable business expenses.

Q. Please respond.

A. It appears the Company did not understand the rationale for my incentive compensation adjustment. By definition the incentive compensation rewards are unreasonable expenses when the Company operated at a loss, yet rewarded its employees anyway. Further, the awards themselves exacerbated the Company's losses and contributed to the need for even higher rate increases. Under these circumstances the incurrence of these expenses was unreasonable.

OTHER AGREED ON ADJUSTMENTS

Q. In addition to those already specifically address in your surrebuttal testimony, are Qwest and RUCO in agreement on any other adjustments?

A. Yes. Qwest and RUCO agree on: RUCO Rate Base Adjustment #6 and Operating Adjustment #1/Qwest PFA-01 and RUCO Operating Adjustment #3/Qwest PFN-12.

Q. Does this conclude your surrebuttal testimony?

A. Yes.

EXHIBIT
RUCO-8
admitted

QWEST CORPORATION

IN THE MATTER OF QWEST CORPORATION'S FILING OF
RENEWED PRICE REGULATION PLAN
(DOCKET No. T-01051B-03-0454)

and

IN THE MATTER OF THE INVESTIGATION OF THE COST OF
TELECOMMUNICATIONS ACCESS
(DOCKET No. T-00000D-00-0672)

SUPPLEMENTAL TESTIMONY

IN OPPOSITION TO

QWEST'S SETTLEMENT AGREEMENT

OF

MARYLEE DIAZ CORTEZ, CPA

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

OCTOBER 14, 2005

INTRODUCTION 1
PRODUCTIVITY ADJUSTMENT 3
Background 3
The Agreement's Proposed Treatment of the April 1, 2005 Liability 4
RUCO's Recommendation 6

INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My name is Marylee Diaz Cortez. I am a Certified Public Accountant. I am the Chief of Accounting and Rates for the Residential Utility Consumer Office (RUCO) located at 1110 W. Washington Street, Suite 220, Phoenix, Arizona 85007.

Q. Please state your educational background and qualifications in the utility regulation field.

A. Appendix I, which is attached to this testimony, describes my educational background and includes a list of the rate case and regulatory matters in which I have participated.

Q. Please state the purpose of your testimony.

A. The purpose of my testimony is to address certain aspects of the settlement agreement that Qwest Corporation has reached with some of the parties to this docket.

Q. Is RUCO a signatory to the Qwest settlement agreement?

A. No. Although RUCO participated in the settlement negotiations from the beginning, it became clear as the process proceeded that a satisfactory resolution of certain important issues that were important to RUCO would not be possible. RUCO withdrew from the negotiations in April 2005.

Q. What issues does RUCO believe are unsatisfactorily addressed in the proposed settlement agreement?

A. RUCO believes the following issues are not satisfactorily resolved by the agreement:

1) The agreement, as a whole, does not address the current status of competition in Arizona, nor will it do anything to further competition in Arizona's telecom industry;
2) Inappropriate placement of certain services in certain baskets;
3) Lack of geographic distinction in classifying competitive services;
4) The degree to which pricing freedom is allowed in Basket 2;
5) The agreement results in a modified price cap plan that, when compared to the existing plan, negatively impacts residential ratepayers; and
6) The manner in which the issue of the April 1, 2005 productivity adjustment (required under the existing plan) is resolved by the settlement.

Q. Which of these issues do you address in your testimony?

A. I address the issue of the April 1, 2005 productivity adjustment. All other issues are addressed by RUCO witness, Dr. Ben Johnson.

PRODUCTIVITY ADJUSTMENT

Background

Q. What is the productivity adjustment?

A. In March of 2001 the Commission approved a three year Price Cap Plan (Decision No. 63487) for Qwest. One of the terms of that Price Cap Plan was a productivity adjustment that called for an annual price reduction in Basket 1 services when productivity exceeded inflation. Productivity was set at a fixed rate of 4.8%, and reductions were to be made on April 1 of each year.

Q. Is Qwest still operating under the Price Cap Plan approved in Decision No. 63487?

A. Yes. Despite Qwest's arguments that certain terms of the existing Price Cap Plan expired after three years, the Commission has determined otherwise. In Decision Nos. 66772 and 67047 the Commission affirmed that the productivity adjustment was to continue until the Commission either modifies or terminates the Plan.

Q. Did Qwest make the required productivity adjustments?

A. Qwest made the required productivity adjustments for April 2002, April 2003, and April 2004. Qwest has not made the required productivity adjustment for April 2005.

Q. Why not?

A. On February 3, 2005 Qwest filed a motion to suspend the Inflation Minus Productivity Factor Adjustment. The Commission made the following findings on that motion in Decision No. 67734:

> We agree with RUCO that based on the terms of the current Price Cap Plan, and our holdings in Decision Nos. 66772 and 67047 that unless we approve a new plan or terminate the current Plan, Qwest is required under the Continuation Clause of the Plan to make the April 1, 2005 productivity adjustment. However, the Commission certainly has the discretion to suspend the April 1, 2005 reduction, to accommodate comprehensive settlement discussions in this case. We do not believe that a mere suspension of the April 1, 2005 reduction would violate Scates[1], or the principle that the Commission cannot modify rates absent a fair value finding. We are not terminating the April 1, 2005 adjustment. The liability associated with the April 1, 2005 adjustment will continue to accrue. We will address the accrued liability for the April 1, 2005 adjustment in the final rate order in this docket.

Decision No. 67734 further states in the Findings of Fact at page 8 that:

> Qwest has the burden of demonstrating that the terms of any Renewed Plan or other form of rate regulation that may ultimately be approved, whether produced by settlement or through litigation, include full credit for the value of the April 1, 2005 productivity adjustment being given to ratepayers.

The Agreement's Proposed Treatment of the April 1, 2005 Liability

Q. Does the Agreement negotiated by the parties include a provision for the April 1, 2005 liability?

A. Yes.

[1] *Scates v. Arizona Corporation Commission,* 118 Ariz. 531, 578 P.2d 612 (App.1978).

Q. Please describe how the settlement agreement provides for the April 1, 2005 productivity liability.

A. The settlement agreement provides the following regarding the April 1, 2005 productivity liability:

> This Settlement Agreement recognizes that the Commission's Decision No. 67734 suspended the Productivity Adjustment to prices that Qwest would have made to Basket 1 of the original Price Cap Plan on April 1, 2005, under the Commission's interpretation of the Plan. Under Decision No. 67734, Qwest is obligated to demonstrate that final rates approved in this docket result in ratepayers receiving the full value of the suspended April 1, 2005 Productivity Adjustment as if it had been in effect April 1, 2005. The parties agree that Qwest's obligation under Decision No. 67734 is satisfied by the $12.0 million reduction in its allowable net increased revenue from price changes for the first year of the Plan as set forth in Section 10 of this Agreement.

Q. Does RUCO agree that this provision satisfies the liability that the Commission established in Decision No. 67734?

A. No. This Commission specifically stated in Decision No. 67734 that Qwest had the burden of demonstrating that its rate plan in this docket included "credit for the full value of the April 1, 2005 productivity adjustment". RUCO does not believe the provisions of the settlement regarding the productivity adjustment "include credit for the *full* value".

Q. Why not?

A. Had the Commission not temporarily suspended the productivity adjustment, Qwest would have decreased the rates in its Basket 1

services by approximately $12 million on April 1, 2004. Thus, by this time ratepayers would have enjoyed real rate cuts equal to or better than half of that amount, or $6 million. By April 1, 2005 ratepayers would have realized rate decreases of the full $12 million. Thus, the productivity adjustment would have put ratepayers in a better position than they had been prior to the April 1, 2005 adjustment. The settlement agreement however, does not render ratepayers in a better position than they were before the settlement agreement. The agreement merely *restricts* the amount that Qwest can *raise* prices in Basket 2[2]. Thus, the provisions of the settlement agreement do not give ratepayers full credit for the value of the productivity adjustment as required by Decision No. 67734.

RUCO's Recommendation

Q. How do you recommend that ratepayers receive full credit for the value of the April 1, 2005 productivity adjustment?

A. I recommend that all Qwest 1FR and 1FB customers receive a credit on their monthly bills equal to a twelve month amortization of the value of the April 1, 2005 productivity adjustment that was foregone during the suspension period.

[2] The services in Basket 2 have been identified as moderately competitive to begin with. Arguably, Qwest's ability to raise prices for these services is already restricted by competition.

Q. How would this specifically be calculated?

A. First, the total amount required to be refunded for the suspended productivity adjustment would be determined as the number of months that had elapsed between April 1, 2005 and the date a revised price cap plan or other rate plan is adopted by the Commission. Second, the number of months determined would then be multiplied $1 million (representing the $12 million value of the productivity adjustment divided by 12 months) and interest accrued at prevailing rates. The total value of the productivity adjustment as determined per step 1 and 2 would then be divided by 12 months to reflect the total amount to be refunded per month. Finally, the monthly refund would be divided by the total number of 1FR and 1FB customers and credited to their bill over the ensuing 12 months. Under this methodology, ratepayers would realize real price reductions just as they would have had the required productivity adjustment not been temporarily suspended. RUCO believes this proposal would satisfy the criteria of Decision No. 67734 requiring that ratepayers receive the full value of the suspended productivity adjustment.

Q. Does this conclude your testimony?

A. Yes.

APPENDIX I

Qualifications of Marylee Diaz Cortez

EDUCATION: University of Michigan, Dearborn
B.S.A., Accounting 1989

CERTIFICATION: Certified Public Accountant - Michigan
Certified Public Accountant - Arizona

EXPERIENCE: Audit Manager
Residential Utility Consumer Office
Phoenix, Arizona 85007
July 1994 - Present

Responsibilities include the audit, review and analysis of public utility companies. Prepare written testimony, schedules, financial statements and spreadsheet models and analyses. Testify and stand cross-examination before Arizona Corporation Commission. Advise and work with outside consultants. Work with attorneys to achieve a coordination between technical issues and policy and legal concerns. Supervise, teach, provide guidance and review the work of subordinate accounting staff.

Senior Rate Analyst
Residential Utility Consumer Office
Phoenix, Arizona 85004
October 1992 - June 1994

Responsibilities included the audit, review and analysis of public utility companies. Prepare written testimony and exhibits. Testify and stand cross-examination before Arizona Corporation Commission. Extensive use of Lotus 123, spreadsheet modeling and financial statement analysis.

Auditor/Regulatory Analyst
Larkin & Associates - Certified Public Accountants
Livonia, Michigan
August 1989 - October 1992

Performed on-site audits and regulatory reviews of public utility companies including gas, electric, telephone, water and sewer throughout the continental United States. Prepared integrated proforma financial statements and rate models for some of the largest public utilities in the United States. Rate models consisted

of anywhere from twenty to one hundred fully integrated schedules. Analyzed financial statements, accounting detail, and identified and developed rate case issues based on this analysis. Prepared written testimony, reports, and briefs. Worked closely with outside legal counsel to achieve coordination of technical accounting issues with policy, procedural and legal concerns. Provided technical assistance to legal counsel at hearings and depositions. Served in a teaching and supervisory capacity to junior members of the firm.

RESUME OF RATE CASE AND REGULATORY PARTICIPATION

Utility Company	Docket No.	Client
Potomac Electric Power Co.	Formal Case No. 889	Peoples Counsel of District of Columbia
Puget Sound Power & Light Co.	Cause No. U-89-2688-T	U.S. Department of Defense - Navy
Northwestern Bell-Minnesota	P-421/EI-89-860	Minnesota Department of Public Service
Florida Power & Light Co.	890319-EI	Florida Office of Public Counsel
Gulf Power Company	890324-EI	Florida Office of Public Counsel
Consumers Power Company	Case No. U-9372	Michigan Coalition Against Unfair Utility Practices
Equitable Gas Company	R-911966	Pennsylvania Public Utilities Commission
Gulf Power Company	891345-EI	Florida Office of Public Counsel

Jersey Central Power & Light	ER881109RJ	New Jersey Department of Public Advocate Division of Rate Counsel
Green Mountain Power Corp.	5428	Vermont Department of Public Service
Systems Energy Resources	ER89-678-000 & EL90-16-000	Mississippi Public Service Commission
El Paso Electric Company	9165	City of El Paso
Long Island Lighting Co.	90-E-1185	New York Consumer Protection Board
Pennsylvania Gas & Water Co.	R-911966	Pennsylvania Office of Consumer Advocate
Southern States Utilities	900329-WS	Florida Office of Public Counsel
Central Vermont Public Service Co.	5491	Vermont Department of Public Service
Detroit Edison Company	Case No. U-9499	City of Novi
Systems Energy Resources	FA-89-28-000	Mississippi Public Service Commission
Green Mountain Power Corp.	5532	Vermont Department of Public Service
United Cities Gas Company	176-717-U	Kansas Corporation Commission

General Development Utilities	911030-WS & 911067-WS	Florida Office of Public Counsel
Hawaiian Electric Company	6998	U.S. Department of Defense - Navy
Indiana Gas Company	Cause No. 39353	Indiana Office of Consumer Counselor
Pennsylvania American Water Co.	R-00922428	Pennsylvania Office of Consumer Advocate
Wheeling Power Co.	Case No. 90-243-E-42T	West Virginia Public Service Commission Consumer Advocate Division
Jersey Central Power & Light Co.	EM89110888	New Jersey Department of Public Advocate Division of Rate Counsel
Golden Shores Water Co.	U-1815-92-200	Residential Utility Consumer Office
Consolidated Water Utilities	E-1009-92-135	Residential Utility Consumer Office
Sulphur Springs Valley Electric Cooperative	U-1575-92-220	Residential Utility Consumer Office
North Mohave Valley Corporation	U-2259-92-318	Residential Utility Consumer Office
Graham County Electric Cooperative	U-1749-92-298	Residential Utility Consumer Office

Graham County Utilities	U-2527-92-303	Residential Utility Consumer Office
Consolidated Water Utilities	E-1009-93-110	Residential Utility Consumer Office
Litchfield Park Service Co.	U-1427-93-156 & U-1428-93-156	Residential Utility Consumer Office
Pima Utility Company	U-2199-93-221 & U-2199-93-222	Residential Utility Consumer Office
Arizona Public Service Co.	U-1345-94-306	Residential Utility Consumer Office
Paradise Valley Water	U-1303-94-182	Residential Utility Consumer Office
Paradise Valley Water	U-1303-94-310 & U-1303-94-401	Residential Utility Consumer Office
Pima Utility Company	U-2199-94-439	Residential Utility Consumer Office
SaddleBrooke Development Co.	U-2492-94-448	Residential Utility Consumer Office
Boulders Carefree Sewer Corp.	U-2361-95-007	Residential Utility Consumer Office
Rio Rico Utilities	U-2676-95-262	Residential Utility Consumer Office
Rancho Vistoso Water	U-2342-95-334	Residential Utility Consumer Office
Arizona Public Service Co.	U-1345-95-491	Residential Utility Consumer Office
Citizens Utilities Co.	E-1032-95-473	Residential Utility Consumer Office
Citizens Utilities Co.	E-1032-95-417 et al.	Residential Utility Consumer Office

Paradise Valley Water	U-1303-96-283 & U-1303-95-493	Residential Utility Consumer Office
Far West Water	U-2073-96-531	Residential Utility Consumer Office
Southwest Gas Corporation	U-1551-96-596	Residential Utility Consumer Office
Arizona Telephone Company	T-2063A-97-329	Residential Utility Consumer Office
Far West Water Rehearing	W-0273A-96-0531	Residential Utility Consumer Office
SaddleBrooke Utility Company	W-02849A-97-0383	Residential Utility Consumer Office
Vail Water Company	W-01651A-97-0539 & W-01651B-97-0676	Residential Utility Consumer Office
Black Mountain Gas Company Northern States Power Company	G-01970A-98-0017 G-03493A-98-0017	Residential Utility Consumer Office
Paradise Valley Water Company Mummy Mountain Water Company	W-01303A-98-0678 W-01342A-98-0678	Residential Utility Consumer Office
Bermuda Water Company	W-01812A-98-0390	Residential Utility Consumer Office
Bella Vista Water Company Nicksville Water Company	W-02465A-98-0458 W-01602A-98-0458	Residential Utility Consumer Office
Paradise Valley Water Company	W-01303A-98-0507	Residential Utility Consumer Office
Pima Utility Company	SW-02199A-98-0578	Residential Utility Consumer Office
Far West Water & Sewer Company	WS-03478A-99-0144 Interim Rates	Residential Utility Consumer Office
Vail Water Company	W-01651B-99-0355 Interim Rates	Residential Utility Consumer Office

Far West Water & Sewer Company	WS-03478A-99-0144	Residential Utility Consumer Office
Sun City Water and Sun City West	W-01656A-98-0577 & SW-02334A-98-0577	Residential Utility Consumer Office
Southwest Gas Corporation ONEOK, Inc.	G-01551A-99-0112 G-03713A-99-0112	Residential Utility Consumer Office
Table Top Telephone	T-02724A-99-0595	Residential Utility Consumer Office
U S West Communications Citizens Utilities Company	T-01051B-99-0737 T-01954B-99-0737	Residential Utility Consumer Office
Citizens Utilities Company	E-01032C-98-0474	Residential Utility Consumer Office
Southwest Gas Corporation	G-01551A-00-0309 & G-01551A-00-0127	Residential Utility Consumer Office
Southwestern Telephone Company	T-01072B-00-0379	Residential Utility Consumer Office
Arizona Water Company	W-01445A-00-0962	Residential Utility Consumer Office
Litchfield Park Service Company	W-01427A-01-0487 & SW-01428A-01-0487	Residential Utility Consumer Office
Bella Vista Water Co., Inc.	W-02465A-01-0776	Residential Utility Consumer Office
Generic Proceedings Concerning Electric Restructuring Issues	E-00000A-02-0051	Residential Utility Consumer Office
Arizona Public Service Company	E-01345A-02-0707	Residential Utility Consumer Office
Qwest Corporation	RT-00000F-02-0271	Residential Utility Consumer Office

Arizona Public Service Company	E-01345A-02-0403	Residential Utility Consumer Office
Citizens/UniSource	G-01032A-02-0598 E-01032C-00-0751 E-01933A-02-0914 E-01302C-02-0914 G-01302C-02-0914	Residential Utility Consumer Office
Arizona-American Water Company	WS-01303A-02-0867	Residential Utility Consumer Office
Arizona Public Service Company	E-01345A-03-0437	Residential Utility Consumer Office
UniSource	E-04230A-03-0933	Residential Utility Consumer Office
Arizona Public Service Company	E-01345A-04-0407	Residential Utility Consumer Office
Southwest Gas Corporation	G-01551A-04-0876	Residential Utility Consumer Office
Arizona-American Water Company	W-1303A-05-0280	Residential Utility Consumer Office

EXHIBIT
RUCO-9
admitted

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IN THE MATTER OF QWEST CORPORATION'S FILING OF RENEWED PRICE REGULATION PLAN.	DOCKET NO. T-01051B-03-0454
IN THE MATTER OF THE INVESTIGATION OF THE COST OF TELECOMMUNICATIONS ACCESS.	DOCKET NO. T-00000D-00-0672

NOTICE OF ERRATA

On October 14, 2005, the Residential Utility Consumer Office ("RUCO") filed the Supplemental Testimony of Marylee Diaz Cortez in opposition to Qwest's Settlement Agreement. RUCO discovered an error in the date referenced at page 6, line 1, and an error in the date referenced at page 6, line 3. Therefore, RUCO is filing the attached.

Copies of the attachment are being provided to the parties and the Administrative Law Judge in this matter.

RESPECTFULLY SUBMITTED this 21st day of October, 2005.

Daniel W. Pozefsky
Attorney

AN ORIGINAL AND FIFTEEN COPIES
of the foregoing filed this 21st day
of October, 2005 with:

Docket Control
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

COPIES of the foregoing hand delivered/mailed
or *e-mailed this 21st day of October, 2005 to:

*Jane Rodda
Administrative Law Judge
Arizona Corporation Commission
400 West Congress
Tucson, Arizona 85701

*Maureen A. Scott
Legal Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

*Christopher Kempley
Legal Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

*Ernest Johnson, Director
Utilities Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

*Timothy Berg
*Theresa Dwyer
Fennemore Craig, P.C.
3003 North Central Avenue
Suite 2600
Phoenix, Arizona 85012

Todd Lundy
Qwest Law Department
1801 California Street
Denver, Colorado 80202

*Thomas F. Dixon
WorldCom Inc.
707 17th Street
39th Floor
Denver, Colorado 80202

*Thomas H. Campbell
*Michael T. Hallam
Lewis & Roca
40 North Central Avenue
Suite 1900
Phoenix, Arizona 85004

*Michael W. Patten
Roshka DeWulf & Patten, PLC
One Arizona Center
400 East Van Buren Street
Suite 800
Phoenix, Arizona 85004

*Mark A. DiNunzio
Cox Arizona Telecom, LLC
1550 W. Deer Valley Rd.
MS:DV3-16; Bldg. C
Phoenix, Arizona 85027

*Peter Q. Nyce, Jr.
Regulatory Law Office
U.S. Army Litigation Center
901 North Stuart Street
Suite 713
Arlington, Virginia 22203

*Richard Lee
Snavely King Majoros O'Connor & Lee, Inc.
1220 L Street NW
Suite 410
Washington, DC 20005

Eschelon Telecom of Arizona
730 2nd Avenue South
Suite 1200
Minneapolis, Minnesota 55402

Martin A. Aronson
Morrill & Aronson, P.L.C.
One East Camelback
Suite 340
Phoenix, Arizona 85012

*Brian Thomas
Vice President Regulatory
Time Warner Telecom, Inc.
223 Taylor Avenue North
Seattle, Washington 98109

*Walter W. Meek, President
Arizona Utility Investors Association
2100 N. Central Avenue, Suite 210
Phoenix, AZ 85004

Jon Poston
ACTS
6733 East Dale Lane
Cave Creek, AZ 85331

*Jeffrey W. Crockett
Snell & Wilmer
One Arizona Center
400 East Van Buren
Phoenix, Arizona 85004-2202

Albert Sterman, Vice President
Arizona Consumers Council
2849 E. 8th Street
Tucson, AZ 85716

*Joan S. Burke
Osborn Maledon P.A.
2929 N. Central Aveune
Suite 2100
Phoenix, Arizona 85012

By Ernestine Gamble
Ernestine Gamble
Secretary to Daniel Pozefsky

Referring to the October 14, 2005 Supplemental Testimony In Opposition to Qwest's Settlement Agreement of Marylee Diaz Cortez, CAP

On page 6, line 1

DELETE
April 1, 2004

INSERT
April 1, 2005

On page 6, line 3

DELETE
April 1, 2005

INSERT
April 1, 2006

EXHIBIT
RUCO-10
admitted

IN THE MATTER OF QWEST CORPORATION'S
FILING OF RENEWED PRICE REGULATION PLAN.

DOCKET NO. T-01051B-03-0454

and

IN THE MATTER OF THE INVESTIGATION OF THE
COST OF TELECOMMUNICATIONS ACCESS.

DOCKET NO. T-00000D-00-0672

DIRECT TESTIMONY

OF

DR. BEN JOHNSON

(Redacted)

On Behalf of
The
RESIDENTIAL UTILITY CONSUMER OFFICE

November 18, 2004

TESTIMONY

OF BEN JOHNSON, PH.D.

On Behalf of

THE STATE OF ARIZONA

RESIDENTIAL UTILITY CONSUMER OFFICE

Before the

ARIZONA CORPORATION COMMISSION

Docket No. T-01051B-03-0454

Docket No. T-00000D-00-0672

Introduction

Q. Would you please state your name and address?

A. Ben Johnson, 2252 Killearn Center Boulevard, Tallahassee, Florida 32309.

Q. What is your present occupation?

A. I am a consulting economist and president of Ben Johnson Associates, Inc., an economic research firm specializing in public utility regulation.

Q. Have you prepared an appendix that describes your qualifications in regulatory and utility economics?

A. Yes. Appendix A, attached to my testimony, will serve this purpose.

Q. Does your testimony include any attachments?

A. Yes. I have attached two proprietary exhibits and five schedules. These attachments were prepared under my supervision and are true and correct to the best of my knowledge.

Q. What is your purpose in making your appearance at this hearing?

A. Our firm has been retained by the Residential Utility Consumer Office ("RUCO") to assist with RUCO's participation in this proceeding, which is intended to resolve issues raised in two separate Arizona Corporation Commission (Commission) dockets – T-01051B-03-0454 (which examines proposed revisions to Qwest Corporation's Arizona Price Regulation Plan) and T-00000D-00-0672 (which investigates the pricing of Qwest's intrastate switched access service).

Following this introduction, my testimony has five major sections. In the first section, I briefly sketch the background of this proceeding. In the second section, I discuss universal service and access issues. In this section, I sketch the historical context of key issues involved in this proceeding, including positions taken over the past century by the U.S. Supreme Court, other state public utility commissions, Congress, and the Federal Communications Commission (FCC) concerning certain issues which are crucial to the outcome of this proceeding. I focus on universal service and relate this issue to those surrounding access rates and costs. I explain that transferring cost recovery responsibility from inter-exchange carriers (IXCs) to end users (through higher local rates or per-line end user charges) may result in net benefits for high toll users but low toll users may experience higher bills, which may discourage them from having phone service. I conclude with a discussion of the proposals of Qwest Corporation (Qwest or

"the Company") for changes to the Arizona universal service fund (AUSF) and whether these proposals are commensurate with a properly functioning USF.

In the third section, I outline how regulated telecommunications markets have evolved and the current status of those markets. In this section, I also introduce some market data in an effort to examine the effect various regulatory mechanisms have had on prices and other characteristics of these markets. I discuss the inflation offset, or "X" factor, which is a key part of the price cap plans in Arizona and most other jurisdictions.

In the fourth section, I summarize and respond to Qwest's claims regarding the competitive landscape in Arizona. In this section, I use market data to examine the extent to which competitive local exchange carriers (CLECs) have been successful in competing with Qwest. The fifth section contains my response to individual revisions that the Company is proposing (the proposed Plan) relative to its existing Arizona Price Regulation Plan (the current Plan).

Q. Would you please very briefly summarize your conclusions?

A. As I explain in section two of my testimony, the investigation of switched access charges that has been merged into this proceeding is closely tied to the concept of universal service. To achieve further reductions in switched access rates, Qwest will most likely seek higher local exchange rates. This type of "rate rebalancing," as it has been called, could endanger the universal service goal, particularly if it is implemented in an extreme manner. My analysis comparing the revenues Qwest generates from a typical customer's bill to the costs it incurs in serving that customer indicates that residential rates are not "subsidized." However, they do not

generate profit margins as large as those generated by business rates. Hence, Qwest could use its proposed pricing flexibility to increase residential local exchange rates, particularly in the low density, higher cost parts of the state where margins are slim, and competition is limited.

If the Commission is convinced that the existing system of implicit support is not sustainable or acceptable, it would be more appropriate to revamp the Arizona Universal Service Fund, to provide an appropriate mechanism for dealing with these cost disparities. In section two, I outline how the AUSF can be properly constructed using benchmarks and geographic averaging.

As I explain in section three of my testimony, rate of return regulation and effective competition have historically been quite successful in forcing firms to provide customers with the benefits of cost reductions and requiring customers to compensate firms for cost increases. I present graphical evidence that, historically, traditional regulation has been effective in reducing prices to reflect declining costs. In recent years, however, as regulators have moved away from traditional regulation and toward alternatives (like price caps), the RBOCs have not passed through to consumers a large portion of the cost reductions they have experienced since about 1995. I present further graphical evidence that neither the current regulatory system, nor competitive pressures, are forcing rates down to levels that are fully consistent with the declining level of costs incurred by the RBOCs.

As I explain in section four, the Arizona telecommunications market continues to retain barriers to entry for competitive carriers. I attempt to measure those barriers to entry through an examination of competitors' market shares. I found that in many parts of the state, local competitors have not yet enjoyed much success in penetrating the local exchange market,

developing a market presence, gaining customers, or building revenues. Despite the Company's rhetoric and selective evidence, the competitive market penetration is very modest in many parts of the state, as indicated by the Company's dominant market share. The mere fact that a certain number of "warm bodies" have shown up and announced their intention to offer local telephone service is not indicative of the extent to which meaningful "entry" is actually occurring or the extent to which customers are willing to accept these firms' offerings as viable substitutes for those of their existing carrier.

As I explain in section five, after careful review of each of Qwest's proposed changes to its current Plan, I conclude that most of the changes it proposes do not represent an improvement over the current Plan. Some of the proposed changes would exacerbate existing flaws, or they would create new problems. As a result, I have proposed an alternative Plan with an alternative basket structure and an alternative system of price caps. Of note, I believe it is appropriate to continue using a productivity offset to cap rates because (1) it better ensures that industry-wide increases in incumbent local exchange carrier (ILEC) productivity and decreases in ILEC costs will be passed through to customers, and (2) historical industry wide data confirms that a 4% or 5% offset is not too large. Finally, in this section, I conclude that many of Qwest's rate design proposals are reasonable, provided that Qwest implements these proposals within the confines of the pricing flexibility afforded by the price cap system, and provided that any expansion of the AUSF is accompanied by appropriate structural improvements to the fund.

I. BACKGROUND

T-00000D-00-0672 (Access Docket)

Q. Would you please begin by briefly sketching the background of the Access Docket?

A. Certainly. The Commission opened the Access Docket in September 2000 with the intent of analyzing the relationship between the rates charged and the costs incurred in the provision of access service. [Procedural Order, December 3, 2001, p. 1] Due to "significant changes" that it cited as having occurring in access markets, the Commission Staff (Staff) filed a request for a procedural order in this docket on November 21, 2001. [Id.] In that request, Staff developed a list of 25 questions which it felt the Commission should seek comment on from the intervening parties. [Id., pp. 2-4] The Commission subsequently issued a Procedural Order on December 3, 2001. [Id., p. 5] In that Order, the Commission asked parties to comment on each of Staff's 25 questions and asked Staff to file a proposed procedural schedule. [Id., p. 2] The list of questions covered such topics as methods for reforming intrastate access charges, implicit subsidies, monopoly power in access markets, universal service, and a host of procedural matters.

After having the time to file comments extended by the Commission, the Arizona Local Exchange Carrier Association ("ALECA"), AT&T, Citizens Communications, Cox Telecom, Eschelon Telecom, Qwest, RUCO, Sprint, Table Top Telephone Company, Verizon, and Worldcom all filed responses to the Commission's questions by March 8, 2001. [Staff Recommended Procedural Order, March 28, 2002, pp. 1-2] After reviewing the filed

comments Staff recommended that the Commission open a generic proceeding in which the parties could file multiple rounds of testimony. [Procedural Order, May 21, 2002, p. 1] Staff felt that parties should be required to draft direct testimony that answered four general questions, similar to those asked in the first Procedural Order.

> 1. Whether IXCs may be at a competitive disadvantage if access charges are not reformed.
> 2. Whether transferring cost recovery responsibility from IXCs through CCL charges to end users (through flat rate end user charges) results in end users subsidies of ILEC-provided toll services.
> 3. Whether transferring cost recovery responsibility from IXCs (through CCL charges) to end users (though end flat rate end user charges) results in end user benefits.
> 4. What considerations make access charge reform in the public interest and in addition what considerations make the interested party's proposed access charge reform plan in the public interest. [Id., pp. 1-2]

Following a Qwest response which sought to exclude the consideration of special access issues from this proceeding, the Commission issued a Procedural Order on May 21, 2002. The Commission declined to exclude discussion of special access, while recognizing that the primary focus of the investigation is switched access, and it adopted these four general questions for purposes of guiding the parties' testimony. [Id., p. 3] The Order also set a procedural timetable for the filing of testimony.

On June 28, 2002 (the day that intervenors were scheduled to file direct testimony), Staff filed a Motion to Suspend the Procedural Schedule. It did so because it did not have "sufficient resources available to adequately address the very complex and difficult issues raised

in this case." [Procedural Order, July 8, 2002, p. 1] The Commission granted the motion on July 8, 2002.

Parties to the Access Docket filed briefs on November 3, 2003, addressing (1) whether the Commission must make a fair value determination and (2) whether Qwest's access charges should be examined separately from other carriers'. In a November 17, 2003 Procedural Order, the Commission ruled as follows.

> The general consensus of all parties is that access charges may not be reduced outside the context of a rate setting proceeding unless, at a minimum, a revenue-neutral mechanism is developed. Due to these limitations, and because Qwest has requested a review of its current rate cap plan in Docket NO. T-01051B-03-0454, it is appropriate to consider Qwest's access charges in conjunction with its rate cap review, where all of Qwest's rates will be analyzed. [Procedural Order, November 17, 2003, p. 3]

The Access Investigation was subsequently combined with the rate cap review in this proceeding, and thus it is feasible for the Commission to implement changes to Qwest's access rate structure in this proceeding, should it decide this is appropriate.

T-01051B-03-0454 (Price Cap Docket)

Q. Would you please begin by briefly sketching the background of the Price Cap Docket?

A. Yes. The origin of the Price Cap Docket can be found in the Commission's Order No. 63487. This Order approved the Company's current Plan. The current Plan was contained within a Settlement Agreement drafted by Qwest and Staff and filed with the Commission on October

20, 2000 in Docket No. T-01051B-99-0105. One of the provisions of that Settlement Agreement was a requirement that Qwest

> submit an application for continuation or modification of the Price Cap Plan nine months prior to its expiration, to be reviewed by Staff and RUCO. Continuation or modification of the Plan is subject to Commission approval and the Plan remains in effect pending a Commission decision renewing, modifying or terminating it. [Decision No. 63487, March 30, 2001, p. 6]

Qwest filed its application on July 1, 2003. Specifically, Qwest filed a Revised Price Regulation Plan (proposed Plan). The Commission's Decision No. 66772 lays out some of the major provisions of the proposed Plan.

> 1. Elimination of the productivity/inflation adjustment mechanism;
> 2. Replacement of an indexed basket cap on the Basic/Essential Service Basket with a newly determined revenue cap;
> 3. Introduction of a "competitive zone" test for moving services out of the Basic/Essential Services Basket on a geographic basis;
> 4. Ability to move wholesale services to a competitive sub-basket within Basket 2;
> 5. Elimination of the revenue cap on the Competitive Services Basket; and
> 6. Greater flexibility for services in the Competitive Services Basket.
>
> [Decision No. 66772, February 10, 2004, p. 1]

Decision No. 66772 was issued on February 10, 2004 as a response to a November 7, 2003 Qwest Motion to Clarify, Or In the Alternative, Terminate Price Cap Plan. In the Motion, Qwest asked the Commission whether (1) the Price Cap Index for Basket 1 Services,

(2) access charges, and (3) the hard caps for Basket 1 Services would change if the current Plan were to expire on March 30, 2004. In its Decision No. 66772, the Commission ruled that the Price Cap Index and hard caps for Basket 1 Services would remain in place even if the Commission did not approve a revised Price Regulation Plan by March 30. The Commission also directed Qwest to make a final $5 million reduction in switched access charges on April 1, 2004.

On February 25, 2004, Qwest filed an Application for Rehearing of Decision No. 66772. In that Application, Qwest challenged each of the Commission's findings. After debate among five parties to the case, the Commission chose to affirm its Decision No. 66772 findings regarding Basket 1 mechanisms, but it "reconsidered" its finding regarding access charge reductions. [Decision No. 67047, June 18, 2004, p. 7]

Decision No. 66772 was also important insofar as it required the Company to comply with the filing requirements of A.A.C. R14-2-103 (103). The Commission chided Qwest for not, to that point, filing updated and accurate financial statements. The 103 filing that Qwest was ordered to assemble would contain those statements. Decision No. 66772 read:

> Under the terms of the Settlement Agreement, Staff is entitled to request whatever information it believes is necessary for its analysis. Thus, Qwest has agreed to provide Staff with the information that would be required under R14-2-103, if Staff believes such information is necessary for its analysis. Because at this point, Qwest is seeking to continue some sort of Price Cap Regulation, Staff should review the information required under R14-2-103 to determine if the form of the information that must be provided pursuant to that rule is best suited to Staff's task of reviewing the experience under the current Price Cap

> Plan and for evaluating a modified plan. [Decision No. 66772, February 10, 2004, p. 9]

Qwest submitted its 103 filing on May 20, 2004, simultaneous to the testimony of nine Company witnesses.

Q. Are you familiar with the testimony that has been filed by Qwest in this proceeding?

A. Yes. Peter Cummings testified to the fair rate of return on equity and total capital for Qwest in connection with the Company's 103 filing. Phillip Grate testified to the contents of Qwest's 103 filing. Nancy Heller Hughes testified to the Reproduction Cost New Less Depreciation (RCNLD) value of Qwest's Arizona plant. Scott McIntyre testified in support of revisions to Private Line, Switched Access, and Billing and Collection services that the Company has introduced in this proceeding. Teresa Million testified to the contents of the Total Service Long Run Incremental Cost (TSLRIC) studies that have been filed in support of the price changes that the Company has filed in this proceeding. Harry Shooshan III testified to a policy framework for the proposed Plan and the current competitive conditions that exist in Qwest's service area in Arizona. David Teitzel testified to the current competitive conditions that exist in Qwest's service area in Arizona and the Company's proposals that are intended to address increasing competitive pressures. K. Dennis Wu testified to a "technical update" for Qwest's Arizona depreciation rates. Finally, David Ziegler's testimony details the Company's 103 filing, proposed Plan, rate restructuring proposals, AUSF proposals, and access proposals.

I will be responding to some of the issues raised in the Qwest testimony, while other RUCO witnesses will be responding to other issues.

Qwest Proposed Plan

Q. Would you please summarize the ways in which the proposed Plan differs from the current Plan?

A. Yes. The following are some key provisions of the current Plan:

1. Existing services are grouped into three baskets.
2. Prices for Basic/Essential Non-competitive Services cannot change in a given year by more than the change in the preceding year Gross Domestic Product Price Index (GDP-PI) minus an Offset.
3. Prices for certain Basic/Essential Non-competitive Services, like flat rate residential and business service, cannot exceed their initial levels for the term of the current Plan.
4. Prices for all other Basic/Essential Non-competitive rate elements cannot change in a given year by more than 25%.
5. Prices for all Wholesale services cannot exceed their initial levels for the term of the current Plan unless the pricing rules governing them are altered.
6. Intrastate Switched Access Services must be reduced by $5 million per year for each of three years.

7. Prices for Flexibly-priced Competitive Services cannot change in a given year by more than 10%.
8. Initially, revenue headroom for Flexibly-priced Competitive Services is capped at $25.3 million but will increase by $5 million per year to offset the $5 million per year reductions in Intrastate Switched Access Services.
9. All new and packages services (unless they are wholesale in nature) are classified as Flexibly-priced Competitive Services.
10. The designation of Basic/Essential Non-competitive Services can be changed to Flexibly-priced Competitive Services if they meet the "competitive" standards of A.A.C. R14-2-1108.
11. Yearly, Qwest will file with the Commission a report containing the prices and quantities of its price capped services, as well as the Basic/Essential Non-competitive Services and Flexibly-priced Competitive Services indicies.

The following are some key provisions of the proposed Plan:

1. Services are grouped into three baskets.
2. Prices for Basic/Essential Non-competitive Services cannot change in a given year by more than a basket-level revenue cap.
3. Prices for individual Basic/Essential Non-competitive Services may be increased so long as Commission approval is obtained.

4. Qwest can establish "competitive areas" or zones in which competitive carriers are marketing or offering "alternative" services provided over the competitors' facilities.
5. Basic/Essential Non-competitive Services provided in competitive zones will be reclassified as Flexibly-priced Competitive Services.
6. The Wholesale Services basket is split into two subparts – A (non-competitive services) and B (competitive services).
7. Prices for Wholesale A Services cannot exceed their initial levels for the term of the current Plan unless the pricing rules governing them are altered.
8. Prices for Wholesale B Services can change with Commission approval, consistent with A.A.C. R14-2-1109.
9. The Commission can grant approval to the Company for the transfer of services from Wholesale A to Wholesale B.
10. The Company has nearly complete freedom to increase or decrease prices for Flexibly-priced Competitive Services.
11. All new services and new packages of services are classified as Flexibly-priced Competitive Services.

Q. Would you please discuss in greater detail some of the most significant changes being proposed by Qwest?

A. Yes. The first and most obvious difference is the establishment of "competitive areas" or "zones" – Qwest wire centers in which competition is demonstrably present. [Proposed Plan, footnote 2] Qwest has included the following provision in its proposed Plan.

> Qwest is allowed under the Renewed Price Plan to make filings supporting its evidence showing that telephone services are competitive in a specific geographic relevant market area (i.e., a *Competitive Zone*). Upon application by Qwest and a showing of competition within specific wire centersor geographic subset thereof, whether or not from certificated providers, the Commission may designate each such wire center or geographic subset thereof as a Competitive Zone. [Proposed Plan, 2.iv.]

Competitive zones would be used to reclassify services in the Basic/Essential Non-competitive basket to the Flexibly-priced Retail Competitive basket. [Id., 2.vii.] This "competitive zone" concept is not included in the current Plan.

Q. How does the Company define a competitive zone?

A. The simple answer is that a competitive zone is a wire center, or group of wire centers, in which the Company is experiencing competitive pressures for "a group of identified services."

Q. How does the Company determine if it is experiencing competitive pressures in a given area?

A. The proposed Plan contains a two-pronged test. First, "alternative" services to Qwest's services must be present in the area. Qwest defines these "alternatives" as "functionally equivalent or substitute services readily available at competitive rates, terms and conditions." [Id., footnote 3] Second, these alternatives must be "reasonably available" to consumers in the area. Qwest defines "reasonably available" as follows:

> Either (one of each or, two of type 1 or, two of type 2):
> (1) A competitor has facilities in place and is marketing or offering services in competition with Qwest; and/or,
> (2) A competitor is marketing or offering services through the provision of unbundled network elements provided by Qwest.
> [Id., 2.vi.]

Q. What is the implication of this competitive zone approach?

A. Under the proposed Plan, as in the current Plan, Basic/Essential Non-competitive Services receive the greatest amount of pricing constraint. To the extent certain of these services are determined to be provided in a competitive zone, they will be shifted to the Flexibly-priced Retail Competitive Category; as a result, they will be subject to far fewer pricing constraints; arguably, the Company will be free to charge whatever the market will bear. [Id., footnote 2]

Q. How do Qwest witnesses support the competitive zone approach?

A. Mr. Shooshan summarizes the Company's reasoning.

> The new competitive zone test is preferable to a statewide, service-by-service approval for two reasons. First, a service-by-service approach to the classification of competitive services is not necessary or appropriate. This is warranted since Qwest's competitors typically offer—and customers increasingly purchase—packages of services rather than individual services. Second, the competitive zone approach takes into account the reality that competition is more intense in certain geographic areas and less so in others. R 14-2-1108 does not require that services be deregulated only on a statewide basis. Indeed, the Commission has invited parties to propose an approach to deregulating services in defined areas where Qwest faces competition.. [Shooshan Direct, pp. 12-13]

Mr. Teitzel believes that the added pricing flexibility that Qwest would gain in competitive zones is warranted because it is a measure of flexibility already enjoyed by CLECs in the state.

> CLECs are selecting specific wire centers and geographic areas within the state in which to offer service and are approaching service introduction on a gradual, phased-in basis in Qwest's service territory. As indicated in the Competitive Landscape section above, in tariffs filed with the Commission, several CLECs have identified specific wire centers in which they will provide service. ... Qwest's competitors enjoy the flexibility of being able to serve select markets and design offerings to meet specific customer demands within those areas. [Teitzel Direct, pp. 71, 72]

Mr. Ziegler concludes that it is for this reason that pricing services according to competitive zones "will permit Qwest to compete on equal terms and will provide the ratepayers of Arizona with the benefits of a true competitive choice." [Ziegler Direct, p. 10]

Q. What wire centers does Qwest propose to classify as competitive zones?

A. Mr. Teitzel proposes that the following wire centers within the Phoenix metropolitan statistical area (MSA) be classified as competitive zones.

> Beardsley, Buckeye, Chandler Main, Chandler South, Chandler West, Coolidge, Circle City, Casa Grande, Cave Creek, Deer Valley, Dudleyville, Eloy, Florence, Foothills, Ft. McDowell, Rio Verde, Coldwater, Gila Bend, Glendale, Higley, Queen Creek, Kearny, Litchfield Park, Gilbert, Mesa, Mammoth, Maricopa, New River, Oracle, Bethany West, Cactus, Phoenix East, Phoenix Main, Phoenix North, Phoenix Northeast, Phoenix Northwest, Phoenix South, Phoenix Southeast, Phoenix West, Greenway, Laveen, Mid Rivers, Maryvale, Pecos, Peoria, Sunnyslope, Pinnacle Peak, Scottsdale Main,

> Shea, Thunderbird, San Manuel, Superior, Superstition East, Superstition Main, Superstition West, Stanfield, Tempe, McClintock, Tolleson, Wickenburg, White Tanks, Whitlow, Wintersburg [Teitzel Direct, pp. 74-75]

Mr. Teitzel proposes that the following wire centers within the Tucson MSA be classified as competitive zones.

> Coronado, Green Valley, Marana, Catalina, Cortaro, Craycroft, Flowing Wells, Tucson East, Tucson Main, Tucson North, Tucson South, Tucson Southeast, Tucson Southwest, Tucson West, Mt. Lemon, Rincon, Tanque Verde, Vail North, Vail South [Id., p. 75]

Cumulatively, these wire centers encompass 83.3% of Qwest's retail access lines in the state.

Q. Why did Mr. Teitzel select these wire centers?

A. Because

> in each of the proposed competitive zones, at least one competitor provisions service through the use of Qwest wholesale services including unbundled network elements, resale, unbundled loops, and Local Interconnection Service ("LIS") trunks used to provide service over a provider's own facilities, such as in the case of cable telephony. [Id.]

Q. How can Qwest rationalize relying on the presence of a single wireline competitor in order to classify a wire center as a competitive zone?

A. This isn't clear, but perhaps Qwest is at least implicitly relying on the existence of firms offering other communication services. Mr. Shooshan explains:

> This approach does not consider wireless competitors, of which there are usually between 2 and 6 licensees in each market, or emerging competing platforms such as Voice over Internet Protocol ("VoIP"). Mr. Teitzel identifies wireless and VoIP providers currently serving Arizona business and residence customers. The possibilities of competition from these technologies should not be under-estimated. [Shooshan Direct, p. 13]

Q. Are there other significant differences between the current Plan and the proposed Plan?

A. Yes. There are also differences in the specific pricing constraints that apply to the various baskets. The current Plan includes a number of provisions that limit the extent to which the Company can increase rates for services in each of the current Plan's three baskets. The "inflation minus productivity" indexing mechanism, hard service caps, and rate element cap in Basket 1 are all examples of existing provisions that limit the Company's pricing flexibility. These specific provisions and others would be modified in the proposed Plan, thereby providing greater opportunities to charge higher prices to all the Categories. The current Plan describes the "inflation minus productivity" indexing mechanism as follows:

> Given the uncertainty of recent interpretations of Arizona law regarding rate increase mechanisms, for the initial three year term of the plan, the weighted average price level (or "price Index") of all services contained in Basket 1 is capped, using an "inflation minus productivity" indexing mechanism, subject to annual updates in the quantities of demand for each service. [Current Plan, 2.b.i.]

"Productivity" (Offset or X) is specified in the current Plan, and equals 4.2% for the Basic/Essential Non-Competitive Services basket. In the proposed Plan, the indexing mechanism is replaced with a "basket-level revenue cap." [Proposed Plan, 2.b.i.]

Q. Can you define the revenue cap in the proposed Plan?

A. Unfortunately, I'm not sure I can. The language in the proposed Plan introduces an ambiguous "basket-level revenue cap" within which the Company can make "revenue-neutral filings" and petition the Commission for "non-revenue neutral price increases." However, no reference is made to the specific level at which Basket 1 prices will be capped under the proposed Plan.

Additionally, neither Mr. Shooshan, nor Mr. Ziegler (the only two Qwest witnesses who discuss this difference between the current and proposed Plans), define the revenue cap. Mr. Shooshan simply claims that

> The overall revenue cap is an important improvement over the productivity/inflation index that resulted in overall revenue decreases for the past 3 years. These automatic revenue reductions are clearly unsustainable over any long period of time. [Shooshan Direct, pp. 6-7]

Mr. Ziegler provides some additional information only insofar as he gives some idea as to how the Basket 1 basket-wide cap will change from the current to the proposed Plan.

> Qwest is proposing to replace the current Basket 1 Cap with a new cap reflecting the effect of the rate rebalancing proposed in the testimony of Mr. Teitzel and Mr. McIntyre, and the elimination of distance-sensitive zone charges for customers in retail Zones 1 and 2 ($1.00 in Zone 1 and $3.00 in Zone 2). The impact of these revisions

> will be a slight downward adjustment in the Basket 1 Cap, which will then remain unchanged over the life of the revised plan. [Ziegler Direct, p. 9]

So, it appears that the proposed plan will no longer require rates to decline with declining costs (based upon industry-wide improvements in productivity and reductions in input costs), and it appears that changing to a "revenue cap" will help accomplish this "improvement" thereby helping Qwest charge higher rates and earn higher profits. However, it is not clear precisely how the new "revenue cap" will work, or how this proposal differs from what would happen if the existing plan were simply modified to eliminate both the inflation and the "X" factors.

Q. How does Qwest support removal of the indexing mechanism?

A. Mr. Shooshan address this change to the pricing rules. He supports the removal insofar as it is not consistent with the current competitive marketplace.

> There is a growing recognition that competition can now serve as a constraint on both prices and earnings, and as a means for distributing the gains from increased productivity. Indeed, there is an even more fundamental effect of competition that must be noted here. As I mentioned previously, competition has substantially increased the risks faced by Qwest in the marketplace. As a result, attempting to gauge the appropriate rate of return—even indirectly or implicitly by means of a productivity offset—is much more problematic today than it was historically. [Shooshan Direct, pp. 8-9]

And

> Today, given the inroads being made by competitors, Qwest faces the real risk in many geographic areas of excess capacity and/or stranded plant—both of which reduce productivity. The revenue cap proposed by Qwest here requires Qwest to increase productivity more rapidly than the economy as a whole by the rate of inflation in order to maintain a level of profitability. In today's environment, that plan poses a sufficiently difficult challenge to Qwest. [Id., p. 10]

He also claims that removal of the indexing mechanism will benefit consumers.

> Taking this step now will give Qwest the incentives to continue to make the investments in its network that are necessary to meet the demands of the "digital information age" (e.g., fiber and packet-switching). This investment will benefit consumers who choose Qwest as their provider and competitors that choose to resell Qwest's services or to rely on Qwest's network. It will also spur competitors to make infrastructure investments of their own to compete with a modern, state-of-the-art, feature-rich Qwest network. [Id., p. 9]

And

> Consumers in general are protected by the overall revenue cap on Basket 1. As I noted previously, any price changes in Basket 1 services must be revenue neutral. Price increases must be offset by price reductions. Consumers will also benefit to the extent that Qwest is better able to price its services to the market. The result will be that Qwest and its many competitors will be forced to compete harder. [Id., p. 11]

Q. Earlier you referenced hard caps on Basket 1 services as another example of a pricing constraint in the Company's current Plan. Is Qwest proposing changes to this constraint?

A. Yes. Mr. Shooshan writes

> Additionally, the "hard cap" on certain services in Basket 1, while serving to protect consumers of these basic services during what amounted to a transition to price regulation, nonetheless has severely limited Qwest's ability to adjust its overall pricing to reflect market conditions. [Shooshan Direct, p. 7]

In other words, the Company is asking for permission to "respond to competitive pressures" by increasing rates for flat rate residential, flat rate business, telephone assistance programs, PBX trunks with features, basic listing service, and other services. It is unclear why Mr. Shooshan thinks competition is somehow creating "pressure" for Qwest to raise its prices. Normally, competition from low cost firms places downward pressure on the prices. While upward pressures also can occur, these are typically the result of inflation or declining productivity, not competition.

Q. You spoke of a rate element cap on Basket 1 services earlier. Is Qwest proposing changes to this constraint?

A. Yes. Under the current Plan, there is a pricing constraint that applies to individual *rate elements* in Basket 1. Under the proposed Plan these constraints are eliminated, allowing Qwest to increase individual *rate elements* as much as it wants, provided other *rate elements*

are decreased (or are increased by a lesser amount). For instance, under the current Plan, price increases for individual *rate elements* cannot exceed 25% in a given year. Under the proposed Plan, price increases for individual *services* are unchecked so long as they are "revenue neutral."

In effect, under the proposed pricing rules, Qwest would only be constrained in its ability to make "non-revenue neutral price increases." Further, these increases apply to entire *services*. It would no longer face constraints on its freedom to increase the rates paid by specific groups of customers or customers in specific geographic areas. This follows directly from the fact that a service is often comprised of many different "rate elements" which may apply disproportionally to specific service configurations, geographic areas, or types of customers.

An example of a service in the Basic/Essential Non-competitive Services basket in the current Plan is Custom Calling Services (TIM Code E5.4.3). A rate element that partially comprises that service is Call Waiting (USOC ESX). Under the current Plan, Qwest is allowed to increase rates for Call Waiting or any other rate element within the larger Custom Calling Services by no more than 25% in a year. Were the 25% cap applied on a service basis, Qwest would be able to increase rates for Call Waiting or any other specific rate element within the Custom Calling Services category by any percentage amount (e.g., 200%), provided there are offsetting reductions in other rate elements. This increased freedom to increase individual rate elements implies a corresponding expansion in the Company's ability to dramatically increase the rates applicable to specific service sub-categories, geographic areas, and/or customers.

Q. Has Qwest proposed changes to the pricing constraints in Baskets 2 and 3?

A. Yes. In its proposed Plan, the Company has split the Wholesale Services basket (Basket 2) into an A and a B part.

> Basket 2A consists of wholesale services which are governed by their own specific pricing rules and will continue to be governed by such rules, as interpreted by the Commission and the Courts, under this Renewed Price Cap Plan. [Proposed Plan, 3.b.]
>
> Basket 2A service prices are capped for the term of the Renewed Price Cap Plan, or until the specific pricing rules are changed or the Commission determines that other prices are appropriate. [Id., 3.e.]
>
> Basket 2B consists of wholesale services that have been deemed to not be UNEs thus not subject to the pricing rules of UNEs. [Id., 3.c.]
>
> Basket 2B service prices are not capped for the term of the Renewed Price Cap Plan and may be changed with Commission approval as directed by A.A.C. R14-2-1109. [Id., 3.e.]

This delineation was not made in the current Plan and all services in Basket 2 were capped for the term of the Plan at their initial rates. [Current Plan, 3.e.]

As for Basket 3, Qwest has proposed the removal of the revenue cap therein. The current Plan includes a revenue cap equal to the "weighted average price level of all the services in the Basket" as calculated by a formula. Mr. Shooshan provides the Company's logic for removing this cap and, in turn, allowing the Company near complete pricing freedom over the services in this basket.

> Over the course of the current price regulation plan, competitive pressures have been effective at keeping these prices within the cap. We can expect that pressure from competitors to intensify as competition continues to progress in Arizona. Since the point of regulation is to act as a substitute for competition and competition is pervasive, regulation of competitive services is a waste of resources to achieve the goals which competition has been proven to meet more effectively. Elimination of this cap simplifies the regulatory rules and conditions that Qwest must meet and conserves resources for both the Company and the Commission, as well as for other parties. [Shooshan Direct, p. 16]

Q. Are these proposed changes in pricing rules significant?

A. Yes. As with competitive zones, the pricing rules in the proposed Plan will afford the Company far greater freedom to exploit its remaining monopoly power, and to engage in pricing strategies designed to maximize its profits. Under the current Plan, the GDP-PI minus 4.2% cap has typically fluctuated in the vicinity of 1% or less. In fact, because inflation has been low relative to the "X" factor, Qwest has been forced to lower its prices in line with industry-wide cost reductions.. By removing the GDP-PI minus 4.2% cap and replacing it with a revenue cap, Qwest is asking for the freedom to maintain prices under declining industry-wide cost conditions, or possibly to increase its prices under those conditions. The impact on specific customers, service sub-categories and geographic areas could be dramatic, if the rate element cap is also eliminated, as proposed. For instance, the current Plan precludes individual rate element increases of more than 25%. As a result, no customers will experience an increase in their Basic Service rates of more than 25% within a year. In contrast, under the proposed Plan

some customers could experience annual rate increases of 200% or more, provided Qwest keeps the overall average level of prices consistent with the overall revenue cap.

II. UNIVERSAL SERVICE

The Access Relationship

Q. Let's turn to the second section of your testimony. Would you please begin by providing a brief definition of intrastate access charges?

A. Yes. These are rates charged by LECs and paid by interexchange carriers (IXCs) for the origination and termination of long distance calls. When an end user places or receives a toll call, they typically use a phone line provided by their local exchange carrier, even if the call is handled by an IXC. In the latter case, the IXC typically bills the end user for the phone call, and the IXC pays one or more LECs for the use of network facilities which are used in processing the call. These inter-carrier billings are referred to as "switched access charges." The current system of access charges has evolved since the mid 1980's, but it represents a continuation of a cost recovery process which has existed for a much longer period. Although this cost recovery process has undergone extensive review and modification, it continues to be an important source of revenues for the LECs, and is one of the reasons why local exchange rates remain as low as they are–particularly in rural areas.

1 **Q. Is the debate over the relationship between access costs and access rates a new one?**

2 A. No. For more than 20 years, interexchange carriers have advanced the argument that they
3 should be allowed to use the local networks without paying anything for this privilege. They
4 have advanced many different arguments in support of this position, including the contention
5 that the costs in question are "non-traffic sensitive" (NTS) and these costs shouldn't be
6 recovered through traffic sensitive toll charges (or access charges), the argument that the costs
7 of the local loop are entirely the responsibility of the end user who is connected to that loop,
8 and the argument that economic efficiency or some other goal will be furthered if cost
9 responsibility is shifted from toll to local markets.

10 Prior to divestiture, the argument was that toll competition was increasing, and that local
11 rates needed to be increased in order to "level the playing field" and protect the financial
12 viability of the local carriers in the face of increased toll competition. By the mid-1980's, this
13 theme was amplified and repeated throughout the country, with an emphasis on the potential
14 effect of equal access and divestiture. Some of the Bell Operating Companies (BOCs) even
15 implied that unless local rates were dramatically increased at the time of divestiture, disaster
16 would befall them. Events subsequently proved that the "doom and gloom" arguments were
17 fundamentally false, or at least greatly exaggerated. Not only has history proven many of the
18 arguments in favor of shifting cost responsibility from toll to local markets to be false, but the
19 arguments in favor of drastic cost shifting tend to be inconsistent with both economic theory and
20 common sense.

21 According to this line of thinking, the local exchange networks are the responsibility of
22 the LECs and their local customers, and the interexchange carriers should not be required to

pay for using these networks, or at most they should make only token payments for their use of the local networks. By this reasoning, because the IXCs don't "cause" the costs of the local networks to be incurred, and/or because their usage is "incidental" to the primary purpose of those networks, and/or because the costs in questions are classified as "non-traffic sensitive" while access charges and retail toll rates are both "traffic sensitive" rates, access rates should be reduced towards zero. According to this argument, the cost of the loop, drop wire, line card, and channel connection are exclusively part of the incremental cost of providing local exchange service, and none of these costs can properly be considered part of the cost of providing switched access. If one believes this line of reasoning, it would seem that the LECs are wrong to charge the IXCs anything more than the direct, out of pocket cost of providing switched access service.

Q. Has the U.S. Supreme Court issued any ruling concerning this controversy?

A. Yes. The U.S. Supreme Court handed down a landmark decision concerning the interpretation and recovery of the joint cost of access lines more than 75 years ago in Smith vs. Illinois Bell Telephone Company ("Smith"). Writing for the Court on the question of whether the entire cost of the access line could be charged to a single service, Chief Justice Charles Evans Hughes noted as follows:

> In the method used by the Illinois Company in separating its interstate and intrastate business, for the purpose of the computations which were submitted to the court, what is called exchange property, that is, the property used at the subscriber's station and from that station to the toll switchboard, or to the toll trunk lines, was attributed entirely to the

> intrastate service.... While the difficulty in making an exact apportionment of the property is apparent, and extreme nicety is not required..., it is quite another matter to ignore altogether the actual uses to which the property is put. It is obvious that, unless an apportionment is made, the intrastate service to which the exchange property is allocated will bear an undue burden.... [282 U.S. 150, 151 (August 1923).]

In the years since, this principle of fairly distributing the joint or fixed costs of the network to all of the users of that network has been upheld again and again. Numerous state regulators have acknowledged that loop costs are properly treated as joint costs of the full family of services that make use of the loop, including access, and they should not be loaded entirely onto just one of those services (e.g. basic local service). Despite decades of pressure to shift network costs from toll to local services, the policy of spreading these costs across multiple services has been affirmed by state public utility commissions in numerous proceedings throughout the country. I provide an extended discussion of the joint and common cost concept in Appendix B to my testimony.

Q. Has Congress also spoken to the issue of shifting joint and common costs entirely onto local service customers?

A. Yes. The appropriate treatment of these shared costs has been vigorously debated for many years in many different forums. Thus, it isn't surprising that Congress included some specific provisions relating to this issue in the 1996 Telecom Act. The Act adds an entirely new section to federal law dealing with universal service--Section 254. Within this context, a portion of ¶254(k) reads:

> [T]he States, with respect to intrastate services, shall establish any necessary cost allocation rules, accounting safeguards, and guidelines to ensure that services included in the definition of universal service bear no more than a reasonable share of the joint and common costs of facilities used to provide those services. [47 U.S.C. § 254(k) (1996).]

Congress was aware of the long standing debate over the proper treatment of these costs, and the desire of many carriers to shift these costs from toll to local services, as well as the propensity of monopolists to attempt to shift costs onto their most captive customers when faced with an increased threat of competition. The remaining parts of 254(k) make it clear that the purpose behind these provisions is to prevent placing an excess cost burden on basic local service and other services included within the universal service category. While Congress hasn't mandated the specific allocation procedures to be used, or specified exactly how much of the joint costs can be placed onto the basic exchange category, it is obvious that 100% allocation of these costs onto local exchange service would be contrary to the intent of this passage.

Q. Historically, much of this debate has swirled around the Federal Communications Commission ("FCC"). What stance has the FCC taken with regard to the recovery of joint and common cost?

A. The FCC has recognized that telecommunications carriers provide multiple services using a common network, and it realizes that this situation greatly complicates issues of cost recovery. As the FCC has explained:

> 676. Certain types of costs arise from the production of multiple products or services. We use the term "joint costs" to refer to costs

> incurred when two or more outputs are produced in fixed proportion by the same production process (i.e., when one product is produced, a second product is generated by the same production process at no additional cost). [Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers, CC Docket Nos. 96-98, 95-185, First Report and Order, FCC 96-325 (adopted August 1, 1996) (Local Competition Order) at ¶ 676.]

The FCC has also recognized the fact that the loop is shared by multiple services. According to the FCC, the loop is "needed" and "used" by several telecommunication services--services which reside within both the interstate and intrastate jurisdictions. As previously acknowledged, dealing with costs associated with a shared facility can be challenging. The FCC states:

> Determining the costs that an incumbent LEC incurs to provide interstate access services and that, consequently, should be recovered from those services, is relatively straightforward in some cases and problematic in others. ... Most facilities, however, are used for both intrastate and interstate services. ... By contrast, the cost of other facilities used for both interstate and intrastate traffic do not vary with the amount of traffic carried over the facilities, i.e., the costs are non-traffic sensitive. These costs pose particularly difficult problems for the separations process: The costs of such facilities cannot be allocated on the basis of cost-causation principles because all of the facilities would be required even if they were used only to provide local service or only to provide interstate access service. A significant illustration of this problem is allocating the cost of the local loop, which is needed both to provide local telephone service as well as to originate and terminate long-distance calls. [Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Transport Rate Structure and Pricing and End User Common Line Charges, CC

> Docket Nos. 96-262, 94-1, 91-213, and 95-72, First Report and Order, FCC 97-158 (adopted May 7, 1997) (Access Charge Reform Order) at ¶ 23. emphasis added.]

In its initial First Report and Order concerning the implementation of local competition, the FCC recognized that the loop is a shared facility used to provide telecommunication services which gives rise to common costs. The FCC stated:

> As discussed in greater detail below, separate telecommunication services are typically provided over shared network facilities, the cost of which may be joint or common with respect to some services. The costs of local loops and their associated line cards in local switches, for example, are common with respect to interstate access service and local exchange service, because once these facilities are installed to provide one service they are able to provide the other at no additional cost. [Local Competition Order at ¶678.]

The FCC followed this first order with proposed rulemaking on access charge reform. In the context of this rulemaking process the FCC reaffirmed the concept that costs associated with the loop are common costs with respect to certain telecommunication services. [Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Transport Rate Structure and Pricing and Usage of the Public Switched Network by Information service and Internet Access Providers, CC Docket Nos. 96-262, 94-1, 91-213, and 96-263, Notice of Proposed Rulemaking, Third Report and Order, and Notice of Inquiry, FCC 96-488 (adopted December 23, 1996) (NPRM, Third Report and Order).] The FCC states:

> For example, interstate access is typically provided using the same loops and line cards that are used to provide local service. The costs

> of these elements are, therefore, common to the provision of both local and long-distance service. [¶237]

In an effort to respond to concerns about traffic sensitive recovery of NTS costs while maintaining consistency with the reasoning behind the Smith vs. Illinois Bell case, the FCC developed and announced the phase-in of an alternative to the CCL rate, called a "primary interexchange carrier charge" (PICC). The PICC was assessed on and paid by the end user's presubscribed interexchange carrier. The FCC believed that the PICC, along with the Subscriber Line Charge (SLC), would allow LECs to recover most of the interstate jurisdiction's portion of the loop cost through rates that weren't traffic sensitive. [Access Charge Reform Order at ¶54 and 55.]

In its decision to replace the Common Carrier Line Charge (CCL) with the PICC, the FCC stated:

> We reject claims that a flat-rated, per line recovery mechanism assessed on IXCs would be inconsistent with section 254(b) which requires "equitable and nondiscriminatory contributions to universal service" by all telecommunication providers. The PICC is not a universal service mechanism, but rather a flat-rated charge that recovers local loop costs in a cost causative manner.[Id., ¶104.]

The FCC has also rejected the argument that loop costs aren't attributable to long distance calling: "Much of the telephone plant that is used to provide local telephone service (such as the local loop, the line that connects a subscriber's telephone to the telephone company's switch) is also needed to originate and terminate interstate long-distance calls." [Id.]

1 **Q. Let's talk about universal service. Why is this an appropriate policy goal?**

2 A. Universal service is realized when nearly everyone is connected to the public switched
3 telephone network, regardless of how low their income, or how little they value telephone
4 service. Universal service is a desirable goal because it facilitates the free flow of
5 communications within society. This benefits everyone--including the people who would
6 otherwise not have a telephone, as well as everyone who needs to communicate with them.

7 While this goal is widely accepted, it sometimes gets less attention than it deserves.
8 Because of the rapid changes taking place in the telecommunications industry--including
9 increased competition, deregulation, and changing federal policies--many state regulators are
10 hard pressed to balance the goal of universal service with other policy objectives. Even so, it
11 should never be forgotten that all of society–including business and residential end users as well
12 as both local and long distance carriers–benefits when nearly everyone participates on a
13 universal, fully interconnected telephone network.

14 There is no inherent conflict between the goal of universal service, and the idea of
15 opening the local telephone markets to competition--provided that all carriers are required to
16 interconnect with each other on reasonable terms and conditions. In other words, nearly
17 everyone can be connected to a universal public switched network, yet portions of that overall
18 network may be owned and operated by competing firms. A global network of interconnected
19 networks can achieve the goal of universal service just as effectively as a smaller group of
20 monopoly networks. However, individual customers and carriers do not necessarily have the
21 incentive to advance the goal of universal service. For instance, incumbent carriers may seek to
22 discourage entry by competitors by making it difficult, or unduly costly for the newer firms to

interconnect with, or utilize portions of, the established firm's network. Accordingly, the Commission should establish appropriate policies to ensure that all of the networks are interconnected and compatible with each other, and to encourage every business and every household to connect to this network of networks.

Q. In light of the universal service goal, are there specific requirements that local rates must be "just, reasonable, and affordable"?

A. Yes. The Consumer Protection clause of the 1996 Telecommunications Act provides that both the FCC and the states "should ensure that universal service is available at rates that are just, reasonable, and affordable." [§ 254(i)]. This is the first time that Congress has used the term "affordable" in the context of universal service. The extent to which people can afford telephone service is typically measured through telephone penetration rates, and percentages of income spent on telephones.

Q. Can you relate your discussion of the goal of universal service more specifically to the investigation of switched access charges that has been merged into this proceeding?

A. Yes. These issues are intimately connected. Switched access service is an important source of revenues that has historically been used to help pay for the costs of providing Universal Service. If these rates are greatly reduced, as some parties are advocating, there will be increased pressure to replace this revenue stream with an alternative source of funding, such as higher local exchange rates. This type of "rate rebalancing," as it has been called, may endanger the universal service goal, particularly if it is implemented in an extreme manner.

Q. Can policy decisions regarding access charges have an effect on universal service?

A. Yes, particularly to the extent access rate reductions are offset by increases in the fees paid by local exchange customers. It is difficult, if not impossible, to separate concerns about the level of access charge from concerns about universal service support, despite the fact that these issues are often dealt with in separate proceedings. The FCC recognized this linkage in its Access Charge Reform Order:

> [T]hrough this First Report and Order in our access reform docket and our Universal Service Order, we set in place rules that will identify and convert existing federal universal service support in the interstate high cost fund, the dial equipment minutes (DEM) weighting program, Long Term Support, Lifeline, Link-up, and interstate access charges to explicit federal universal service support mechanisms. [¶ 5]

Care must be exercised to ensure that the intrastate mechanisms used to maintain support for affordable local rates are sustainable in the long run, achieve their intended purpose, and do not unduly distort the market. In this regard, the support mechanisms which help maintain affordable rates in high cost rural areas are of particular importance. One way to reduce market distortions and ensure long term sustainability is to use support mechanisms which are explicit and carefully focused. Thus, for example, implicit support embodied in the existing access charges might be replaced with a more explicit form of support provided through an expanded version of the Arizona Universal Service Fund.

The Commission is responsible for ensuring that intrastate support mechanisms comply with the requirements of the 1996 Telecom Act, including the requirement that the services

which are vital to the universal service goal are not burdened with an excessive share of the joint and common costs of the network:

> SUBSIDY OF COMPETITIVE SERVICES PROHIBITED- A telecommunications carrier may not use services that are not competitive to subsidize services that are subject to competition. The Commission, with respect to interstate services, and the States, with respect to intrastate services, shall establish any necessary cost allocation rules, accounting safeguards, and guidelines to ensure that services included in the definition of universal service bear no more than a reasonable share of the joint and common costs of facilities used to provide those services. [Section 254(k).]

In determining the scope of this provision, the FCC concluded that this provision of the 1996 Telecom Act protects not only basic local exchange service but also the ability to access long distance carriers. However, it does not protect toll services provided by those carriers. As the FCC points out, this provision does not prevent universal service support for access:

> Regarding GCI's argument that interexchange service should not be supported because it is a competitive service, we emphasize that universal service support will be available for access to interexchange service, but not for the interexchange or toll service. [note omitted] We find that the record does not support including toll service among the services designated for support, although, as discussed in section V below, we find that the extent to which rural consumers must place toll calls to reach essential services should be considered when assessing affordability. Nevertheless, universal service should not be limited only to "non-competitive" services. One of the fundamental purposes of universal service is to ensure that rates are affordable regardless of whether rates are set by regulatory action or through the competitive marketplace. GCI's argument implies that, if there were multiple carriers competing to provide, for example, basic dialtone service at $1000 per month, there could be no universal service support because

> the price was set through competition. Such a result would be inconsistent with Congress's intentions to preserve and advance universal service in adopting section 254. We note that section 254(k), which forbids telecommunications carriers from using services that are not competitive to subsidize competitive services, is not inconsistent with our conclusion that it is permissible to support competitive services. [note omitted] [Access Charge Reform Order, ¶ 77]

There are undoubtedly a variety of different ways the Commission can ensure compliance with this provision of the 1996 Telecom Act. Where doubt exists concerning the best policy to adopt, or the most appropriate distribution of the burden of joint and common costs, it is clear that priority must be given to ensuring that universal service is protected–even if that results in long distance toll rates which are higher than would otherwise be desired. Stated another way, the Commission will undoubtedly receive conflicting advice in this proceeding concerning the most appropriate way of spreading the burden of joint and common costs between basic local exchange service and long distance toll services. In evaluating this conflicting advice, it would be appropriate to err in the direction of ensuring that the "price of entry" onto the telephone network remains at attractively low levels–thereby helping to maintain very high penetration rates. That is not to say that the Commission should be unwilling to deviate from the status quo, or that it should refuse to consider any reductions to access charges for fear of the consequences. However, the Commission should place a very high burden of proof on parties that are urging extreme changes to cost recovery patterns which have proven so successful for so many years.

Efficiency and Subsidies

Q. It is sometimes argued that, because rates are far in excess of economic costs, reductions in access rates can enhance economic efficiency. Can you please respond?

A. Yes. Economic theory suggests that allocative efficiency is most readily achieved when prices are set equal to marginal cost, assuming this can be achieved while still allowing the firm an opportunity to recover its total costs. In an industry where economies of scale and scope are pervasive, pricing at marginal cost may not allow the firm to recover its total costs, and thus some mark-up above marginal cost will generally be necessary to ensure the long run viability of the firm. While there is certainly some merit to marginal cost pricing, there are also problems with using this logic as a basis for lowering access rates–particularly if this is done at the expense of higher local rates.

It would not be in the public interest to adopt proposals that would shift a large share of the revenue burden from toll and access to residential basic exchange services, if this would risk the universal service objective. Some may argue that such a shift will encourage efficiency, by bringing the toll and access rates closer to marginal cost. But to determine if such a shift would truly result in a net gain in efficiency, the Commission would also need to consider any offsetting efficiency losses that would result in the local market, where prices would be increased farther above marginal cost. As well, in evaluating questions of efficiency, it is important to take into consideration the phenomena of network externalities, which suggests that society greatly benefits from pricing policies which encourage high network participation rates.

Q. The debate over economic efficiency is generally couched in terms of cost recovery. Can you briefly explain the types of costs which are currently recovered through access rates?

A. Yes. Switched access rates have been designed to recover the costs of both the traffic-sensitive (TS) and non-traffic-sensitive (NTS) functions performed by the LEC in processing IXC calls. The TS costs are those that vary depending upon the usage placed over the network (e.g., the portion of the switching equipment which varies in size and cost, depending upon call volumes). In comparison, NTS costs are those costs that do not tend to increase as the number of calls placed over the network increases (e.g. the cost of ordinary copper loops is largely fixed, regardless of the volume of traffic carried by the loop).

Most of the NTS costs have another important characteristic: they are joint or common costs which are not only necessary for the provision of intrastate switched access service, but also are necessary for the provision of interstate switched access, local exchange and custom calling services. Common costs are incurred when production processes yield two or more outputs. Joint costs are a specific type of common cost. The classic definition specifies that joint costs are incurred when production processes yield two or more outputs in fixed proportions. More intuitively, joint costs arise in situations where there are production factors that, once acquired for use in producing one good, are costlessly available for use in the production of others. Thus, for example, cattle feed that is acquired for use in producing hamburgers is costlessly available for use in producing leather shoes.

Despite any contrary claims that might be made by other parties to this proceeding, the local loop fits the definition of a joint cost because, except when congestion is present, there is

no trade-off between the joint uses of the loop. If an access line is acquired for purposes of placing local calls, it is costlessly available for use in placing long distance calls, as well. When an additional access line is installed, it simultaneously increases the intermediate output (access) available to both toll and local markets (as well as the market for other services, such as custom calling). Even if a line is intended strictly for local calls, it can also be used to place and receive toll calls, and vice versa. Accordingly, local loops are analogous to cattle feed in the production of steaks and leather coats. Even if feed is strictly intended to increase the amount of available beef, it concurrently increases the amount of hides which are available.

To be more precise, one can say that the access line connecting a residence or business to the LEC's central office yields at least two joint products: access to customers within the same locality (local access) and access to customers within other cities (toll access). Since the latter form of access is provided via toll carriers, one can think of the access line as providing access to the local and toll networks. Of course, since communication is generally two-way, we can also say that at least two other joint products are also provided: access to the customer installing the line is provided to other customers within the same locality, and access is provided to toll carriers and to their customers who have a potential interest in talking with the business or household that installed the line.

To assign the entire amount of these joint costs to local exchange service is not appropriate, and the resulting total cannot meaningfully be arrayed beside the revenues derived from basic local exchange service. The LECs have many revenue sources which help cover these joint costs, including toll, switched access, and custom calling. Carriers have long relied upon all of these different revenue sources in order to pay their loop costs. The loop facilities

used in providing local exchange service are also required for (and used by) other services that local carriers provide, including interstate switched access, intrastate switched access, intrastate toll, custom calling, and Caller ID service. The poles, cable, drop wire, line card, and channel connection are equally required for the provision of these other services, and there is no logical reason to impose the entirety of these costs onto just one of the services benefitting from them.

Generally, when a customer is connected to the public switched network, that customer is provided with access to the other lines situated within the same city, but access is simultaneously provided to the toll carriers with points of presence in that city; and via their facilities, access is provided to millions of lines located in hundreds of other cities around the state and country. It makes no economic sense to impose the entire cost of the access line, as part of the price of local service, on the particular end user who requests installation of the line. Rather, it is appropriate to recover the cost from all of the beneficiaries of that line--including the other local customers in that city and the toll carriers that also benefit from the new line, whether directly or indirectly.

Q. You have distinguished between NTS and TS costs, and explained the important concept of joint and common costs. Can you briefly discuss the concept of "economic costs"?

A. Many of the parties in this proceeding will agree that prices ought to be based on economic costs. Most state commissions have moved away from embedded cost allocation approaches, and have placed increased reliance upon economic or incremental costing methods instead. While embedded costs--the accountant's measure of cost--are quite practical, readily available,

and fairly consistent from firm to firm, the economist's idea of cost is more useful in analyzing the critical decisions made by management and government.

Q. Are there different types of economic cost?

A. Yes. The form of economic cost that is, at present, perhaps the most widely advocated is TSLRIC, which stands for total service long run incremental cost. TSLRIC is defined as a firm's long-run total cost of producing all its goods and services except the service in question, subtracted from the firm's long-run total cost of producing all its goods and services including the service in question. In effect, it measures the difference between producing a service and not producing it.

However, TSLRIC is by no means the only relevant type of economic cost. Marginal cost, for example, is of great importance in the economic literature, among other reasons because it is of vital importance in understanding pricing behavior by unregulated firms and in evaluating the extent to which economic efficiency is being achieved in a particular situation.

Q. Can you briefly elaborate on the TSLRIC concept, and explain how it relates to the concept of joint and common costs?

A. Yes. An appropriately prepared TSLRIC study will almost invariably show a very low level of costs–typically the cost results are a small fraction of existing rate levels. For instance, a TSLRIC study for call waiting service will typically show costs that are at most a few pennies a month, primarily related to the cost of billing and collection. In contrast, the service is typically priced at a far higher level–typically $5 or more per month. There are many factors contributing

to the gap between current rates and TSLRIC, including the benefits of changing technology and increased economies of scale, which have improved since rates were initially established. However, the most important factor explaining the gap between TSLRIC and current rates is the manner in which joint and common costs are treated in properly developed TSLRIC calculations. Where network elements are required for multiple telecom services, the cost of these elements will generally not be reflected in the TSLRIC calculations for any single service. When properly developed, TSLRIC studies will exclude joint costs. This follows directly from the TSLRIC definition, which focuses attention entirely on costs which increase or decrease with the presence or absence of the specific service being studied.

A large gap between TSLRIC and price is typical for most telecom services. For instance, when the TSLRIC concept is applied to a service like Call Waiting, the estimated cost is likely to be just a few pennies per month. Similarly, when the TSLRIC concept is applied to switched access, the same pattern exists: the TSLRIC amount is a small fraction of the established price.

Although TSLRIC calculations for individual services do not include the full amount of joint and common (shared) costs that are incurred by the firm, this does not mean these costs are not recovered from customers. To the contrary, both regulated and unregulated firms recover their joint and common costs through the rates they charge for their products and services. In unregulated markets this is accomplished by setting rates which reflect demand conditions–services with strong demand are priced far above TSLRIC in order to ensure recovery of the firm's total costs.

Under competitive conditions, an efficient firm has an opportunity in the long run to recover its total costs, including its joint and common costs. The extent to which the joint and common costs are recovered through the prices charged for particular services, or recovered from particular groups of consumers will not be uniform. In unregulated markets, the pattern of cost recovery will be heavily influenced by demand conditions, including relative levels of perceived value, the extent to which close substitutes exist for particular products or services, and the price of those alternatives.

In regulated markets total cost recovery is also achieved, but the specific pricing pattern may differ. Whether by allowing a substantial mark-up above TSLRIC, by setting prices on the basis of cost allocation procedures, or by using some other procedure to reconcile rates with the firm's overall revenue needs, regulators have historically given carriers an opportunity to recover their joint and common costs. While the pattern of recovery may differ, the overall result is similar to that achieved under competition: joint and common costs are typically recovered from the array of services that require or benefit from these costs.

Q. Have you prepared any comparisons of revenues and costs that may be useful in better understanding these issues?

A. Yes. I've prepared three analyses; they differ primarily in with regard to their treatment of joint and common costs. I define these terms in Appendix B and discuss their significance in Appendix C.

The first analysis follows a "pure" TSLRIC approach. I define TSLRIC in Appendix B. This "pure" analysis, summarized on Schedule 1, excludes joint costs. To the extent direct

revenues exceed direct costs, this analysis measures the surplus that is available as a contribution to joint and common costs. This is generally my preferred approach, because it provides the most accurate picture of whether the current rates for basic local exchange service exceed the incremental cost of providing this service, and it indicates whether or not this service is "subsidized" by other services.

Q. When is a service subsidized?

A. While the term "subsidy" is often used loosely to describe any situation in which a service appears to be priced below some measure of cost, under standard economic terminology, a service is said to be subsidized only if its price is below a relevant measure of marginal or incremental cost. When speaking of whether or not a particular item is subsidized (e.g., local service purchased by residential customers who could not afford to pay a higher price, and thus would otherwise not be on the system), the "Incremental Service Incremental Cost" is the relevant test for a subsidy.

When analyzing whether or not an entire category of service is being subsidized in totality (e.g., basic local service as a whole), the Total Service Incremental Cost is generally the appropriate test for a subsidy. The analysis should assume that all other services (e.g. toll and custom calling) continue to be offered, and thus the relevant incremental cost excludes those costs which would be incurred in providing these other services even if the service in question (e.g., basic local service) were not provided. Most often, this type of analysis is performed on a long run basis, and thus is described as a Total Service Long Run Incremental Cost (TSLRIC) analysis.

Q. Can a properly designed TSLRIC study determine the presences of subsidies?

A. Yes. The key, however, is that it be properly designed. Having been active in utility regulation for more than 25 years, I have been a part of numerous proceedings in which subsidy claims are made. I have found that where differences of opinion exist concerning the presence or absence of cross subsidies, the debate almost always centers around a single major point of contention–the appropriate interpretation and treatment of joint and common costs.

Q. Can you briefly describe the other two revenue-cost comparisons you employed to evaluate the pattern of rate increases Qwest would likely seek if it were free to do so?

A. Yes. The second analysis I prepared uses an "allocation" approach. This analysis, summarized on Schedule 2, includes an allocated share of joint costs. The results I am presenting use a flat percentage allocator of 50% of the loop and port costs to basic service. This approach is consistent with the historic practice of allocating 25% of these costs to the federal jurisdiction; it allocates another 25% to intraLATA toll, intrastate interLATA switched access, custom calling, and ancillary services.

The third analysis is a "multiple service" or "total customer" approach. This analysis, shown on Schedule 3, includes 100% of the joint costs, together with all of the revenues and direct costs of the entire family of switched services provided to a typical customer.

Q. Where did you obtain the revenue and cost data used in these analyses?

A. I obtained revenue and rate data from the FCC's ARMIS database and Qwest's Exchange and Network Services Price Cap Tariff. I obtained cost data from Qwest witness Million's

workpapers supporting the Qwest TSLRIC cost studies.

Q. How did you arrive at the revenue estimates in your analysis?

A. In order to match revenues to costs which are provided at the UNE zone level, I calculated a weighted average of residence and business revenues, based upon the relative numbers of lines in the IBRA, Zone 1, and Zone 2 retail zones. Assuming a Residence rate (1FR) of $13.18, and exchange zone increments of $1.00 in zone 1, and $3.00 in Zone 2, I've estimated that local exchange revenue per line averages about $13.41 for residence customers. Assuming a Business rate (1FB) of $30.40, exchange zone increments of $1.00 in zone 1, and $3.00 in Zone 2, the weighted average Business revenue is $30.63. No revenues from ancillary services are considered in this part of the analysis. However, revenues are included from the FCC's subscriber line charge (since this is a mandatory charge paid by basic exchange customers). Adding $6.50 (residence SLC) and $6.53 (Business SLC) yields revenues of $19.91 and $37.16, respectively.

Q. Would you begin by summarizing the results of your revenue-cost comparisons using a "pure" TSLRIC analysis?

A. Yes. Set against these revenues are the direct costs of providing basic local exchange service, including an allowance for common costs.

As shown on Schedule 1, the revenues from basic local service consistently exceed the incremental direct cost of providing this service, leaving a substantial margin of contribution towards joint and common costs (which aren't reflected in these calculations). This pattern of

full coverage of incremental costs is true for both business and residence customers, regardless of the exchange classification. However, the contribution margin is larger for business customers than for residential customers, because the business local exchange rates are much higher. For customers in Zone 1, the average contribution is **Proprietary Proprietary** or **Proprietary Proprietary** for residence customers and **Proprietary Proprietary** or **Proprietary Proprietary** for business customers.[1] While the percentage difference in profit margin or contribution levels are relatively moderate, the difference in absolute dollars is quite substantial. Clearly, if Qwest were free to increase residential rates to levels approaching current business rates, it would be able to further increase its overall earnings.

For easy reference, I have summarized the revenue, cost and contribution estimates for the pure TSLRIC approach in Table 1 below. As shown, all categories of local exchange customers pay rates which substantially exceed the corresponding direct costs, and generate a substantial contribution toward loop and port costs, as well as other shared costs. Because the direct costs and the corresponding rates vary across exchange classifications, the magnitude of these contributions varies depending upon the particular classification.

[1] Proprietary information in this sentence, and all proprietary information in my testimony hereforward, is included in my Exhibit 1 attached to this testimony, and redacted from the public version.

Table 1
Pure TSLRIC Approach
****Proprietary****

Customer Category	Local Direct Revenues	Local Direct Costs	Contribution	Contribution Percent
Residential				
Zone 1				
Zone 2				
Zone 3				
Statewide				
Business				
Zone 1				
Zone 2				
Zone 3				
Statewide				

Q. What conclusions have you reached in light of this analysis?

A. While residential customers more than adequately cover their incremental direct costs, business customers are providing larger gross profit margins. To the extent the Company attempts to use increased pricing freedom to maximize profits, it may attempt to generate similarly high profit margins from its residential customers.

Under the terms of the proposed Plan, the Commission will receive "notice" of revenue neutral rate changes for Basket 1 services, but it cannot reject those changes. [Proposed Plan, 2.b.i.] Non-revenue neutral price increases can also be proposed, subject to Commission approval. [Id., 2.b.iii.] However, no criteria are provided in the proposed Plan to indicate

under what circumstances Commission approval would be appropriate or required. With regard to Basket 2 and 3 services, the existing rules (A.A.C. R14-2-1109) are the only constraint on the Company's ability to modify rates under the proposed Plan. [Id., 3.e. and 4.c.] With regard to services provided in competitive zones, the only constraints will be the prohibitions against exceeding "maximum price levels" pursuant to A.A.C. R14-2-1110. [Id., Competitive Zones, Subpart a.]

Q. Let's turn to your second approach to shared costs. Traditionally, many cost studies prepared for regulatory purposes include an allocation of shared costs. Have you provided the Commission with a set of cost estimates which includes a reasonable allocation of joint and common costs?

A. Yes. It has been my experience that some regulatory commissions are not comfortable relying exclusively upon a "pure" TSLRIC approach, or they want to also have the opportunity to look at studies in which a reasonable share of the loop costs are allocated to basic local exchange service, similar to the manner in which costs are allocated for jurisdictional purposes.

I am providing an example of an approach which allocates a reasonable share of joint and common costs to local exchange service, to provide further insight into the significance of these costs. Under an allocation approach, the pivotal question becomes one of the appropriate share of shared costs to be allocated to the service in question. The results I am presenting use a flat percentage allocator of 50% of the loop and port costs to basic service. This approach is consistent with the historic practice of allocating 25% of these costs to the federal jurisdiction; it allocates another 25% to intraLATA toll, intrastate interLATA switched access, custom calling,

and ancillary services.

Q. Would you please provide a further explanation of your use of a 50% allocation factor?

A. Yes. Although loop and port costs are required for the provision of local exchange, custom calling, switched access, and toll service, there is no universally accepted method of allocating these costs. Differences in the allocation percentage or method can result in very significant differences in the cost study results. That is one reason why I prefer a "pure" TSLRIC approach, which doesn't allocate shared costs to individual services. To the extent the Commission wants to review a basic local exchange cost study that includes a share of joint costs, I believe the Commission will best be served by relying upon a relatively simple allocation approach that is reasonably stable. A uniform 50% factor meets both criteria, although it is not the only reasonable factor that could be used.

This 50% factor is reasonably similar to the percentage allocation that would be assigned to basic local service under some other, more sophisticated allocation approaches, such as revenue-based methods, usage-based methods, and direct cost-based methods. For example, the Washington Commission in Docket No. U-85-23 assigned loop costs 25% to interstate toll, 16.95% to intrastate toll, and 58.05% to local services (including custom calling and other optional services). [See reference in WUTC Order in Docket No. UT-950200, p. 79.]

Revenue-based allocations assign shares of joint costs based upon the services' percentages of total revenues. For example, if basic service accounts for 45% of total

revenues, it might be allocated 45% of the joint costs. Usage-based allocations assign shares of joint costs by relative minutes of use, perhaps weighted in some way to distinguish toll from local and/or peak from off-peak, etc. Finally, the joint costs of switched services could be allocated in proportion to the direct costs of these services.

Q. Would you please explain your calculations assuming 50% of the joint costs are allocated to basic local exchange?

A. Yes. In this analysis, shown on Schedule 2, the revenues are derived entirely from the components of basic local service--the same as those reflected in the pure TSLRIC approach. Set against these revenues are the direct costs of providing this level of service and 50% of the joint costs–primarily the local loop and switch port. I have also included an allowance for common costs equal to **Proprietary Proprietary** of the aforementioned direct and joint costs.

An average residence customer will provide Qwest with $19.91 in basic local service revenues per month. From this amount, direct costs of **Proprietary Proprietary** are subtracted, along with joint costs of **Proprietary Proprietary**, and common costs of **Proprietary Proprietary** (assuming the customer is in UNE Zone 2). This leaves a surplus of **Proprietary Proprietary**. Stated another way, for the typical customer in UNE Zone 2, the direct, joint and common costs, total **Proprietary Proprietary** per month. This total is well below the current rate paid by most residential customers in this rate group, which is $19.91. Thus, the typical residence customer in UNE Zone 2 is not "subsidized" (as sometimes alleged) but instead provides a revenue surplus of

about **Proprietary Proprietary** or **Proprietary Proprietary**. Although residential customers aren't subsidized, they don't provide as substantial a contribution as business customers. Business customers in UNE Zone 2 generate revenues of $37.16; this leaves a much larger surplus of **Proprietary Proprietary** or **Proprietary Proprietary**.

Q. What conclusions have you drawn from this "allocated cost" comparison?

A. This data confirms the conclusions I reached using a "pure" TSLRIC approach. Business customers provide larger profit margins than residential customers. This analysis also confirms that if the Company is given greater freedom to raise residential rates, it may choose to do so. Furthermore, margins are smaller in the low density, higher cost parts of the state. Hence, there is reason to anticipate that although all residential customers may be forced to pay more for local service, the impact of increased pricing freedom is likely to be more severe in rural areas.

Given the high costs incurred in serving the lowest density, most rural parts of the state, as a profit-maximizing firm, the logical response to increased pricing freedom would be for Qwest to increase rates in these areas to generate profit margins more like those it earns in urban markets (just as it would be logical for Qwest to attempt to increase residential profit margins to levels comparable to those earned on its business services).

If the Company were allowed to increase residential rates to provide margins similar to those currently provided by business rates, the impact on rural residential customers would be particularly severe–their rates could potentially be increased by $15.00 or more per month. However, the standards for that review are not clear, and it is not readily apparent what

discretion the Commission will have to reject rate increase proposals. If the Commission approves the proposed Plan, will the Commission be free to reject rate increases if they will preclude customers from gaining the benefit of industry-wide improvements in productivity or reductions in input costs? Will the Commission be free to reject rate increases that might appear to be merited when viewed in isolation, simply because they could result in rate shock? Answers to these and other important questions are far from clear. The only thing that seems clear is that the Commission will have some "approval" powers in the event of a non-revenue neutral price increase.

Q. You have now discussed both the "pure" TSLRIC approach and the cost allocation approach. Could you now explain your third approach, in which you consider 100% of the loop and port costs?

A. Yes. Since shared costs are such a substantial fraction of a local exchange carrier's overall costs, it is useful to analyze these costs from a variety of different perspectives. Another useful approach focuses on customer groups, rather than specific services. Under this approach, the analyst looks at an incremental group of customers, and asks the question: What incremental revenues will the firm generate if it serves this group of customers? These incremental revenues are then matched with the incremental costs that are required to serve that group of customers.

For any one customer, the incremental revenue level may vary widely. If the customer never places or receives a long distance call, and never uses any of the optional services that are offered by the firm, the incremental revenues may amount to little more than the revenues from basic local exchange service and the FCC's end user fee. Even in this extreme case,

1 however, some other incremental revenues will arise.

2 For example, consider directory publishing revenues. Qwest and other incumbent local
3 exchange carriers earn very substantial revenues (and profits) from yellow page advertising.
4 These rates vary directly with the number of subscribers included in (and receiving) the
5 directory. As additional customers are added to the network, directory publishing revenues and
6 profits will expand. These incremental revenues can appropriately be considered in evaluating
7 the extent to which Qwest can profitably serve customers at current rates.

8 The situation is analogous to that of many publications. A magazine evaluating its
9 subscription efforts should consider not just the direct revenues generated by new subscriptions,
10 but also all the incremental revenues associated with those subscriptions. New revenues will
11 come from the additional ads sold as the circulation base expands, from the higher advertising
12 rates chargeable as the number of subscribers increases, and from the sale to new subscribers
13 of books, videos, or other ancillary products. In the same way, a local exchange carrier can
14 anticipate ancillary revenue from the sale of directory advertising and boldfaced white page
15 listings, which tend to increase as the number of customers on the network increases and the
16 directory becomes longer, even if the customers in question don't choose to purchase any
17 optional services.

18 Similarly, the volume of switched access minutes sold to interexchange carriers will
19 increase with the number of subscribers, since incremental customers place more outgoing toll
20 calls, and they also receive long distance calls which generates terminating access revenues for
21 the Company.

22 Moreover, many customers, having decided to purchase basic telephone service, will

also opt to purchase discretionary services. Call waiting service is perhaps the most popular example, but there are numerous optional services that generate revenues for Qwest as a result of the fact that it provides basic local exchange service. Increases or decreases in the number of basic service customers bring a corresponding increase or decrease in these ancillary revenues. Hence, an evaluation of how profitable it is for Qwest to serve residence customers at current rates should appropriately give consideration to these ancillary revenue sources.

I have not attempted to analyze all of these ancillary revenue streams in complete detail, nor have I analyzed them on a exchange classification-specific basis. The expected revenue stream may vary somewhat, depending upon the demographic and other characteristics of each geographic area, and the group of customers being studied. While I recognize this diversity exists, the data needed to analyze these patterns in detail were not readily available, nor would I expect the results to differ greatly from the simplified approach I have followed. I estimated a conservative level of revenues (and corresponding contribution to joint and common costs) that can reasonably be anticipated when typical customers are added to the network.

Q. Not all customers generate the same level of ancillary revenues. Have you developed an analysis using this third approach which allows the Commission to see the impact of variations in the level of ancillary revenues?

A. Yes. I developed multiple examples of this approach, thereby considering variations in the revenues and costs Qwest encounters in serving different types of consumers. For instance, Qwest does not gain the same amount of revenues nor incur the same level of costs in serving a customer who uses very little toll and does not subscribe to any custom calling features as it

experiences when serving a customer who uses a considerable amount of toll and many custom calling features. The matrix-based approach that I have used adds considerable detail to the contribution calculations, providing a more comprehensive view of the overall situation.

When a long distance call is completed by AT&T, MCI or another carrier, Qwest profits from "switched access charges" which it receives as compensation for originating and/or terminating the call. Switched access and long distance toll revenues are important aspects of the profit picture for any provider of local telephone service, but they vary depending upon usage levels. Accordingly, I consider the revenues that Qwest gains from three types of toll customer–one who uses very little toll, one who uses a moderate amount, and one who place toll calls quite frequently.

Many customers also enhance their local telephone service with one or more optional features, including call waiting, call forwarding, and Caller ID. The popularity of these types of features has been growing in recent years, creating an ever increasing stream of revenues for local exchange carriers. Today, the typical residential customer pays for at least one such feature and many pay for two or more. Since the revenues generated by custom calling and other premium features vary widely, we will consider five examples. Our first example is a household that purchases none of the available enhancements. Our second and third examples are customers that pay for either Call Waiting or Caller ID, respectively. Our fourth example is a customer that purchases both of these popular features and 8-number Speed Calling. Our fifth example is a customer that opts for these three as well as Call Forwarding and Three-Way Calling. The effect of these feature revenues in combination with the other revenue sources is illustrated for a customer in UNE Zone 2 in Table 2.

Table 2
Residential Revenues Including Features

Feature Revenues	Revenues from Low Toll User	Revenues from Mid Toll User	Revenues from High Toll User
Example 1: $ 0.00	$ 24.85	$ 28.05	$ 34.43
Example 2: $ 2.50	27.35	30.55	36.93
Example 3: $ 5.00	29.85	33.05	39.43
Example 4: $ 9.25	34.10	37.30	43.68
Example 5: $12.05	36.90	40.10	46.48

Clearly, the rate for basic local service alone does not begin to describe how much most consumers actually contribute to Qwest's revenues each month, nor does it provide any indication of the revenue levels which a competitive carrier can potentially capture. It is necessary to consider all of these revenue sources in order to meaningfully evaluate the extent to which residential customers are currently profitable to serve, or the prospects for competition in Arizona residential markets. Qwest doesn't rely exclusively on its basic monthly rate to recover its costs, nor do any of its competitors, which is one reason why the third approach (focusing on typical customers, rather than individual services in isolation) is helpful in evaluating the subsidy question.

Q. Would you please describe how revenues and costs are analyzed in this third approach?

A. Yes. The key difference between this approach and the others is that it looks at the entire set of

revenues which a carrier generates when serving a typical customer. I have depicted this revenue-cost comparison in my Schedule 3. For clarity, I have included the ancillary revenue sources. An estimate of the direct costs of providing these ancillary services, is included in the column labeled "Other Direct." These costs vary according to the amount of toll and access service that customers use each month as well as the number of custom calling and other optional services they subscribe to. As shown on page 1 of Schedule 3, in serving residential customers that use a small amount of toll and only subscribe to one custom calling feature (Caller ID), I have estimated Qwest would incur "other direct" costs of approximately ****Proprietary Proprietary**.** As shown on page 3 of Schedule 3, the analogous costs incurred in providing service to residential customer who uses a large amount of toll and subscribes to three ancillary services (Caller ID and Call Waiting and Call Forwarding) is ****Proprietary Proprietary**** per month.

By including these ancillary revenues and costs, along with the costs and revenues associated with basic local service, this third approach provides a fairly comprehensive picture of the various revenues and costs that a carrier can anticipate as it expands its network to include various groups of customers.

The column labeled "Contribution or Subsidy" shows the extent to which these residential customers can be expected to generate incremental revenues sufficient to cover their incremental costs, including all of the joint costs of the loops that connect them to the network, and an allowance of ****Proprietary Proprietary**** towards common costs. To the extent a positive figure is shown in the final column, the customer is generating an additional contribution towards the firm's other common costs. I have followed the same approach in

1 developing revenue-cost comparisons for residential customers in all exchange classifications on
2 each page of Schedule 3.

3 While the gap between revenues and costs varies depending upon toll usage and other
4 factors, Qwest generates revenues well in excess of its costs when serving most residential
5 customers. Consider a typical residence in UNE Zone 1 (the most densely populated areas)
6 that uses moderate amounts of long distance and purchases just one enhanced feature–Call
7 Waiting. As shown on page 2 of Schedule 3, at Qwest's current rates, this customer generates
8 an average of **Proprietary Proprietary** in revenues per month. In comparison,
9 the economic cost of serving this residence is just **Proprietary Proprietary** per
10 month. This includes the direct and shared costs of local exchange and all of the ancillary
11 services. Since the current rates generate revenues in excess of cost, there is no indication that
12 the typical residential customer is unprofitable to serve, nor is there any indication that the
13 typical residential customer is "subsidized" by any other category of customers.

14 To the contrary, the evidence suggests that most urban residence customers yield
15 revenues in excess of the costs of serving them (including 100% of the joint loop costs), as
16 shown below in Table 3. In today's telecommunications market, most customers use at least a
17 moderate amount of toll service, and the number of customers who do not subscribe to any
18 optional features is declining. Hence, the size of this group of relatively unprofitable customers is
19 probably diminishing over time. Increasingly, customers perceive features like call waiting and
20 Caller ID to be near-necessities. While there are still exceptions, the average or "typical"
21 Arizona customer places and receives toll calls, and subscribes to one or more ancillary
22 services. Thus, it is fair to say that at current rates, Qwest recovers all of its costs and generates

excess profits (it earns more than its cost of equity capital) when serving the vast majority of urban residential customers.

Table 3
Matrix of Revenue-cost Comparisons for
UNE Zone 1 Residential Mid-Toll Users
****Proprietary****

Feature Revenues	Total Revenue	Total Costs	Contribution (Subsidy)
Example 1: $ 0.00			
Example 2: $ 2.50			
Example 3: $ 5.00			
Example 4: $ 9.25			
Example 5: $12.05			

Q. Does the fact that most residential customers already generate excess profits suggest there is no reason to be concerned about rate increases if Qwest is given greater pricing freedom?

A. No. There is nothing inherent in the logic and incentives facing a profit maximizing firm that would provide a basis for assuming Qwest will limit its profits to current levels, if it were free given complete pricing flexibility. If competitive forces aren't strong enough, Qwest might choose to drastically increases residential rates. In fact, Qwest might conclude that its corporate interests are better served by achieving higher profit margins in the short term, even if this would cause it to suffer some loss of market share over the long term. Furthermore, profit margins are

not as strong in rural parts of the state. Hence, Qwest will likely push for substantial increases to its rural rates, if the pricing rules are sufficiently relaxed.

Q. Some of your data suggests current rates in rural areas are not fully recovering the high cost of serving these areas. Are there methods that could be used to deal with this problem, other than increasing rural rates?

A. Yes. Based upon experience gained in other states, I know that costs can be very high in areas where population density is low and distances from the wire center are long. The disparate loop costs in the FCC Model are evidence of this geographic pattern, suggesting that customers in rural areas are much more costly to serve than customers in Phoenix or Tucson.

Historically, regulators have not allowed extreme disparities between urban and rural rates, regardless of the extent to which costs vary. For example, the high cost of serving rural areas has been recovered in part by allowing carriers to charge higher for toll and access services than would otherwise be allowed. In both the federal and state jurisdictions, access rates have historically been regulated on a uniform average basis; the high costs incurred in rural areas is one of the reasons why policy makers have historically allowed Qwest to charge so much for ancillary services like switched access, custom calling and CallerID. Stated another way, high rural loop costs have translated into relatively high rates for switched access, long distance toll, and other ancillary services.

One can legitimately question whether this historic rate design practice should be phased out, in favor of more explicit forms of high cost support. However, there is no justification for completely abandoning the historic pattern of rate uniformity, nor is there any

justification for allowing extreme disparities between rural and urban rates.

In this regard, it is worth noting that other methods of providing high cost support have been implemented in some jurisdictions. For instance, the State of Kansas implemented a competitively neutral, explicit mechanism for high cost support. My firm was privileged to work with the Kansas Corporation Commission ("KCC") in carrying out this effort. The KCC initially established the Kansas Universal Service Fund as a "revenue neutral" mechanism which replaced a portion of the existing access revenues. It later replaced this system with a forward-looking cost-based mechanism. The KCC recognized that costs per line can vary widely with density and distance from the central office. Therefore, in order to take these factors into account, the KCC decided to target support on the highest cost (i.e., least dense, most distant) areas within each wire center. Wire centers and zones within these wire centers were not given support unless the relevant costs per line exceeded 125% of the statewide average costs per line.

If the Commission wants to ensure that rural areas (including many of the exchanges classified as UNE Zone 3) generate revenues which are sufficient to cover the relatively high cost of serving these areas, this should not be accomplished by giving Qwest the freedom to drastically increase rural rates. To the contrary, if the Commission is convinced that the existing system of implicit support is not sustainable or acceptable, it would be more appropriate to revamp the Arizona universal service fund that would provide an appropriate mechanism for dealing with these cost disparities.

Universal Service Mechanism

Q. Would you provide a brief description of the AUSF?

A. Yes. The Commission summarized the purpose of the AUSF and the entities that fund it in an order approving AUSF surcharges for 2004.

> The AUSF was established to maintain statewide average rates and the availability of basic telephone service to the greatest extent reasonably possible.
>
> One half of the AUSF funding requirement is collected through a surcharge paid by providers of basic local exchange service, wireless service, paging service, and other Commercial Mobile Radio Service providers that interconnect with the public switched network. These entities are known as Category One providers.
>
> The second half of the AUSF funding requirement is collected from providers of intrastate toll service. These entities are known as Category Two providers. [Decision No. 66651, Docket No. RT-00000H-97-0137, December 22, 2003, pp. 1-2]

Arizona Administrative Code section R14-2-1202 outlines how support paid to fund recipients is calculated.

> The amount of AUSF support to which a provider of basic local exchange telephone service is eligible for a given AUSF support area shall be based upon the difference between the benchmark rates for basic local exchange telephone service provided by the carrier, and the appropriate cost to provide basic local exchange telephone service as determined by the Commission, net of any universal service support from federal sources. ...

> For a large local exchange carrier, the AUSF support area shall be U.S. census block groups, and the appropriate cost of providing basic local exchange telephone service for purposes of determining AUSF support shall be the Total Service Long Run Incremental Cost. [A.A.C. R14-2-1202, Subparts A and D]

Q. What benchmark is used to calculate support under the AUSF?

A. "Benchmark Rates" are defined as:

> [R]ates approved by the Commission for that provider for basic local exchange telephone service, plus the Customer Access Line Charge approved by the Federal Communications Commission. [Id., R14-2-1201]

Q. Are there Arizona carriers that currently receive support from the AUSF?

A. Yes. According to the Commission order just cited, Citizens Telecommunications Company of the White Mountains, Inc. receives $769,620 per year from the fund and Midvale Telephone Exchange, Inc. receives $71,651 per year. [Decision No. 66651, Docket No. RT-00000H-97-0137, December 22, 2003, p. 2]

Q. How do Arizona's Category One and Two providers support this funding?

A. For 2004, Category One providers pay $0.0038 into the fund for each access line they service and $0.037998 for each interconnecting trunk line they service. Category Two providers pay 0.0998% of their intrastate toll revenues into the fund. [Id., p. 3]

Q. Are these surcharges sufficient to cover the amount that Qwest has proposed to draw from the AUSF?

A. No. These surcharges were established so as to generate sufficient funds to cover *current* AUSF distributions (those to Citizens and Midvale), and accounted for an October 31, 2003 fund balance of $754,196.59. [Id., p. 2] They are not adequate to compensate for the high costs of serving rural residential customers in Qwest's service territory.

Q. How much has Qwest proposed to draw from the AUSF?

A. Roughly $64 million. [Proprietary Million Exhibit TKM-02]

Q. In Decision No. 66651 that you cited earlier, the National Exchange Carriers Association is described as calculating the surcharge necessary for the AUSF to cover Citizens' and Midvale's funding needs. Has Qwest performed a similar calculation?

A. Yes. Mr. Teitzel includes a surcharge calculation in his direct testimony. He figures that Arizona wireline local service carriers would be charged an additional $0.46 per line served and Arizona wireless carriers would be charged an additional $4.58 per interconnection trunk served. Although he doesn't know the exact number of interconnection trunks required by wireless carriers to service Arizona customers, consistent with the calculations delineated in the Arizona Administrative Code, his calculations appear to provide a reasonable order of magnitude estimate of the size of the surcharges that would be required to support Qwest's proposal.

Q. Would you please summarize the Qwest AUSF proposal?

A. Yes. Mr. Ziegler provides a succinct description of the Company's proposal.

> Qwest proposes that the difference between the TSLRIC of basic residential local exchange service in UNE Zone 2 and the sum of the 1FR rate and FCC Customer Access Line Charge in Zone 2 be recovered from the AUSF. Similarly, Qwest proposes that the difference between the TSLRIC of basic residential and business exchange service and the 1FR or 1FB rate and the FCC Customer Access Line Charge in UNE Zone 3 be recovered from the AUSF. [Ziegler Direct, p. 12]

Q. How does Qwest support this proposal?

A. Mr. Shooshan describes a consumer benefit and competitive benefit resulting from the Company's AUSF proposal.

> Qwest's proposal to ... seek AUSF support to make up the difference between current and cost-based rates is beneficial to consumers in the higher costs areas as they will be relieved of covering the direct costs of providing service. Instead, those costs will be spread over all of those paying into the AUSF. Additionally, since AUSF support is portable, competitors will have greater incentive to offer alternative services to customers in these high-cost areas where competitors are currently deterred by the high costs. [Shooshan Direct, pp. 17-18]

Mr. Teitzel describes a change to Qwest's pricing structure resulting from the Company's AUSF proposal.

> Since residential line local exchange rates in UNE Cost Zone 2 and 3 wire centers are below cost, these rates are currently receiving an implicit subsidy, which is not sustainable in a competitive marketplace.

> Supporting residential rates in these wire centers with AUSF funds will make this subsidy explicit, will protect customers in these areas from dramatic rate increases and ensure continued affordable service in high cost areas, and is competitively neutral. ...
>
> As discussed in the testimony of Ms. Million, business local exchange recurring rates in UNE Zone 3 wire centers are below cost. [Teitzel Direct, pp. 89, 90]

Q. You stated earlier that Qwest links its proposal to draw funds from the AUSF to an analysis of the difference between the Company's TSLRIC costs and its revenues. Are these calculations consistent with your analysis of TSLRIC costs relative to revenues?

A. No. Despite using the TSLRIC label, Qwest includes joint costs in its analysis. Furthermore, it mismatches all of its joint costs with only a portion of the revenues it receives that provide support for those costs.

Q. Can you elaborate on the Company's analysis of revenues and costs?

A. Yes. Mr. Million explains the Company's reasoning:

> As I explained above, the total cost to provide a retail service includes the direct cost of the service, the costs that are shared among groups of services and a contribution to the common overheads of the corporation. If the AUSF support were calculated using an amount that recovered less than the total cost to provide the service, then the shared costs as well as the amount of contribution to common overheads from basic local exchange telephone service would be borne entirely by the lines located in Zone 1. Any necessary contribution not recovered from the Zone 1 lines would have to be recovered from

> Qwest's other retail services. This would result in an implicit subsidy of the Zone 2 and 3 business and residential basic exchange customers. The purpose of a universal service fund is to help maintain affordable rates in high cost areas and at the same time eliminate implicit subsidies for high cost service.1 In addition, it is important to note that Qwest's CLEC competitors in Zones 2 and 3 pay for unbundled network elements on the basis of TELRIC rates that include shared and common costs. As discussed in Mr. Teitzel's testimony, because AUSF support is portable to qualifying CLECs it is important that the AUSF surcharge calculation, based on the AUSF funding need, be sufficient to cover the costs of any qualified provider on a competitively neutral basis. Therefore, the appropriate cost to use in calculating the AUSF support amount is Qwest's fully allocated cost. [Million Direct, pp. 22-23]

I don't dispute some of these points. For instance, I agree that all of the costs incurred when a carrier serves rural customers are potentially relevant. However, I strongly dispute the notion that total costs should be compared to just a subset of the revenues that result from the decision to serve these customers. An appropriate matching of revenues and costs is crucial for meaningful results. If total costs (including joint costs) are to considered in the analysis, then total revenues should also be considered, including revenues from toll, access, and features.

Q. You mentioned the use of a benchmark to calculate the level of support provided by a universal service fund. Can you discuss the concept of a benchmark in more detail?

A. Yes. A benchmark is useful in identifying high cost areas, and determining the amount of support to be provided in these areas. It provides a numerical basis for evaluating the extent to which costs in a particular area are above the "norm," and thus needing support. Typically, the benchmark is based upon average revenues, or average cost, per line.

Q. When a revenue benchmark is used, exactly what revenues should be included?

A. In general, the revenues included in the benchmark should be consistent with the methods used in calculating the forward-looking economic costs of constructing and operating the network. If the cost methodology includes the entire cost of the loop and port, then the revenue benchmark should include revenues from all services that use the loop and port. These are joint or common costs, which are not, and should not be, borne entirely by any one service which relies upon them. In addition to revenues from basic local exchange service, these costs are related to, and supported by, numerous other revenue sources, including interstate switched access, intrastate switched access, intrastate toll, custom calling, Caller ID and directory publishing.

It is illogical to compare the entire amount of loop and port costs with the revenues from just one or two of the revenue sources that reimburse these costs, such as basic local exchange rates and the FCC's subscriber line charge. If the entire amount of loop and port costs is being considered in the analysis, other sources of revenues should also be considered, since these are available to help offset those costs. The loop and port are also required for the provision of these other services. If the full cost of the loop and port are included in the cost of universal service, it is appropriate to balance against this cost the revenues from the full range of services benefitting from them.

Q. Could you be more specific about which revenues to include, if the analysis includes 100% of the joint costs?

A. The benchmark should include local revenues, which consist of the basic local rate, the end user common line charge, touch tone, extended area service (EAS) and Outside Base Rate Area

revenues. The benchmark should also include revenues from discretionary services, including Custom Calling, as well as Caller ID and other CLASS revenues. A substantial portion of toll and switched access revenues should also be included. Specifically, the benchmark should include the amount of toll and switched access revenues attributable to use of the loop and port.

Q. Are there any other revenues that could be included?

A. Yes. The benchmark could also include a portion of ancillary revenues that are generated by LECs, as a result of their provisioning of local telephone service. Two prominent examples are revenues from directory publishing and inside wire maintenance service. Consider directory publishing revenues. The incumbent local exchange carriers earn very substantial revenues (and profits) from yellow page advertising. These rates vary directly with the number of subscribers included in (and receiving) the directory. As additional customers are added to the network, directory publishing revenues and profits expand. These revenues are particularly large in urban areas, where yellow page advertising generates enormous profits for incumbent LECs, but they are also available to incumbent carriers that serve rural areas. Similarly, many incumbent carriers generate substantial revenues and profits from inside wire maintenance. Carriers ability to generate these revenues is directly related to the fact that they provide the customers' access line.

Q. Let's discuss cost benchmarks. What are their advantages?

A. Cost benchmarks are consistent with the method the FCC has adopted for the federal USF. Moreover, cost benchmarks provide regulators with greater flexibility in balancing the interests

of urban and rural customers. The portion of the high cost burden which would be borne by all customers and the portion which will be borne by carriers and customers in high cost areas can be readily specified when using a cost benchmark.

Q. A cost benchmark reflects "average" costs. Could the benchmark differ from the average itself?

A. Yes. There are several ways a cost benchmark could be implemented. Potentially, the benchmark could equal to the average cost level, thereby funding all locations where costs exceed the statewide average. Another possibility is to establish a benchmark which exceeds the statewide average by some defined percentage. This is similar to the approach adopted at the federal level. In the October 21, 1999 Methodology Order, the FCC decided to set the cost benchmark at 135% of the national average. [¶ 10.]

The effect of varying this percentage figure is straightforward: with a higher benchmark, the fund would be smaller; with a lower benchmark the fund would be larger, holding everything else constant.

Q. What are the policy implications of applying a higher or lower percentage figure?

A. If the goal were to limit the support flowing from urban areas to rural areas and to ensure that support is narrowly targeted at the areas with the most extreme cost conditions, a relatively high percentage figure should be used. For example, if support were only provided to locations where costs exceed 150% of the statewide average, support can be focused more narrowly on those wire centers and customers facing truly extraordinary cost conditions, and thereby limit

the size of the universal service fund.

In contrast, if the goal is to ensure a much broader flow of support by expanding the number of recipients to include those facing less extreme cost conditions, a lower percentage figure should be used. For example, if 100% were used, it would ensure that every wire center with costs above the statewide average will receive support, even if the costs are only slightly above that average. While this might seem desirable, it requires a very large fund, which becomes unwieldy to administer, and is more likely to create market distortions.

Q. Let's talk geography. Does it matter what geographic unit of analysis is selected for administering a high cost fund?

A. Yes, this can have a very significant impact on the overall size of a fund, as well as the amount of funding received by specific carriers. Cost estimates that are developed for large geographic areas will tend to reflect average conditions throughout that entire area. High cost areas will be offset by low cost areas. Taken to the extreme, costs can be developed for an entire state, or a large statewide "study area" (e.g. the Qwest service territory in Arizona), as the FCC has done in implementing the federal USF. When this is done, cost conditions are broadly averaged, and carriers receive the same amount of support per line, regardless of whether a line is located in Phoenix or in a low density rural area.

A study which separately calculates cost for individual wire centers, or relatively homogeneous groups of wire centers highlights high cost patterns to a much greater degree. Even this approach, however, fails to disclose whether there are both low cost and high cost areas within individual wire centers. A finer-grain approach can further identify customers that

might need high-cost support, separating them from those which might not.

In general, the size of the universal service fund tends to be inversely related to the size of the geographic areas used in calculating the fund size. Very small areas (e.g., individual clusters or grid cells) translate into a large fund. At least in part this results directly from the impact of errors in the modeling process, which have an exaggerated effect as the unit of geography shrinks. This happens because the fund size is typically driven by differences between a given benchmark and the calculated cost; with extremely small geographic areas, errors in the modeling process, cost allocation procedures, and other phenomena cause the calculated costs to fluctuate widely above and below the benchmark. Since the fund size is determined by the magnitude of the discrepancies above the benchmark (without any offsetting reduction for discrepancies below the benchmark), these upward fluctuations tend to increase the size of the fund.

In attempting to model costs accurately, it is generally desirable to gather more detailed data, and to attempt to refine costs for relatively small geographic areas–smaller than a wire center. However, this does not imply that the fund itself should be administered at the same level of geographic detail. To the contrary, it would be preferable to use somewhat larger areas in administering the fund, relative to the size of the areas used in developing the costs.

Q. Does that mean that you disapprove of any unit of analysis smaller than a wire center?

A. No. Assuming the underlying model is strong enough to support this level of detail, one would ideally group the geographic areas within each wire center into two zones or categories. This would provide a highly manageable degree of granularity for reporting purposes, and would aid

in gaining a more detailed understanding of the cost characteristics of each wire center. This approach would also allow one to examine the cost of serving low and high cost areas within each wire center, without becoming lost in a sea of detail (e.g., costs for individual grid cells or CBGs). An excellent balance between granularity and manageability can be achieved by classifying each part of each wire center into one of two categories. One category (e.g., zone 1) would tend to include relatively low-cost areas. The other category (e.g., zone 2) would tend to include relatively high-cost areas.

Q. Can you summarize the rationale for distinguishing zones within the wire centers?

A. Yes. In many rural wire centers the customers in town are actually quite inexpensive to serve. The only reason these wire centers appear to have high costs is because customers outside of town are very costly to serve. If support is provided to all lines in these wire centers, CLECs will be encouraged to serve the wire center, but the support payments they receive won't necessarily relate to the extent to which they actually serve high cost customers. If a CLEC chose to install cable in town and resell the incumbent's services outside of town, it would not experience any high costs. Yet, it would potentially receive substantial payments from the IUSF as if it were a facilities-based provider in a high cost area.

Q. Can the extent of geographic averaging affect the size of the fund?

A. Yes. The zone concept can have a significant impact on the extent of support provided to specific customers, it can influence the amount of funding received by particular carriers (particularly competitive carriers) and it can even impact the overall size of the fund (depending

upon how the concept is implemented). Cost estimates that are developed for large geographic areas will tend to reflect average conditions throughout that entire area. High cost areas will be offset by low cost areas. Taken to the extreme, costs can be developed for an entire state, or a large statewide "study area" When this is done, cost conditions would be broadly averaged, and carriers would receive the same amount of support per line, regardless of where that line is located.

III. PRICE CAP AND TRADITIONAL REGULATION

Q. Please turn to the next section of your testimony. Can you begin by briefly discussing the origins of public utility regulation?

A. Yes. Historically, utility regulation reflects the well-founded perception that certain types of goods and services cannot be efficiently provided under competitive conditions. It generally has proven uneconomic, for example, to have competing water, sewer, electric, or gas distribution systems within a single community. During the late 19th and early 20th centuries, where two or three of these utilities tried to compete, normal competition did not seem to be sustainable.

Economists came to describe these types of markets as "natural monopolies." If competing companies do survive in a natural monopoly, they tend to incur excessive costs and needless duplication of facilities. Typically, a single strong company evolves, dominates the market with its unmatchable low costs, and drives all others from the field.

1 **Q. What concerned early regulators about natural monopolies?**

2 A. By the late 1800's and early 1900's, legislators and regulators became concerned that the
3 surviving firms in the public utility industries were raising prices to excessive levels and enjoying
4 substantial monopoly profits at consumers' expense, or would do so in the future. As the
5 realization grew that normal competitive forces could not be relied upon to protect customers
6 from monopoly power, regulatory agencies were created in state after state, and began to
7 exercise jurisdiction over the electric and telephone industries in an effort to advance the public
8 interest.

9

10 **Q. What goals were policy makers hoping to achieve by regulating these industries?**

11 A. The primary objective of regulation has always been to produce results in the utility sectors of
12 the economy that parallel those obtainable under conditions of effective competition. Although
13 economists recognize that full competition remains an unrealized ideal in our economy, the high
14 levels of efficiency and equity achieved under effective competition have long been a primary
15 justification of America's free enterprise or market-directed system.

16

17 **Q. What mechanism was used by regulators to achieve this goal?**

18 A. Consistent with this competitive standard, regulators attempted to set prices to provide a
19 well-managed utility with the opportunity to cover all of its necessary costs (where costs are
20 defined as including a fair return on the capital employed). Although the utility may recover
21 more or less than its full cost in the short run, its total cost should generally be equated with total
22 revenues over a longer period of time. When rates are controlled in this manner (regardless of

whether this is accomplished through traditional rate base regulation or through an alternative system), there will be an equitable and efficient balance between the interests of the utility and its investors on the one hand, and those of its customers on the other hand. Such a balance, which occurs naturally in markets controlled by effective competition, has been the goal for utility rate regulation in most jurisdictions.

Q. Were legal standards established for determining a fair rate of return?

A. Yes. The comparability standard for determining the fair rate of return for a utility, including the cost of equity capital, has been repeatedly upheld in Supreme Court decisions. In the landmark case, *Bluefield Water Works & Improvement Co. v. Public Service Commission*, 262 U.S. 679, 692-93 (1923), the Supreme Court set forth the criteria for determining a fair rate of return for a utility:

> A public utility is entitled to such rates as will permit it to earn a return... equal to that generally being made... on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economic management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties.

In *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944), guidelines were established to judge reasonableness of return. The Supreme Court held that:

> it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital. [*Hope*, p. 603 (citation omitted)]

The Supreme Court stressed that setting an appropriate rate of return and rates in general do not relate solely to protecting investors' interests. They also involve protecting the rights of consumers.

Q. Are there any problems associated with the traditional rate base form of price regulation?

A. Yes. Although the public interest has been well served by traditional regulation, there are several aspects of rate base regulation that have led observers to question whether it is still appropriate for the telecommunications industry, and to lead policy makers to search for alternatives. Most of this criticism has focused on one or more of the following issues: (1) the lack of strong incentives to operate efficiently and to minimize costs; (2) a potential failure of utilities to increase their productivity as rapidly as possible due to this lack of incentives; (3) the costs of regulation; and (4) the desire to rely partly on competition, rather than pure regulation, to advance the public interest, together with a corresponding concern that rate base regulation might not be fully compatible with this trend towards more increased competition.

Q. What alternatives to traditional regulation have been implemented in the United States?

A. Regulators have tried various forms of alternative regulation in an effort to increase or improve management incentives while protecting the interests of consumers. Typically, regulators used price caps, partial deregulation, profit-sharing, price freezes or some combination of the four.

Q. Has there been a trend towards *any* particular form of alternative regulation?

A. Yes. Prior to the divestiture of AT&T, all 50 states employed traditional rate base regulation. In the late 1980's, shortly after divestiture, several states adopted price freezes and rate case moratoria. [See Chumrong Ai and David Sappington, The Impact of State Incentive Regulation on the U.S. Telecommunications Industry, Table 1, June 2001, http://bear.cbo.ufl.edu/sappington/papers/txt4.pdf.] Price freezes were sometimes viewed as a transitional form of regulation, to be used while state commissions sorted out the effects of AT&T's divestiture and investigated other forms of alternative regulation. During the late 1980's and early 1990's, other states were beginning to test profit sharing as an alternative to traditional regulation. Meanwhile, the FCC and regulators in some other countries started to rely on price cap regulation. Some states began experimenting with price caps around 1990. The initial experience of the carriers was apparently favorable, since they began advocating price cap regulation to various regulatory commissions and legislative bodies. The transition to this new concept was remarkably swift; by 1996, operations of the regional BOCs (RBOCs) were more heavily regulated by price caps than by rate of return, overturning a tradition that had persisted for nearly a century.

Q. Were policy makers abandoning public interest goals when they moved to price caps?

A. Absolutely not. The specific goal of price cap regulation is to eliminate, or at least weaken, the linkage between cost and rates, but there is no evidence that policy makers have abandoned their focus on the broad public interest, or that they are no longer concerned about the traditional goals of public utility regulation. For example, in developing and refining its system of price cap regulation, the FCC apparently still viewed the results of effective competition as an appropriate benchmark for price cap regulation. For instance, it explained that competition

> encourages firms to improve their productivity and introduce improved products and services, in order to increase their profits. With prices set by marketplace forces, the more efficient firms will earn above-average profits, while less efficient firms will earn lower profits, or cease operating. Over time, the benefits of competition flow to customers and to society, in the form of prices that reflect costs, maximize social welfare, and efficiently allocate resources. [Price Cap Performance Review for Local Exchange Carriers, First Report and Order, CC Docket No. 94-1, 10 FCC Rcd 8961, 9002 (1995)]

In adopting this new system of regulation, the FCC believed that the results of price caps would correspond to the results of a competitive market more closely than had been possible under previous regulatory systems. Although the FCC was trying to encourage growth in productivity by permitting incumbent LECs that increase their productivity to earn higher profits, it was not abandoning its traditional focus on preventing monopolists from charging excessive rates or earning supra-normal profits.

Q. Can you clarify how a price cap formula differs from traditional cost-of-service regulation?

A. Yes. Perhaps the most significant difference is that price cap regulation generally focuses on industry-wide data, while traditional regulation focuses on carrier-specific data. However, the full impact of this difference is not felt initially. When a price cap system is initially instituted, it typically resembles traditional regulation, since the price cap is usually based upon the existing tariffs, which were derived from carrier-specific data. In some states, rates have been reduced below the existing level at the time a price cap plan is adopted, but I am not aware of any cases in which the starting rates were based upon national averages or other industry-wide data. Over time, the two systems will tend to diverge, since the price cap method of regulation normally focuses on industry-wide factors, while traditional regulation focuses on company-specific data (in a rate case).

The general formula for price cap regulation can be written as:

RateNew = RateOld times [1 + (I – X)],
where I = some measure of economy-wide inflation, and
X = a factor which reflects differences between costs experienced by this type of firm and those occurring in the economy generally.

By including a factor for inflation, the firm is allowed to increase its prices to keep pace with inflation. This makes sense, to the extent that a firm's costs can be expected to increase as a result of inflation. However, since costs do not increase by exactly the same amount

throughout the economy, due, for example, to industry-specific differences in productivity growth, the formula typically includes a factor (usually referred to as the "X" factor) which attempts to track industry-specific differences.

To the extent that the price cap formula does not adequately take into account industry-specific or carrier-specific circumstances, this discrepancy will translate into higher or lower than normal profits. For instance, if the firm benefits from circumstances that are more favorable than the nationwide norm, its profits will increase. Whether this increase in profits is an advantage or disadvantage of the price cap system depends on one's perspective, as well as the reasons underlying the discrepancy between the carrier-specific and nationwide data.

Q. You mentioned that one of the goals of price cap regulation is to sever the regulatory link between costs and rates. Do you have any evidence regarding the historical link between costs and rates?

A. Yes. We find that under conditions of effective competition, increases and decreases in costs eventually translate into similar increases and decreases in prices. Rate of return regulation historically achieved a similar pattern by requiring utilities to pass through to customers reductions in their costs. In some cases, as with fuel and purchased power costs incurred by electric utilities, this pass-through has been achieved very directly and quickly. In other cases, it has only occurred after a lengthy lag.

While prices and costs will sometimes diverge for individual firms (and for an entire industry over brief periods of time), both rate of return regulation and effective competition have historically been quite successful in forcing firms to provide customers with the benefits of cost

reductions and requiring customers to compensate firms for cost increases.

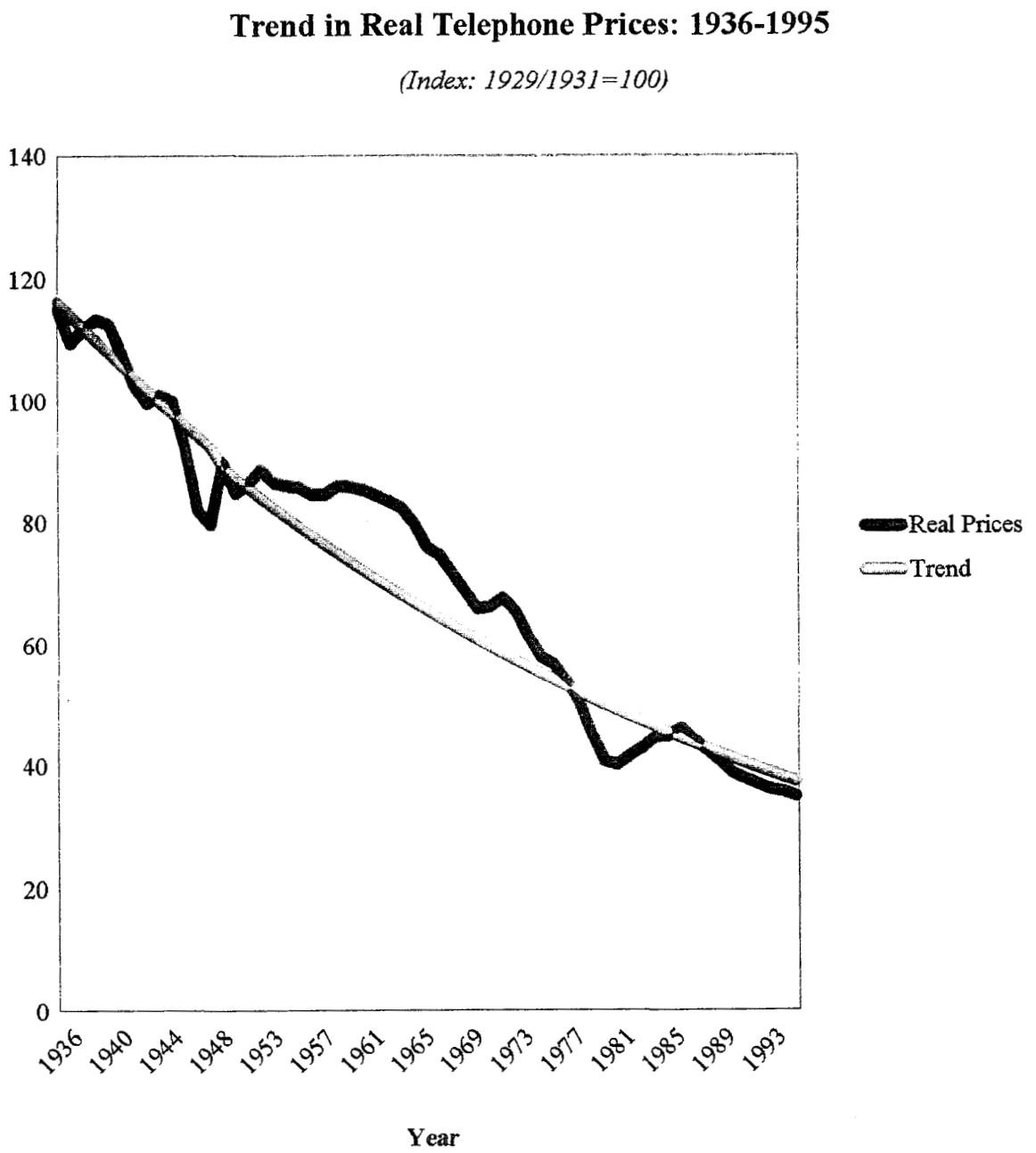
This general pattern–in which prices and costs are closely aligned and monopoly profits are largely precluded–has generally applied to the RBOCs. As shown in Graph 1, telecommunications prices experienced a strong downward trend in real terms over the 68-year period from 1936 to 2003. The data in this graph are based upon the retail prices charged for telephone services as collected by the United States Government for inclusion in the Consumer Price Index (CPI). To better appreciate this long-term downward trend, the effects of inflation have been removed from the data (using the GDP-Deflator). As shown in this graph, after removing the distorting effect of changes in the value of a dollar, it is clear that telephone companies have benefitted from a strong downward trend in their costs, and that the benefits of this downtrend have been shared with, or passed through to, customers in the form of lower real prices.

Despite the overall downward trend in prices during the 68-year period, there were some brief periods when prices for telephone services were increasing faster than the overall inflation rate. For example, "real" telephone prices briefly increased from 1937 to 1939, 1948 to 1950, and 1981 to 1987. However, these periods were exceptions to the overall pattern. The long-term trend in prices has been strongly downward for the entire period since the Great Depression.

Q. Why did telephone prices not increase as fast as inflation?

A. As I mentioned earlier, traditional regulation is similar to competition in requiring carriers to pass cost reductions through to their customers. Since prices have been declining in real terms, while

Graph 1


Trend in Real Telephone Prices: 1936-1995
(Index: 1929/1931=100)
140
120
100
80
60
40
20
0
1936
1940
1944
1948
1953
1957
1961
1965
1969
1973
1977
1981
1985
1989
1993
Year
Real Prices
Trend

the firms have maintained their financial integrity and generally earned adequate returns, it is self-evident that these firms' costs must have been declining. If costs had been trending up, eventually (after regulatory lag) prices would have been trending up.

This downward trend in real telephone prices is largely the result of increasing economies of scale and the underlying declining cost nature of this industry. Costs have been declining, and prices have followed this same downward trend. Moreover, input costs within the telecommunications industry do not necessarily follow the same inflation pattern experienced by the overall economy. For example, it is well known that electronic equipment is not increasing in cost as rapidly as the overall rate of inflation. In fact, digital electronic equipment, such as personal computers, has actually been declining in cost. LECs rely heavily on computers for engineering, accounting, billing, and general office purposes. Similarly, the net prices paid by LECs for other equipment, including central office switches and fiber multiplexers, have declined over time.

Q. What about the other, less specialized inputs used by the telecommunications industry?

A. While some items may have increased as rapidly as the overall inflation rate, others have actually decreased sharply in recent years. While nominal prices are dropping from year to year, when quality changes (e.g., improved speed, memory, storage and capacity) are considered, the effective price decline is even greater. Admittedly, most other items purchased by the LECs have not declined in cost as rapidly as computers. However, many of these costs have not increased as rapidly as the overall rate of inflation. Hence, prices for telephone

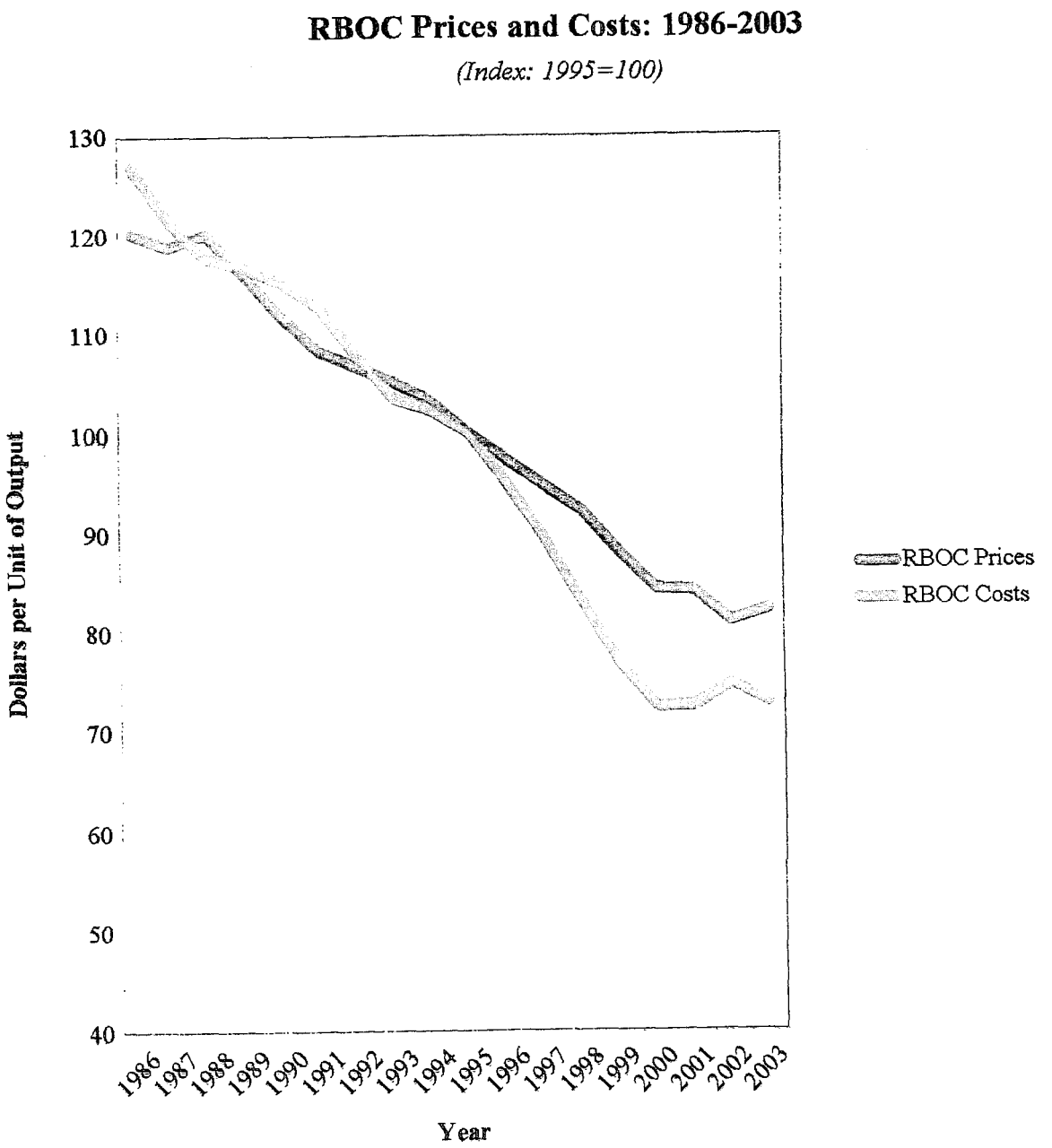
services have not increased as fast as inflation, which contributes to the downward slope shown on Graph 1.

Q. Do you have any data confirming that the decline in prices shown on Graph 1 was the result of declining costs per unit?

A. Yes. Graph 2 compares the trend in RBOC output prices to the trend in input costs during the period from 1986 to 2003. The blue line, which shows the RBOCs' prices, is conceptually similar to Graph 1, but it was developed in a somewhat different manner, and it covers a more limited time period. The trend in prices was derived from the RBOCs' revenue data, as reported to the FCC. To convert from revenues to prices, we divided by output (thereby deriving revenues per unit). The data are in nominal terms–that is, I have not adjusted the data for the effects of inflation. If I had restated the data in "real" terms, like Graph 1, the slope of the lines would be even more sharply downward.

In Graph 2, the green line shows the RBOCs' costs per unit. I developed this line by totaling all of the capital, labor and materials costs incurred by the RBOCs, and dividing by total output. Capital costs included an estimate of the cost of equity capital. To the extent that the RBOCs earned returns which were above or below their cost of equity in a particular year, their revenues per unit and total costs per unit are not the same. As shown, prices have not perfectly tracked costs from year to year, although both prices and costs were trending down at a similar rate up until approximately 1995.

Graph 2


RBOC Prices and Costs: 1986-2003
(Index: 1995=100)
130
120
110
100
90
80
70
60
50
40
Dollars per Unit of Output
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
Year
RBOC Prices
RBOC Costs

1 **Q. Has traditional regulation been effective in reducing prices to reflect declining costs?**

2 A. Yes, although the regulatory process is far from perfect. The 1986 to 1995 portion of Graph 2
3 confirms that overall, rate base regulation was quite effective in requiring firms to reduce prices
4 by roughly as much as their unit costs. Accordingly, it is fair to say that traditional rate base
5 regulation was effective in simulating the competitive process by requiring firms to pass through
6 to customers most of the benefits of declining costs. Of course, the alignment of prices and
7 costs has varied from time to time and state to state, at least in part due to the effects of
8 regulatory lag.

9

10 **Q. What does the graph show from 1996 forward?**

11 A. Starting around 1996, costs began to decline at a more rapid pace, which was not immediately
12 matched by corresponding acceleration in price reductions. As a result, a rapidly expanding
13 gap emerged between these two sets of data, and it has not been closed. This indicates that
14 RBOC prices are now well above the corresponding level of costs. The downtrend in costs
15 flattened somewhat in 2001, resulting in a partial diminution of the gap between prices and
16 costs. However, in 2003 prices turned slightly upward, while costs turned back downward.
17 Hence, there are no indications that the substantial gap between prices and costs will disappear
18 anytime soon.

19

20 **Q. Is this discrepancy between prices and costs a significant one?**

21 A. Yes. Graph 2 indicates that the RBOCs have not passed through to consumers a large portion
22 of the cost reductions they have experienced since about 1995. It is also significant to note that

Graph 2 does not provide any indication that this gap between prices and costs is diminishing, or that sufficient forces are in place to push prices down to closer alignment with costs. If regulation were working as it should, or if competition were fully effective, we would expect prices and costs to remain in fairly close alignment –at least on an industry-wide basis over multi-year periods. In a fully competitive market, for example, if unit costs decline sharply, prices will normally also decline sharply. A familiar example is the computer industry, where manufacturing costs per unit are rapidly declining, and competitive pressures have forced these cost savings to be passed through in ever-lower retail prices. A close review of Graph 2 fails to show any sign that the current regulatory system or competitive pressures are forcing rates down to levels that are fully consistent with the declining level of costs incurred by the RBOCs.

Q. Let's discuss the inflation offset component of price cap regulation. What is Qwest's proposal regarding this component?

A. As witness Shooshan explains, Qwest proposes to replace the "automatic productivity and inflation adjustment mechanisms of Basic/Essential Basket 1 with an overall revenue cap." [Shooshan Direct, p. 3]

Q. What reasons does Mr. Shooshan give for this recommendation?

A. He argues the existing mechanism is appropriate because it required Qwest to reduce rates, contending that the proposed revenue cap "is an important improvement over the productivity/inflation index that resulted in overall revenue decreases for the past 3 years." [Shooshan Direct, p. 7]

Q. Does Mr. Shooshan agree that the productivity/inflation price cap mechanisms were necessary?

A. Yes. Mr. Shooshan concedes the validity of these mechanisms as a general matter, noting that they allow

> ILECs to increase their prices (in nominal terms) only to the extent that the rate of inflation exceeded an estimate of the firms' productivity. The productivity adjustment itself was based on the assumption that the ILECs, as they emerged from cost-plus pricing and were afforded efficiency incentives for the first time, would likely experience greater rates of productivity improvement than the economy as a whole. Certainly, it was reasonable for this Commission to embody a productivity offset in its initial price regulation plan [Shooshan Direct, p. 10].

Q. What is the current productivity offset?

A. The existing offset was negotiated between Qwest and the ACC staff as part of the terms of the Settlement Agreement of the prior rate case. More specifically, the current Plan provided

> that Basket 1 Services will be capped and subject to an "Inflation minus Productivity" indexing mechanism. Thus, when productivity exceeds inflation, rates will decrease. The Productivity Factor for the initial term of the Plan is 4.2 percent, which includes a 0.5 percent consumer dividend [Decision No. 63487, Docket No. T-01051B-99-0105, March 30, 2001, p. 5].

Q. So Qwest now wants to eliminate the Productivity or "X" factor which it negotiated just a few years ago. In your opinion, has Qwest adequately supported this proposed change?

A. No. Qwest provides no evidence that industry wide productivity has decreased, nor has it put forward any evidence that customers, or the public generally, will benefit from the proposed change. To the contrary, it merely argues (without evidentiary support) that continued revenue reductions (due to the "X" factor) are "clearly unsustainable over any long period of time." [Shooshan Direct, p. 7].

Q. Dr. Johnson, do you agree that revenue reductions are unsustainable, or that an "X" factor is no longer appropriate?

A. No. An offset continues to be appropriate, since it ensures that industry-wide increases in productivity and decreases in costs will be passed through to customers, as they would be under effective competition, as well as under traditional regulation. An offset is also appropriate because it ensures that ratepayers share in some of the benefits of technological improvements, increased economies of scale and other forces which have contributed to the long-term decline in telecommunications costs. These favorable industry-wide trends tend to translate into a pattern of declining costs over time; it is not inappropriate for these cost reductions to be passed through to consumers, even if it results in a net reduction in Qwest's revenues (e.g. where Qwest's market share is declining).

Mr. Shooshan doesn't necessarily dispute the fact that declining costs should be accompanied by declining prices. However, he contends that "competition can now serve as a

constraint on both prices and earnings, and as a means for distributing the gains from increased productivity." [Shooshan Direct, p. 9] This line of reasoning would be more persuasive if he were able to demonstrate that market forces alone are sufficient to continue the long term historic pattern of decreasing costs and prices. If competitive forces are, in fact, strong enough to force carriers to pass productivity gains through to consumers, thereby ensuring that prices decline as fast as costs, then the offset simply serves as a backup safety measure–one that protects consumers in the event competitive forces weaken. As well, the offset is helpful since it provides some protection for consumers if the market environment is not as Mr. Shooshan describes. In other words, the offset will only have an impact if productivity gains (whatever they are) would not be passed along to consumers, absent such a requirement.

Q. The "X" factor used in price regulation is supposed to be consistent with the observed level of "X" that is achieved on an industry-wide basis, thereby ensuring that a carrier's prices will decline when industry-wide costs decline. Has the achieved level of "X" during the past decade been consistent with the level used in the Companies' price cap Plan?

A. Generally, yes, although not on a year-by-year basis, since the data tends to be volatile. During some years the observed level of "X" has exceeded the negotiated level included in the current plan, and in other years it has been less than that level. Without digressing into a lengthy discussion of the most appropriate way to calculate an appropriate offset or "X" factor, I would simply point out that the recent data for "X" is not inconsistent with that observed in prior years, taking into account the inherent volatility of this data. While the most recent data is lower than in

prior years, there is no reason to believe the negotiated 4.2% offset is too large. To the contrary, most of the historic evidence points toward an "X"factor that is consistent with, or larger than, the current 4.2% "X" factor.

I have calculated "X" for the years 1986 through 2003, and summarize the results in Table 4 below.

Table 4
"X" Factor Moving Average: 1986 - 2003

Time Period	5-year Moving Average
1986-1990	5.00%
1987-1991	5.57%
1988-1992	5.30%
1989-1993	5.80%
1990-1994	5.24%
1991-1995	5.09%
1992-1996	5.04%
1993-1997	5.33%
1994-1998	5.25%
1995-1999	7.00%
1996-2000	7.46%
1997-2001	6.62%
1998-2002	4.29%
1999-2003	3.40%

It is well understood that productivity and input cost changes can (and do) fluctuate from year to year, sometimes drastically, and that it is difficult to accurately forecast the change that will occur in any given year. However, the fact that "X" fluctuates, or that it is hard to forecast, does not provide a logical basis for assuming a zero "X" factor, or for adopting changes to price cap regulation which would only make logical sense if one were confident that "X" will average out to zero in the future. To better appreciate the flaw in this logic, consider a simple analogy. It is unclear what interest rates will be in the future, but that does not provide a logical basis for assuming interest rates will drop to zero, or for asking someone to loan you money without charging any interest.

While the telephone industry productivity and input cost reductions fluctuate from year to year, they do not generally fluctuate in a range above and below zero, nor does "X" average out to zero. To the contrary, the achieved level of the "X"factor is normally well above zero, regardless of how one measures it, and on a multi-year basis it consistently averages far above zero, as demonstrated in Table 4 above.

Although there have been wide year-to-year fluctuations in "X" throughout the historic record, there is no reason to believe it will now disappear, or decline to zero. During the period from about 1996 through 2003 the industry experienced an unusually rapid decline in costs. This brief burst in productivity translated into higher than typical levels of "X" for a few years. Following this brief, sharp decline in costs, which was not fully passed through to consumers, the industry has been experiencing a few years in which costs are not declining as rapidly as the long term trend. In the subsequent few years, costs have declined more slowly than normal, and therefore "X" has been lower than the long term average, but there is every reason to

anticipate it will eventually return to its long-term average, and thus there is every reason to continue using the negotiated 4.2% "X" factor.

IV. COMPETITION

History of Competition in the Telephone Industry

Q. Would you please briefly explain the historical trend towards increased competition in telecommunications markets?

A. Yes. The local telephone business was competitive early in the last century, with some cities having two or even three rival telephone networks. Since these networks were not interconnected, it was necessary for a customer to have two or three different phones in his home or business, in order to communicate with the total population of the city. This situation was plainly inefficient, and there was increasing public demand for interconnection, especially between independent local companies and the long-distance lines of AT&T.

In late 1913, after the Justice Department filed an antitrust suit, AT&T agreed to interconnect. Although this "Kingsbury Commitment" appeared at the time to end AT&T's aspirations to have a national monopoly, in fact the natural monopoly characteristics of the industry prevailed, even though a few cities did somehow retain dual facilities for decades--Philadelphia until 1945. The technology in use at that time made dual local facilities redundant whether interconnected or not, and the carrier with the largest customer base achieved the lowest costs. These cost characteristics doomed the attempt at local competition. In the

absence of effective competition or regulation, each local phone company, whether owned by AT&T or not, could charge monopoly rates. By the 1930's, AT&T was thoroughly established as the dominant carrier in the telecommunication industry, and in most jurisdictions its rates were regulated to prevent monopoly prices and profits.

Starting in the 1950's, the telecom industry began slowly evolving away from a regulated monopoly structure towards a more competitive one. A series of court rulings and changes in government policy encouraged this trend, in an effort to achieve more rapidly the benefits of effective competition, including lower prices, higher service quality, and enhanced technological progress.

In 1954, Hush-A-Phone Corporation filed a complaint with the FCC requesting an order forbidding Bell companies from interfering with the distribution of a product it had been manufacturing and selling for over 20 years – a cup-like device that snapped on to phone handsets, allowing the user to carry on a more private phone conversation. As the device became more popular, the Bell companies used certain tariff provisions to pressure subscribers into removing the attachment. In 1956, a federal appeals court overturned an earlier FCC decision and found that "[t]he intervenors' tariffs, under the Commission's decision, are an unwarranted interference with the telephone subscriber's right reasonably to use his telephone in ways which are privately beneficial without being publicly detrimental."[*Hush-A-Phone Corporation v. United States of America and FCC*, 238 F. 2d 266 (1956)] This was the first decision to chip away at AT&T's absolute control over all telephone equipment. In 1968, the FCC, taking its cue from the court in *Hush-A-Phone*, held that Bell could not prevent the use of the Carterfone, a device which made possible two-way conversations between

telephones and mobile radios. [See *Kahn*, p. 143.] Today, the market for telephone instruments and other customer premises equipment (CPE) is highly competitive; no one firm has a dominant share of either the manufacturing or the distribution and marketing of CPE. Even AT&T, which once overwhelmingly dominated the industry, has just a small slice of the market.

The next major breakthrough came in 1969, when the FCC approved MCI's request to build a point-to-point communications link between St. Louis and Chicago. [*In re Applications of Microwave Communications, Inc.*, 18 F.C.C. 2d 953 (1969).] Although the FCC had earlier opened the door to private communications systems [*In the Matter of Allocation of Frequencies in the Bands Above 890*, Report and Order, 27 FCC 359 (1959)], the MCI decision was the beginning of competitive common carrier service.

Q. When did competition begin in the long distance industry?

A. In September of 1974, MCI filed with the FCC a tariff revision, establishing rates for a new service called "Execunet." An Execunet subscriber could place a long distance call to individuals in other cities in which MCI had facilities by dialing a local MCI number, entering an access code, and then entering the area code and number in the distant city. AT&T claimed that MCI was providing long distance services that were not authorized by its service licenses, and the FCC agreed. [See *MCI v. FCC*, 561 F. 2d 365, D.C. Cir. (1977)] Upon review, the D.C. Circuit Court of Appeals sided with MCI. The court opined that "there may be very good reasons for according AT&T de jure freedom from competition in certain fields; however, one such reason is not simply that AT&T got there first". [Id.] The MCI decision opened the long distance market to competition which gradually expanded in scope and intensity. By the end of

2002, AT&T's long distance market share had declined to approximately 38%. [FCC Statistics of the Long Distance Telecommunications Industry, May 2003, released May 2003]

Q. What was the next major milestone in the history of telecom competition?

A. The most significant subsequent milestone was the Modification of Final Judgment (MFJ) ending the seven-year antitrust suit filed by the Department of Justice against the Bell System. The divestiture by AT&T of the BOCs accelerated a trend towards increased competition in several markets, particularly long-distance toll and customer premises equipment. After years of litigation, on January 8, 1982, a settlement was announced; AT&T had agreed to break up its $137 billion empire.

The theory was simple: to separate the competitive aspects of AT&T's operations from its monopoly services. In the original settlement, the parties agreed to the following:

- AT&T would retain its long distance business, its equipment manufacturing company (Western Electric), its research subsidiary (Bell Labs) and its directory publishing businesses.

- AT&T would divest its 22 local operating companies, which would be grouped into seven RBOCs.

- The RBOCs would provide all long distance carriers with "equal access" to their local facilities (access equal to that provided AT&T).

- The RBOCs would not pursue any "non-monopoly" business, including the provision of long distance and information services, the marketing or manufacturing of CPE or the provision of directory advertising.

Q. Was the settlement accepted by Judge Greene?

A. Not entirely. Judge Greene made several changes to the restrictions placed on the RBOCs. For example, the RBOCs would retain control of the extremely profitable Yellow Pages. In this regard, it is important to recognize that Judge Greene specifically declined to move the Yellow Pages to AT&T, along with the more competitive services (e.g., inter-LATA toll and customer premises equipment), despite the fact that such a move would have increased the potential for encouraging a more competitive directory market structure. Apparently, Judge Greene felt it was more important to maintain a high level of contribution from the Yellow Pages to the RBOCs (and correspondingly lower prices for local exchange services) than it was to encourage a greater level of competition in the directory advertising market.

Q. Could you now discuss the emergence of competition in the local exchange markets?

A. Although progress was made in opening up the CPE and long distance markets, as well as a few other sectors of the telecommunications industry, progress in the local exchange market proved much slower, although there was considerable interest in attempting to encourage competition in this sector of the industry. In the 1996 Telecom Act, Congress mandated the removal of many barriers to competitive entry, resulting in an enormous shift in the structure, and regulation, of the local exchange market. The FCC explained:

> Historically, regulation of this industry has been premised on the belief that service could be provided at the lowest cost to the maximum number of consumers through a regulated monopoly network. State and federal regulators devoted their efforts over many decades to regulating the prices and practices of these monopolies and protecting them against competitive entry. The 1996 Act adopts precisely the opposite approach. Rather than shielding telephone companies from competition, the 1996 Act requires telephone companies to open their networks to competition. [*First Report and Order*, CC Docket No. 96-98, August 8, 1996, ¶1]

The 1996 Act established a national policy in favor of local competition, and it declares invalid all state rules that restrict entry or otherwise limit competition in telephone service. Section 253(a) of the Act provides:

> No state or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.

The Act also provides that the FCC may preempt any state or local requirements that violate this subsection. [Section 253(d).] While state laws and regulations blocking competition are no longer allowed, states retain considerable freedom to develop and implement policies concerning the telephone industry which are not inconsistent with the pro-competitive thrust of the 1996 Act. For example, the states may impose, on a competitively neutral basis, requirements necessary to preserve and advance universal service, protect the public safety and welfare, ensure the quality of telecommunications services, and safeguard the rights of consumers. [Id., Section 253(b).]

Among other things, the Act requires all local exchange carriers to interconnect with new entrants on reasonable terms, unbundle their networks and offer the unbundled components to competitors at reasonable rates, and allow resale of their services by competitors, in order to promote an effectively competitive local exchange market.

Q. Would you explain what kinds of competition the 1996 Telecom Act was designed to encourage?

A. Yes. The 1996 Act was designed to encourage telecommunications providers to engage in competition of three kinds:

> The Act contemplates three paths of entry into the local market – the construction of new networks, the use of unbundled elements of the incumbent's network, and resale. The 1996 Act requires us to implement rules that eliminate statutory and regulatory barriers and remove economic impediments to each. We anticipate that some new entrants will follow multiple paths of entry as market conditions and access to capital permit. Some may enter by relying at first entirely on resale of the incumbent's services and then gradually deploying their own facilities. ... Some competitors may use unbundled network elements in combination with their own facilities to serve densely populated sections of an incumbent LEC's service territory, while using resold services to reach customers in less densely populated areas. [*First Report and Order*, CC Docket No. 96-98, August 8, 1996, ¶12.]

The FCC's three-path approach recognizes that the public interest will best be served by encouraging competitive entry in as many ways as are feasible, thereby ensuring that a wide variety of different potential competitors are attracted to enter the market, including pure

resellers, mixed-mode carriers, and carriers that attempt to completely duplicate the ILEC's network. Even the latter firms will find it necessary to purchase unbundled loops and other network components from the ILEC during the start-up phase, while their networks are under construction.

Q. It has been more than eight years since the 1996 Telecom Act became law. Has it accomplished all that was intended?

A. By no means. Events of the past eight years have shown the enormity of the obstacles facing local exchange competitors. While CLECs have become increasingly successful in the past few years, as of December, 2003, competitive local exchange carriers (CLECs) still served less than 20% of the switched access lines in the U.S. [*Local Telephone Competition Report*, FCC, June, 2004, Table 1] Unquestionably, competition has been slow developing in most markets nationwide. Of course, the pattern is not entirely even, nor would one expect it to be. Some urban markets (e.g., New York City) have seen a significant amount of competitive activity, while customers in many rural markets will have to wait much longer before they are given many or any competitive choices.

Effective Competition and Market Power

Q. Can you elaborate on the concept of effective competition, and how this relates to the concept of market power?

A. Yes. The concepts of market power and effective competition are closely related. For the

public interest to be advanced, competition must be strong enough to drastically curtail or eliminate market power. It is not sufficient to remove legal barriers to entry, or to have more than one firm enter the market.

Where competition is effective, it can advance the public interest by increasing consumer choices, promoting technological and service innovations, and (potentially, but not necessarily) lowering prices below the level that would be allowed under rate base regulation. However, it is important to remember that the simple act of opening a market to new entrants by no means ensures that effective competition will instantly emerge. In an industry like telecommunications, where market power has existed for a century or more, reducing and eliminating that market power will likely be a slow and difficult process. Even if all entry barriers have been removed, there is likely to be an unstable and hazardous period of transition, indeterminate in duration, before monopoly gives way to truly competitive conditions.

Effective competition benefits consumers, not only because they will not be forced to pay unreasonably high prices to a monopolist, but also because they will be offered more options, will be free to choose amongst a wider variety of products and services, and will be able to change providers if they become dissatisfied with their current supplier. Furthermore, effective competition forces all firms in the industry to adapt their products and services to the demands of consumers, drives prices downward toward the actual cost of service, and promotes productive efficiency, to the benefit of society as a whole. Thus, effective competition not only prevents the exercise of market power, but it also advances the public interest generally.

Q. You emphasize the need for effective competition in order to achieve beneficial results. Could you explain this concept in greater detail, and explain its significance in this docket?

A. Yes. In order to understand the concept of effective competition, it is useful to consider first an even purer form of competition–where absolutely no market power exists. Economic theory defines a purely competitive market in very specific terms. First, numerous firms must participate, each acting independently and none controlling a share of the market large enough to significantly influence its prices. Second, the goods or services produced must be homogeneous (e.g., no product differentiation). Third, there must be no substantial barriers to entry or exit.

There are few real-world markets that conform to this strict theoretical definition of pure competition. Nevertheless, its characteristics provide a good benchmark for measuring the actual level of competition that is present in a particular situation and in understanding what I mean by the term "effective competition." By judging how closely a specific market approaches the benchmark of pure competition, one can better evaluate whether or not competition has become intense enough to replace regulation, or to justify less stringent regulation. A more relaxed form of regulation or a greater degree of deregulation may make sense once competition reaches the point where it is reasonably effective–where a relatively large number of firms are competing, no one firm is dominant, and prices are controlled by the market, rather than by the actions of the dominant firm or a few key firms. Once such conditions prevail, customers can receive most of the benefits ascribed to purely competitive markets, and the regulatory controls that have traditionally been imposed in a monopoly environment are no

1 longer needed–even if the market falls short of the purely competitive benchmark.

2 Effective competition is present when a market is free of substantial barriers to entry
3 and exit and when no firm or consortium of firms has enough market power to set or strongly
4 influence market prices. This implies that there are multiple firms operating in the market, selling
5 essentially the same product for prices that are determined by market forces. Each such firm is
6 largely unable to set its own prices; rather, it must take as a given the level of prices determined
7 in the market place. (If the firm attempts to charge more than this market-determined price
8 level, it will lose virtually all its customers.)

9 I am not suggesting that effective competition is the same thing as pure competition, nor
10 am I suggesting that in order to justify further relaxation of regulatory controls a service must be
11 subject to pure competition. In the case of pure competition, the supplying firm takes prices as
12 totally given, but this condition is neither necessary nor achievable in the telephone industry. The
13 classic example of pure competition is the market for wheat, where a farmer has absolutely no
14 say in deciding what prices he will charge. Clearly, competition can be effective while falling
15 short of this extreme case. For instance, the firm may have limited freedom to set prices within a
16 narrow range, but if it attempts to charge substantially more than the normal (market-
17 determined) rate, it will lose so much sales volume that it will not find this pricing strategy
18 profitable.

19 Once competition becomes strong enough to force Qwest to charge the going market
20 rate for its services in a particular market–and it is unable to significantly influence or increase
21 that going market rate–then price cap regulation should be greatly loosened, particularly if
22 Qwest is being forced by competition to set its rates below the price cap level, regardless of

how it is computed. Stated differently, once competitive pressures become strong enough to prevent the exercise of monopoly power, stringent regulation is no longer needed, and the price cap rules should be greatly relaxed.

Similarly, with regard to product homogeneity, an industry can be effectively competitive, even though each firm distinguishes its products in various ways. The key question is whether there are enough customers who are sufficiently indifferent to brand-specific differences that they willingly switch back and forth between brands. If every customer is totally committed to a single provider, and the product differences are so important that one brand is almost never substituted for another, competition will not be effective, and the situation may come close to fitting the definition of pure monopoly, despite the presence of multiple suppliers offering somewhat similar products.

I agree with the official position statement adopted by the National Association of Regulatory Utility Commissioners (NARUC), as set forth below:

> The framework for transitioning to industry-wide competition must be properly laid or we risk having unregulated monopolies, increasing telephone rates, decreasing subscription levels, diminishing quality of service, and infrastructure dis-investment for some areas. Because of the incentives and opportunities for dominant providers to frustrate competition, there must continue to be oversight of the transition.... The development of competition is a time-intensive, pro-active effort. Removing statutory and legal barriers to entry is the first step. However, the subsequent steps which will actually allow competition to develop will be where the hard work lies. [*NARUC Bulletin No. 48*, November 28, 1994, p. 5.]

If the Commission grants the Companies the pricing flexibility they seek prior to the existence of effective competition, consumers will not be able to reap the full benefits of competitive delivery of telephone service.

Q. You have been distinguishing between the mere presence of competitors and an effectively competitive market. Can you elaborate on this distinction?

A. Yes. It is sometimes argued or assumed that once legal barriers to entry have been removed and the market contains more than one firm, it can be described as "competitive." However, the mere presence or absence of multiple firms does not determine whether the public is receiving benefits of true competition. *Effective* competition must first be present–the market must be free of substantial barriers to entry and exit and no firm or consortium of firms can retain enough market power to set or strongly influence market prices. Both buyers and sellers must view prices as a given, rather than something they can determine based upon their preferences or profit goals. In other words, while the decisions of participants in the market may collectively influence the level of prices observed in the market, participants must behave as if prices are unaffected by their own decisions regarding how much they should purchase or produce.

If either buyers or sellers recognize that they can control or greatly influence the level of prices that prevail in the market, effective competition does not prevail. The greater the degree of control that can be exercised, the less competitive forces will prevail and the greater the degree of market power that is present. Usually, four conditions are considered sufficient to assure that sellers will behave as "price takers," or effectively compete with each other. If any one of these conditions is largely or entirely absent, the prospects for effective competition are

1 diminished or eliminated.

2 First, no one firm can have a dominant share of the market. If a firm engages in price
3 leadership, dominant firm pricing, or price discrimination, its behavior is inconsistent with
4 competitive behavior. This condition is violated in markets where a carrier's market share is
5 substantially greater than that of all its competitors combined.

6 Second, the offerings of the supplying firms must be reasonably uniform or similar from
7 the perspective of the buyers in the market. If consumers view a particular product or service
8 as uniquely preferable to the alternatives offered by other firms, the supplying firm will not need
9 to behave as a "price taker." A similar problem can arise if consumers are reluctant to change
10 suppliers even in the face of substantial inducements (e.g., lower prices).

11 Third, the number of supplying firms must be large enough so that the total amount
12 supplied to the market cannot be restricted. It always is in the interest of suppliers to limit the
13 total amount supplied to the market, because by limiting supply, they can charge a higher rate
14 and earn greater returns (economic profits) than under the conditions of competition.

15 Fourth, as noted in the criteria cited above, firms must be free to enter and exit the
16 industry. If any firm decides to produce the service, no substantial legal, financial, or other
17 barrier must stand in its way. Patents or trademarks (such as brand names) and other legal
18 barriers can preclude effective entry even if other legal barriers do not exist. Similarly,
19 substantial economic barriers may remain, even if legal barriers have been eliminated or greatly
20 ameliorated. It is important to realize that barriers to exit are also very important, because they
21 can discourage firms from entering the market in the first place (for fear of losing their
22 investment) and because they can discourage competitors from aggressive actions to gain

market share from a dominant firm for fear of retribution by the dominant firm. Where barriers to exit are present, new firms may be cautious in their tactics, because they know they cannot escape the consequences of the dominant's firm's response through a quick, painless departure from the market.

Q. How do you determine whether effective competition has developed?

A. If any one of the conditions just discussed is largely or entirely absent, the prospects for effective competition are diminished or eliminated. Market dominance and the ability to exercise market power – not the mere presence of alternative suppliers – are the key issues in deciding whether or not effective competition has emerged or is emerging. Thus, a logical first step in evaluating the extent of competition is to evaluate relative market shares. If the incumbent continues to enjoy an overwhelmingly large market share relative to the new entrants, it would not be appropriate to adopt regulatory policies which assume that competition is effective. Unless and until the incumbent's market power is greatly eroded, the continued regulatory oversight provided by state commissions and the FCC provides valuable protection for consumers and the public interest generally.

Policy makers at both the state and federal level have taken steps to move telecommunications markets towards effective competition; however, that does not necessarily indicate that the transition to effective competition has yet been achieved in any particular case, or that the time is ripe to remove regulatory protections for consumers.

Q. Did Congress eliminate all barriers to entry when it passed the 1996 Telecom Act?

A. No. Legal barriers to entry have been largely, if not entirely, eliminated from Arizona telecommunications markets as a result of passage of the 1996 Telecom Act. As a result of these same laws and related decisions by this Commission and the FCC, it is also fair to say that economic barriers to entry have been substantially "lowered." However, economic barriers to entry have not been eliminated, nor is there any evidence that entry barriers have been lowered sufficiently to create or sustain effective competition.

Market share data can provide an indication of the extent to which barriers to entry remain significant. Even if legal barriers to entry have been eliminated, and even if economic and technical barriers to entry have been reduced, this does not mean that all barriers to entry have been completely eliminated. The evidence nationwide suggests the contrary conclusion: the 1996 Telecom Act is now more than eight years old, and yet the incumbent carriers in every state continue to dominate most of their respective markets.

Q. Is there evidence that substantial barriers to entry still exist?

A. Yes. The 1996 Telecom Act removed legal barriers to entry and reduced economic barriers to entry (e.g., through mandatory interconnection and network unbundling on regulated terms and conditions). At the time, the hope and expectation of many policy makers and industry observers was that the Act would encourage cable TV carriers to compete with the incumbent telephone carriers, LECs to enter video markets, and both long distance and local exchange carriers to enter each other's markets across the country in a "free for all" of intense competitive activity. Needless to say, this has not happened. Perhaps the most striking and

most significant development has been the almost complete lack of competitive entry efforts by the large incumbent LECs. These experienced, well financed firms have almost completely refused to enter each other's service territories. Yet, if the 1996 Telecom Act had truly eliminated all entry barriers, one would logically expect most–if not all–of these carriers to push hard to expand in other parts of the nation. In the absence of entry barriers, competitive expansion of this sort would be the natural strategic path, both because it would provide an easy means to offset the adverse revenue and earnings impact of competitive pressures within each firm's own service territory, and because geographic expansion of this sort is a necessary first step towards establishing a nationwide, or international, market presence.

Today, more than eight years after passage of the 1996 Telecom Act, we find that none of the large RBOCs with the greatest expertise in local telephony have made any substantial effort to enter any of the local exchange markets dominated by other incumbents. This general nationwide pattern is certainly true in Arizona, where none of the largest United States local exchange carriers–including BellSouth and SBC–have attained more than a minuscule share of any of Qwest's local telecommunications markets. Like "the hound that didn't bark," this absence of significant market penetration is extremely significant, and it strongly suggests the continued presence of very substantial (albeit not highly visible) barriers to entry.

If competitive entry were truly effortless and profitable (or at least economically rational), then at least one or two of the largest, most experienced LECs in the nation would have long since entered some of the Companies' Arizona markets and would have already gained a substantial share of the market. With a century of experience in the industry and close familiarity (albeit from an incumbent's perspective) with the technical, managerial and marketing

hurdles facing new entrants into local telephone markets, these large LECs are strongly aware of the height of the economic, technical and marketing barriers to successful entry.

If only one large, highly qualified potential entrant had refused to take on the challenge of competing with the Companies on their home turf, this might be considered a mere idiosyncrasy. But the fact is that every single one of the largest, most highly qualified potential entrants has either completely refused to enter the competitive fray in Arizona, or has only obtained a very small share of the market outside of its own service territory. This consistent pattern of non-entry or non-success cannot plausibly be attributed to mere coincidence, or a lack of management interest in pursuing growth opportunities. The only reasonable conclusion is that substantial barriers to entry exist, which have discouraged these experienced participants from challenging the Companies where they have the home-field advantage.

Q. Aside from the difficulties and risks associated with confronting the dominant carrier, are there any other plausible explanations for the lack of competitive entry by the incumbent LECs outside of their own service areas?

Certainly, there are other factors that might be contributing to the reluctance of the largest carriers to enter each other's territories. Conceivably, some carriers might be staying home because they want to limit the scale and scope of their activities, or they are unwilling to tackle any major risks. But if these carriers truly believed that resale and UNE rental provided an easy path to growth and profits, as they sometimes claim, and if barriers to entry were truly minimal, then surely one or two of them would have pursued this opportunity. If carriers like Qwest, Verizon, and SBC truly believe that entry is easy and UNEs are grossly underpriced,

why are they not eagerly plunging into each others' territories–if for no other reason than to prove how easy it is, and to validate their claims that the FCC's current rules governing UNE rentals are too favorable to new entrants?

For that matter, if these carriers were primarily concerned about limiting their risks or avoiding the pitfalls of excessive scale and scope, one would expect to see a pattern of very extensive but selective entry–with firms concentrating on entering other service territories close to their home turf.

At a minimum, if entry barriers were truly low, one would expect to see very extensive and widespread expansion into new wireline markets by carriers like Sprint and Verizon, along with their expansion into more wireless markets. These carriers are renting storefronts, hiring regional management and sales personnel, and incurring other overhead costs in order to establish a nationwide market presence. They also have technicians, customer service representatives and other knowledgeable personnel deployed in numerous states throughout the nation. Yet these firms have made very little effort to expand their wireline operations beyond their traditional service territories. The fact that major carriers like Sprint and Verizon have stayed away from trying to challenge other incumbent LECs on their home turf is clear evidence that barriers to entry remain high, notwithstanding the 1996 Telecom Act.

It is also worth noting that the major carriers have not shown any reluctance to greatly expand the scale and scope of their operations in other ways, where entry barriers are lower. As I just mentioned, both Sprint and Verizon are expanding into wireless markets nationwide, Ameritech has expanded into the burglar alarm business, and BellSouth has expanded into telecommunications markets in 15 other countries. If barriers to entering wire line local

exchange markets were truly low or non-existent, it seems inconceivable that every one of the major ILECs would ignore the opportunity to aggressively expand beyond their traditional territory. Recent experience in the electric power generation business demonstrates that long-regulated firms can be eager to expand into other geographic areas, provided entry barriers are low enough.

Q. What do carriers have to do in order to overcome barriers to entry?

A. In the current environment, new entrants may have to take drastic measures (e.g., incurring very high sales costs, or offering substantially more attractive prices than those of the incumbent) in order to overcome customer inertia or customers' perception that the incumbent is the "safest" and most reliable choice. To this extent, CLECs' will have great difficulty increasing their market share–unless they are willing (or forced) to operate with very low, or negative, profit margins. In evaluating the extent to which barriers to entry have diminished, the telling evidence is the extent to which the new firms have gained market share, in conjunction with evidence concerning the extent to which these firms have been able to generate profits and positive cash flows during the growth process.

Even if a new carrier has experienced phenomenal growth, increasing market share from zero to 2% of the market in a few short years, this information alone does not necessarily indicate that entry barriers are minimal or non-existent, nor does it mean the new entrant will soon grow large enough to challenge the Arizona ILECs' dominant position in the market. To the contrary, the Commission should also consider the difficulties which may be encountered when the new entrant tries to expand beyond its current niche role (e.g., serving customers who

are the most strongly attracted to its initial offerings, or those who are the most willing to take a chance on a new carrier). As well, the Commission should consider the level of marketing and sales effort that has been required in order to achieve this level of growth. A new entrant might be incurring ruinously high marketing and sales costs in order to maintain a rapid rate of growth, and thus its entry efforts may not be profitable or sustainable over the long haul. In judging the extent to which barriers to entry have declined, market share of the competitors must be carefully evaluated, along with information concerning whether these firms are financially successful and viable. In this regard, it is important to realize that one cannot simply assume that the recent upward trend in CLECs' market shares will continue indefinitely. Without detailed information concerning the marketing and sales costs, profit levels and cash flows being experienced by the carriers that are attempting to enter new markets, one cannot be confident that recent trends will continue. Carriers may be pursuing business plans that generate rapidly increasing sales together with negative cash flows and very small or non-existent profits. Particularly in the current investment climate, there is no reason to assume this type of growth will be sustainable over the longer term.

Q. Have you found any evidence that would substantiate your concern regarding current competitive trends?

A. Yes. AT&T indicated recently that it is abandoning efforts to expand its operations in the residential telephone market.

> Facing plunging revenue and an unfriendly regulatory and legislative landscape, AT&T is abandoning the residential telephone market, though it says it will continue to serve existing customers.
>
> The company's board of directors made the decision. It wants AT&T to focus all of its efforts on selling phone and data services to corporations and governments. That division brought in 73% of revenues in the last quarter.
>
> AT&T's departure from the battlefield may be a major victory for Verizon, SBC and the other regional Bell operating companies, which own virtually all of the copper cable that delivers telephone service to homes. AT&T has had to rent access on the local companies' cable to service residential customers. [ConsumerAffairs.com, *AT&T Abandons Residential Market*, July 22, 2004]

An earlier report indicates that MCI may be considering similar action. [ConsumerAffairs.com, *AT&T Hangs Up*, June 23, 2004] Were these two large, national CLECs to abandon their operations in Arizona, the trend toward increased competition in the State would necessarily be adversely affected.

Q. You mentioned that the costs of changing carriers can represent a barrier to entry. Are these types of costs economically significant?

A. Yes. Whenever a customer switches carriers, transaction costs are incurred. Most of these costs closely relate to the process by which customers obtain or change their telephone service. While such costs are incurred by any customer who moves to a new location, or adds additional phone lines, they will fall most heavily on customers who change carriers or try another carrier's service offerings. In economic terms, these "move and change costs" are

classified as transaction costs, like brokerage fees and credit card processing fees. It is well established that high transaction costs reduce the efficiency of markets and make it more difficult to achieve effective competition. In general, high transaction costs discourage transactions, inhibit the exercise of consumer choice, and create market friction (i.e., slow down or halt competitive pressures by inhibiting customers from shopping around or slowing the movement of price signals). An important characteristic of purely competitive markets is that transaction costs are very low relative to the value of the goods and services being purchased. Where transaction costs are high, effective competition is less likely.

High transaction costs tend to discourage new carriers from entering the market. If the entrants try to pass the costs on to their customers, they will also tend to discourage customers from changing from one carrier to another. Regardless of whether these costs are absorbed by the new entrant or paid by the customer, they represent a significant economic barrier to entry, because they make it more difficult for carriers to sign up new customers. It is much more difficult and costly for customers to try a new local telephone carrier than it is to try most goods or services. A household can try a new cereal or a business can try a new brand of paper by picking up a free or discounted box of cereal or ream of paper. In markets where customers can easily try a new product or service out of curiosity, or to see how well they like it, entry barriers are lower and established firms will be subject to stronger competitive pressures.

Q. Mandatory resale and network unbundling were key elements of the 1996 Telecom Act, reducing barriers to entry. Have these policies been effective in reducing entry barriers?

A. Yes. Clearly, the 1996 Telecom Act's requirements for wholesale discounts and offering of UNE s are designed to reduce or mitigate economic barriers to entry; however, these provisions do not entirely eliminate the barriers in question. Economists' use of the term "barriers to entry" is not limited to an absolute prohibition against entering a market; rather, it encompasses any factors that make entry difficult, risky, or costly, thereby discouraging the free flow of firms into (or out of) a market. The presence of barriers to entry does not mean that entry is impossible, only that it is so hard, costly, risky, or time consuming, that potential entrants are discouraged from trying.

Mandatory resale of network elements and services is helpful in making it easier for competitors to enter the market. However, a fully competitive market can best be achieved if it also includes a reasonable degree of facilities-based entry, as well. Resellers and repackagers will always be limited in their ability to place competitive pressure on the incumbent carrier. Their prices are necessarily constrained by the incumbent's costs and wholesale prices; if the incumbents' costs are high, resellers' costs will also be high. Their product offerings are also constrained by various characteristics of the Companies' networks. Resale of services and UNEs allows customers to receive some of the benefits of competition immediately, and it allows CLECs to fill out their service territories or product offerings while their own networks are under development. Thus, these types of competition are beneficial, but they are not as rigorous or as intense as full facilities-based competition.

Q. Are there other entry barriers associated with resale and UNEs?

A. Yes. From a CLEC's perspective, if it relies on resale and UNE rentals, it remains at the mercy of the incumbents, the FCC and state regulators. Incumbents are not providing UNEs and wholesale discounts as part of some philanthropic endeavor. They provide them only to the extent laws and regulations require. A CLEC that relies on resale and UNEs is subject to the risk of changing state regulatory policies and decisions, especially with regard to UNE rates and wholesale discounts. From a CLEC's perspective, this is far from a purely hypothetical risk.

Q. Could you elaborate on this risk?

A. For years, Qwest and the other RBOCs have been actively lobbying to restrict the availability of UNEs and to make it more difficult, or impossible, for CLECs to rely exclusively on this form of entry. As explained by Co-Vice Chair Nelson of the NARUC Telecommunications Committee in a recent submission to Congress, the RBOCs have been campaigning on Capitol Hill, "urging the FCC to restrict the tools used by State Commissions to promote local telephone competition, especially the use of the Unbundled Network Element Platform (UNE-P.)" [See *NARUC Bulletin*, October 14, 2002] Mr. Nelson explains:

> [T]he RBOCs only chose to commence their assault on UNE-P after it began to erode their monopolistic profit levels and only after the U.S. Supreme Court upheld the pricing model underlying UNE-P. They were willing to live with the 1996 Act until it produced the result the[y] have sought to avoid since its passage - competition. [Id.]

The RBOCs' assault on UNEs is not limited to regulatory proceedings and Capitol Hill. They have also been engaged in lengthy legal battles over the FCC's orders and rules that govern the pricing and availability of UNEs. The RBOCs have attacked the FCC's rulings on many different grounds, but a common thread running through their appellate efforts is that they are seeking to greatly limit or eliminate the use of UNEs as a form of competitive entry.

Q. Is there any chance the RBOCs will succeed in this legal battle?

A. No one can predict the ultimate outcome, but a very real possibility exists that UNE rates will be increased, UNE availability will be reduced, and important UNE combinations will be eliminated. In fact, the RBOCs appear to have won the latest round of appeals. On May 24, 2002, the D.C. Court of Appeals vacated and remanded the FCC's Local Competition Order and Line Sharing Order. [*United States Telecommunications Association, et al. v. FCC*, Case Nos. 00-1012; 00-1015, May 24, 2002] In ruling that the FCC's unbundling requirements were too broad, the Court of Appeals was sharply critical of the FCC's stance in favor of UNE competition:

> In the end, then, the entire argument about expanding competition and investment boils down to the [FCC]'s expression of its belief that in this area more unbundling is better. But Congress did not authorize so open-ended a judgment. It made "impairment" the touchstone.
>
> ... But to the extent that the [FCC] orders access to UNEs in circumstances where there is little or no reason to think that its absence will genuinely impair competition that might otherwise occur, we believe it must point to something a bit more concrete than its belief in the beneficence of the widest unbundling possible. [Id., p. 17]

1 More recently, on March 2, 2004, the D.C. Circuit vacated and remanded the FCC's
2 efforts to rectify this problem with respect to mass market switching, based upon the
3 FCC's delegation of this issue to the states (USTA II decision). The FCC responded
4 on August 20, 2004 by issuing an Order and Notice of Proposed Rulemaking
5 announcing its intention to rewrite its unbundling rules by the end of the year. [Order
6 and Notice of Proposed Rulemaking, CC Docket No. 01-338, August 20, 2004, ¶1]
7
8 **Q. What is the effect of these rulings?**
9 A. The full impact is not yet clear. The court is clearly telling the FCC that its existing list of
10 mandatory UNEs and its rules regarding where these UNEs must be provided are far too
11 broad. In the short term, these decisions cast a pall over the CLEC industry, making it more
12 difficult for these firms to make investment and marketing decisions. In the long term, since the
13 United States Supreme Court denied cert. on the USTA II decision regarding the TRO order
14 on Oct. 12, 2004, we may see a drastic reduction in UNE-based competition. CLECs that
15 have developed an entry strategy which relies heavily on rental of UNEs may go out of
16 business, or they may be forced to greatly curtail and modify their operations. The trade press
17 has reported that the FCC expects to issue revised rules by the end of the year. Depending
18 upon the content of these revised rules, much of the competitive activity that is currently
19 observed, based upon rental of UNEs, may disappear. While this may result in more facilities-
20 based competition, the latter form of competition is clearly more difficult and time consuming to
21 achieve; thus the overall level of CLEC market penetration may decline below current levels,
22 and it may remain at relatively low levels for many years into the future.

Q. What could happen if CLECs can no longer rely on UNE-P, provided at cost-based, regulated prices?

A. One executive of a major CLEC predicts that competition

> would quickly atrophy, and in some areas would largely disappear. As I stated earlier, Sage, and many other competitive carriers choose to use UNE-P to provide service because UNE-P provides levels of service that are at parity with ILEC retail services and since it is not cost effective, economically justifiable, nor practical for a new competitive carrier to replicate the network built by a regulated monopoly. [Direct Testimony of Robert McCausland, MPSC Case No. U-13796, December 19, 2003, p. 23]

Mr. McCausland goes on to say:

> Many CLECs clearly do not have available, and would not be able to readily secure, the financial and technical resources necessary to purchase and install their own switches. Without switches, and without ULS provided under existing rules, such CLECs would be unable to offer widescale basic local exchange service in Michigan and would likely be forced to abandon markets and customers within those markets. And, of course, any forced migration off of UNEs provided under existing rules would impact, and likely harm, existing CLEC customers. [Id., p. 23-24]

While there is no way to know if these predictions will come true, the Commission should at least be aware of the fact that the picture of competition it is currently seeing in the state may shift significantly in the near future. In particular, there is no assurance that competition will be sustained at current levels in markets where a large fraction of the existing competition relies on UNE-P and resale.

1 **Q. What about facilities-based competition? Are there additional barriers to this type of**
2 **entry?**
3 A. Absolutely. In fact, the high barriers to facilities-based entry were the primary motivation for
4 requiring rental of UNEs. In the case of pure facilities-based carriers, the most prominent
5 barriers to entry are the enormous cost of installing new facilities and the fact that these costs
6 are largely irrevocable. In other words, once dollars have been sunk into network facilities, a
7 carrier cannot readily move its investment to another market if it encounters difficulty attracting
8 customers, or its initial business plan does not prove to be financially viable. In contrast,
9 investments in manufacturing facilities are often fungible, so that upon exiting a particular market,
10 the firm can often redeploy its capital in another market by reconfiguring its factory to produce
11 an entirely different product.
12 For this reason, as well as the existence of an entrenched ILEC with a ubiquitous
13 system and deep pockets, knowledgeable firms are rarely willing to undertake the enormous
14 cost of building a competing network. The high cost of installing new facilities is compounded
15 by the fact that new carriers face considerable uncertainty about how quickly they will be able
16 to obtain customers, whether they will be able to obtain a substantial share of the market, and
17 whether they will ever achieve adequate economies of scale. Hence, the adventuresome firms
18 that have attempted pure facilities-based entry have typically started off by installing facilities
19 that are limited in scope and largely confined to serving customers in a concentrated geographic
20 area. This reduces the scale of their investment and allows a more focused business plan.
21 However, it also increases risks, since the carrier will be dependent upon a less predictable
22 income stream than if it were serving hundreds of thousands of smaller customers. Moreover, a

carrier following this entry strategy will face a higher level of marketing and sales costs, or it will be forced to rely upon the incumbent (through UNEs or resale) in order to serve the remainder of the metropolitan area.

Q. To the extent that facilities-based CLECs do not currently have enough capacity to be entirely self-sufficient, is there reason to be optimistic they will be able to install enough capacity to serve an ever-growing share of the market in the future?

A. No. To the contrary, there is reason to be concerned that recent growth trends will not be sustainable. In recent years, investors have sunk billions of dollars into competitive carriers attempting to enter both the local and long distance segments of the industry. Carriers used these funds to build thousands of miles of fiber optic networks. This excess capacity will undoubtedly serve to reduce the market power of long distance industry participants, but relatively little of this capacity has been installed directly to individual end user homes and offices. Hence, in the context of this proceeding the main relevance of this excess fiber capacity will be its chilling effect on further investments. Investors will be discouraged from installing more fiber in local markets for fear of again making the mistake of building too much capacity and not being able to generate enough revenue to justify their investment.

The International Herald Tribune recently ran an article regarding Global Crossing's bankruptcy, which provides some insight into this problem. The author states:

> Caught in the industry's downward spiral, Global Crossing creditors and executives are finding that the longer they delay making a deal, the lower the bids get. ... A flagging industry, in even worse shape after the

> bankruptcy filing last month of WorldCom, Inc., has put too many assets on the market. Troubled businesses, originally hurt by too much capacity and too little demand, now are faced with selling their portions of that glut at fire-sale prices. [*2 Ex-Suitors Return as Top Contenders for Global Crossing*, International Herald Tribune, August 7, 2002]

Others write:

> From the mid-1990s until early 2000, the financial markets handed capital to seemingly anyone with a telecommunications plan. The excitement bloomed from technological advances as well as the federal government's efforts to loosen regulation and invite new players into the markets. A dozen networks were built to carry long-distance telephone and Internet data from city to city. Cable companies began upgrading their wires to carry phone and high-speed Internet links. Six national mobile phone companies were launched and dozens more were set up to serve niche markets.
>
> The relentless construction of networks would have been enough to fell much of the industry by itself. Then people in lab coats mastered new ways of getting even more calls and more Internet data to travel down one strand of fiber-optics cable. The engineering was breathtaking. From an investment standpoint, it was disastrous. There were already too many pipes. Now, the pipes were widening exponentially. Prices for service fell through the floor.
>
> From October 1998 to February of this year, the transmission capacity across the Atlantic expanded by a factor of 19. Meanwhile, the price of a leased transmission line dropped to $10,000 a year from $125,000, said Eli Noam, a professor of finance at Columbia University Business School. [*Telecommunications Sector May Find Past is its Future*, Washington Post, July 8, 2002]

Depending upon whether the new entrants are able to generate positive cash flows and profits, the trend towards increased competition may slow, or even be reversed, in the not too-distant future–particularly if firms run low on cash and they have difficulty in obtaining fresh cash infusions from Wall Street.

Q. Some CLECs have already installed substantial amounts of capacity. Does this fact alone ensure that Qwest's Arizona market share will continue to decline?

A. No, it does not. As carriers such as Qwest and Global Crossing have learned, fiber capacity alone is not enough to assure continued revenue growth. Often, the most daunting task is to attract paying customers in order to fill their newly-built networks with profitable, revenue-generating traffic. Dominant carriers have a huge advantage in this regard. Even the largest of the competitive carriers (e.g., WorldCom) have struggled to gain enough traffic to fill their networks. When enormous network infrastructure investments are juxtaposed against relatively small market shares and limited revenue streams, the question of long term financial viability becomes critically important.

Contrary to the standard definition of a "contestable market," new carriers cannot readily exit most telecommunications markets without incurring enormous financial losses. Economic theory demonstrates that to the extent there are barriers to exiting an industry which are known in advance of entry, these barriers are effectively also a barrier to entry. In other words, the fear of losing their capital investment may prevent firms from investing in the first place. Because facilities-based carriers face enormous sunk costs, they are confronting very substantial barriers to entry. Once fiber is placed in the ground, it can only be used to provide

service along that particular route. If the carrier cannot generate enough revenues to recoup its investment, the CLEC cannot simply rip it up and move it to another location.

The recent Global Crossing experience has vividly demonstrated the near-impossibility of freely exiting a network-based industry. The Global Crossings situation, and other telecommunications bankruptcies in which brand new, state of the art assets were sold for cents on the dollar, vividly demonstrates the enormity of these capital-related barriers to entry. Building an alternative local network has always been a risky proposition for potential entrants, and after the recent problems, few investors are going to be willing to take on these risks.

In the current regulatory environment, the risks associated with a retail-only or UNE-P configuration are relatively modest. The required investments are smaller, and fewer costs are sunk. At least some of the investment is fungible or reusable in other markets, including investments in computers, desks, chairs, and the like. However, as I explained earlier, regulatory changes at the federal level may cause UNE entry to be more difficult and more risky. Even in the absence of adverse regulatory developments, UNE competitors are constrained by the technical characteristics of the incumbent's network, they face ongoing uncertainty concerning their cost structure and profit margins, and they cannot easily differentiate their offerings from those of either the incumbent or other competitors that rely upon the same facilities.

Q. You have identified multiple barriers to entry. You are not suggesting these constitute an absolute prohibition against competitive entry, are you?

A. No. The Commission needs to keep in mind the important distinction between absolute and

partial barriers to entry. Partial barriers are not as extreme as absolute barriers, but they can still be effective in protecting a dominant firm's ability to charge rates that are well above its costs, and in slowing the erosion of its market power.

A dominant firm can enjoy many advantages that enable it to charge higher prices and earn much higher profits than its competitors. Other firms may be attracted to the market, and some may successfully enter, but that does not mean they will place much downward pressure on the incumbent's prices. Because they lack the advantages enjoyed by the dominant firm, their earnings may be much lower, and they may not benefit from economies of scale and scope to the same extent as the dominant firm. The larger firm may continue to enjoy a substantial degree of market power, because it benefits from a more favorable cost structure due to greater economies of scale and scope. While smaller competitors may survive, they may not grow beyond a certain point, and they may not be capable of exerting much competitive pressure on the dominant firm.

Q. Could you explain why, after so many decades of monopoly regulation, the industry is shifting towards competition?

A. A common goal among all efforts to open telecommunication markets has been to solve the problems inherent in traditional regulation. As I discussed in section two of my testimony, these problems include a lack of incentives for cost minimization and efficiency; incentives to increase rate base through "gold plating", and the costs of regulation. In an attempt to overcome these problems, policy makers have increasingly relied on a mixture of competition and regulation.

Q. So, policy makers are not simply choosing between two options: regulation on the one hand, or free markets on the other?

A. Absolutely not. For instance, while Congress attempted to break down barriers to competitive entry, it simultaneously expanded the role of both state and federal regulators. Similarly, state legislators and regulators have been experimenting with alternative forms of regulation. These experiments have been partly a response to the trend towards increased competition, partly an effort to stimulate more effective competition, and partly an effort to solve inherent weaknesses and problems with traditional rate of return regulation.

Qwest Position and Support

Q. What is Qwest's position regarding the move towards competition in Arizona?

A. Qwest witness Teitzel notes that the Commission has established a mechanism to be used in responding to Competition in Arizona.

> Section R14-2-1108 of the Commission Rules specifies the procedures to be followed if a telecommunications company or the Commission believes a service should be classified as competitive. Petitioning parties are required to submit documentation in support of their contention that the service should be classified as competitive, including the number of alternative providers of the service, identification of the alternative providers, information on the ability of alternative providers to furnish substitutable services at competitive rates, terms, and conditions, and other indicators of market power. If the Commission finds that a service is competitive, the rules provide for streamlined regulation of that service. [Teitzel Direct, p. 70]

However, he then says that

> the existing service-specific approach to pricing flexibility, while helpful in the past, is inconsistent with today's competitive environment. A reasonable solution is to establish competitive zones which will provide Qwest pricing flexibility in specific markets to enable it to compete on a more equal basis with competitors operating within those same limited geographic areas. I also recommend that the Commission classify new services as "competitive" upon introduction and allow Qwest to promote its products and services with as much flexibility as its competitors enjoy [Id., p. 72-73].

Q. Can you summarize Qwest's Competitive Zones proposal?

A. Yes. Qwest is proposing that the Commission,

> in recognition of the increasingly competitive telecommunications environment, classify specific wire centers, and geographic subsets within wire centers when appropriate, as "competitive zones."... [Id., p. 73]

Mr. Teitzel goes on to define a competitive zone as

> any wire center or geographic area in which customers receive communications services from at least one other provider that provisions service through the use of unbundled network elements, resale, or a provider's own facilities, including cable telephony [Id., p. 74].

Q. How many wire centers is Qwest proposing be classified as "Competitive zones"?

A. Qwest is proposing that each of the wire centers in the Phoenix and Tucson MSAs be classified as competitive zones. There are 63 Qwest wire centers in the Phoenix MSA and 19 in the

Tucson MSA for a total of 82 wire centers. In justification for these sweeping proposals, Mr. Teitzel provides an Exhibit [DLT-17] which demonstrates that

> in each of the proposed competitive zones, at least one competitor provisions service through the use of Qwest wholesale services including unbundled network elements, resale, unbundled loops, and Local Interconnection Service ("LIS") trunks used to provide service over a provider's own facilities, such as in the case of cable telephony [Id., p. 78-79].

Q. Finally, what does Qwest say about the areas outside of Phoenix and Tucson?

A. Qwest admits that

> at the present, local competition is generally not as significant in other areas of the state; therefore, existing contracting capability affords Qwest the flexibility it needs to respond with unique, customer-specific pricing proposals in these other areas, at least with respect to larger business customers. However, as competition develops in other areas of the state, establishment of additional competitive zones will be appropriate. In fact, the availability of Arizona Universal Service fund support to any Eligible Telecommunications Carrier (ETC), as discussed in Section II of my testimony, will likely encourage competitive service providers to enter areas that are typically more costly to serve than the metropolitan areas of the state. [Id., p. 79]

Q. What else does Qwest propose in light of this new competitive era?

A. Qwest is also proposing

> that a streamlined process be adopted whereby all new services will automatically be classified as "competitive" upon introduction. Maximum rates will be established at that time [Id., p. 80].

Q. What evidence has Qwest provided quantifying the extent to which it is facing increased competition?

A. Reductions in market share are the primary quantitative method used by economists to judge the extent to which competition has increased in a particular market. Qwest has not provided any evidence concerning the extent to which it has lost market share in any Arizona markets.

In his direct testimony, Mr. Teitzel focuses on Qwest line losses instead arguing that

> in February 2004, 35% of Qwest residential line losses within the 14-state Qwest region were in Arizona. The Phoenix and Tucson MSAs rank #1 and #3 in terms of competitive consumer line losses in the 14-state Qwest region....Forty-six of the top 50 wire centers in the Qwest region ranked by competitive loss fall within Arizona [Teitzel Direct, p. 3].

Teitzel then points out that the number of interconnection agreements has almost doubled since the adoption of the Price Cap Plan.

> In December, 2000, 65 interconnection agreements were in effect between Qwest and Arizona CLECs. As of February 2004, the Commission had approved 118 interconnection agreements, and another five were awaiting approval [Teitzel Direct, p. 4].

Mr. Teitzel also provides wholesale provisioning data which purports to show that CLECs are

> repositioning away from simple resale of Qwest's retail products toward a strong focus on Unbundled Network Element (UNE)-based competition and a significantly greater reliance on serving local customers via CLEC-owned switches and unbundled loops to deliver competitive local exchange services [Teitzel Direct, p. 4-5].

Mr. Teitzel also cites specific line losses of over 19% of total retail lines, more than 16% of primary residential lines, and 33% of additional residential lines [Teitzel Direct, p. 5-6].

Q. Has Qwest provided any additional information that sheds light on the status of competition in Arizona?

A. Yes. Mr. Teitzel mentions specific competitors such as Cox, AT&T, and MCI which are now

> providing service to both residential and business customers in Phoenix and Tucson over their own facilities or through the purchase of unbundled network elements from Qwest. Competitors are bundling local and long distance services into single packaged offerings [Teitzel Direct, p. 7].

Moreover, Teitzel regards Cox as

> clearly one of Qwest's most significant competitors in the Arizona local exchange market. According to Cox, 200,000 Tucson and Green Valley households will be able to obtain Cable, Internet, Local Phone Service and Long Distance Service combined on one bill. Three years ago, Cox was just entering the Phoenix telecommunications market and was serving primarily business customers. [Teitzel Direct, p. 7-8].

Q. How are competitors targeting customers in Arizona?

A. According to Mr. Teitzel, Qwest is facing

> significant competitive pressure in Arizona from facilities-based providers who target densely concentrated, high revenue residence and business customers. Facilities-based competitors such as Cox are

> targeting large housing developments, offering packages of services, including cable telephony, features, high speed Internet, and video as an alternative to Qwest wireline service...In addition to competitive providers utilizing their own switches and loop facilities to deliver local exchange services, Qwest is also facing significant competition from competitors who purchase local wholesale connections from Qwest to deliver service with an emphasis on selling bundles rather than only basic local service. Resale, wireless, and new technologies such as VoIP are other forms of competition now being used to provide consumers with alternatives to Qwest's local exchange service [Teitzel Direct, p. 9].

Q. Qwest argues that wireless carriers provide consumers with "a clear alternative to Qwest wireline service for residential customers and smaller businesses." Do you consider wireless to be a direct substitute for Qwest wireline service?

A. No. Because of important functional differences, the vast majority of consumers do <u>not</u> substitute wireless for wireline service or vice versa. For many customers, these services more closely meet the definition of complementary goods, rather than substitutes. Most people purchase both services, using their mobile phone in situations where it will function best and their conventional phone where it will function best. The very fact that so many people keep both phones (even if it requires them to double their expenditure on phone service) tends to prove that these services should not primarily be viewed as competitive alternatives. While some people can afford, and are willing to pay for, both a pickup truck and a car, very few people own two cars that are functionally identical. When someone owns two different vehicles, they tend to be functionally different (e.g., a family sedan and a convertible sports car, or a car and a pickup truck).

Q. Has Qwest provided any evidence of substitutability of wireless for wireline service?

A. No. Qwest only provides evidence that the number of wireless subscribers in Arizona exceeds the number of Qwest retail lines in the state

> According to the FCC's Trends in Telephone Service report, released May 6, 2004, there were 2,643,952 wireless subscribers in Arizona as of June 2003, a 10% increase from June 2002. To put this in perspective, Qwest had 2,554,856 retail access lines in service in Arizona as of June 2003 [Teitzel Direct, p. 58].

Qwest provides no quantitative evidence that significant numbers of wireless customers disconnect their wireline service upon subscription to a wireless service. Unlike satellite and cable television services, the available evidence concerning consumer substitution patterns strongly suggests that wireless and wireline services are not close substitutes. From this evidence, it is reasonable to infer that wireless and wireline services are not close competitive substitutes, because they are not functionally equivalent from the perspective of most consumers. If the two services were functionally equivalent, they would tend to be redundant and thus most people would decide it is a waste of money to pay for both at the same time.

While a limited degree of substitution occurs in practice, these services are primarily complementary to each other. Some consumers stop purchasing Qwest's service when they obtain a mobile phone, but even these consumers do not necessarily consider these services to be "close substitutes." In the more typical situation, consumers will continue to use their wireline telephone after they get a mobile phone. In fact, their total volume of calling may increase, and there will be calls from their wireline phone to their mobile phone and vice versa. For instance,

they may start calling their spouse at home during their afternoon commute–calls that did not occur before they obtained wireless service. When shopping for groceries they can call home to find out whether they need to buy more of a certain item (or to obtain their spouse's opinion concerning which brand to buy). Rather than reducing the benefit of having a wireline phone at home, their mobile phone will serve a complementary function, increasing the value of that phone.

RUCO Position and Support

Q. The Company claims that dozens of carriers are now competing with Qwest in Arizona. How substantial is the competition?

A. If one judges by the number of announced *competitors*, it may seem substantial. However, if one judges by the extent to which these firms have actually entered the market and are actually persuading customers to try new carriers, the situation looks far different.

The sheer number of announced competitors by itself reveals very little at this early juncture. A lone whale doesn't get much competition from a school of minnows. Depending upon how many actual *customers* these firms have obtained, the level of revenues they are generating, and the extent to which these customers are profitable to serve (and thus the competitors are likely to remain viable) one can reach vastly different conclusions about the actual status of a market.

Consider, for example, how the situation would differ if new entrants are forced to sell their services below cost in order to overcome customer inertia, or to overcome customers'

perception that Qwest's offerings are the "safest" and most reliable choice. Under these circumstances, the economic barriers to entry may remain quite high, despite the nominal presence of a large number of entrants. The telling detail would be the extent to which the new firms have gained market share, and are likely to soon grow large enough to truly challenge Qwest's dominant position in the market.

In judging the extent to which barriers to entry have declined, the market share of the combined competitors – and the distribution of that market share in various geographic submarkets – can reveal much about the true state of the market.

Q. What is Qwest's current market share in Arizona?

A. Nowhere in its prefiled case does the Company supply any evidence concerning this vital indicator of competitive conditions. However, internal data supplied by the Company in response to discovery confirm the obvious–the Company continues to enjoy quasi-monopoly status in most markets. The most recent data I have seen indicates that, as of May 2004, the Company's overall statewide market share was *****Proprietary Proprietary***** This provides an indication of the overall extent of competition in the state. This percentage was developed using a definition of "competition" which excludes wireless carriers since many customers consider wireless service to be complementary to traditional wireline service, rather than considering it to be a substitute or competitive alternative. To the extent some customers exclusively rely on a wireless phone in lieu of a wireline phone, these calculations arguably understate the intensity of competition. By including resale competition in this estimate, there is a tendency to overstate the intensity of competition. Resale competitors continue to provide

substantial wholesale revenues to Qwest, and they are limited in the extent to which they can place downward pricing pressures on the Company (since their costs are a direct function of Qwest's retail prices).

Q. Qwest wants to initially classify as competitive 82 wire centers in the Phoenix and Tucson MSAs. Has the Company provided its market share in these particular locations?

A. No. Qwest apparently does not separately track market share for each wire center, nor has the Company provided any estimates of its overall market share in the group of wire centers it wants to classify as "competitive." While the Company has provided some limited information about competitive activity in these locations, the information provided isn't necessarily sufficient to conclude that competitive pressures are significantly greater in these wire centers than in other parts of the state, much less that competitive pressures have increased to the point where increased pricing flexibility is justified.

For instance, discovery responses provided by Qwest in this proceeding indicate that the Company has ***Proprietary Proprietary*** residence access lines in the 82 wire centers that the Company proposes to immediately classify as competitive. This represents approximately ***Proprietary Proprietary*** of Qwest's total residential access lines. In contrast, competitive resellers are using ***Proprietary Proprietary*** of the Company's residential lines in these 82 wire centers, as of May 31, 2004. This represents approximately ***Proprietary Proprietary*** of the ***Proprietary Proprietary*** such lines being resold statewide. While the level of resale competition is

slightly higher in these wire centers, it certainly couldn't be considered significantly more intense than the level of resale competition in other parts of the state.

Q. Have you attempted to develop an estimate of Qwest's current residential market share in the wire centers it wishes to immediately declare to be "competition zones"?

A. Yes. I have used information provided by Qwest through the discovery process, to estimate the Company's market share in the wire centers it wants to immediately convert to competitive zones. After considering these statistics, I estimate that competitors were providing service to perhaps ***Proprietary Proprietary*** residential lines in these 82 wire centers, as of May 2004. The data suggests that more than eight years after passage of the 1996 Telecom Act, the trend towards increased competition is still in its infancy. These estimates suggest that Qwest continues to overwhelmingly dominate the picture, with a residential market share of ***Proprietary Proprietary*** in the wire centers where it claims competitive pressures are the most intense.

Q. Have you reviewed any other data that can be useful in providing an overview of market conditions in Qwest's service territory?

A. Yes. I have reviewed the FCC's latest Local Competition Report (LCR) and later in my testimony I will revisit the market share data obtained through discovery.

Q. What does the FCC LCR indicate concerning the overall level of competition in Arizona?

A. According to the FCC LCR, the overall CLEC market share in Arizona was 21.8% as of December 2003. [Table 6, FCC LCR] This is more than quadruple the CLEC market share of 5% reported by the FCC in 1999 [Table 7, FCC LCR]. This recent surge in CLEC market presence is consistent with the recent trend nationally; the nationwide CLEC market share also quadrupled from 1999 to 2003 (from 4% to 16%).

Q. Why do the FCC LCR figures differ from Qwest's estimates?

A. One reason for the discrepancy (***Proprietary Proprietary*** Qwest data vs. 21.8% from the FCC LCR) is that the FCC figures are statewide averages and not confined to a single ILEC's territory. Since most CLECs have expanded into RBOC markets more aggressively than into areas served by other incumbents, one would expect the statewide FCC LCR market data to differ from the corresponding data for these other carriers (e.g., areas historically served by RBOCs like Qwest). Another reason for the difference is the FCC data captures market shares as of December 2003, while the Qwest estimates reflect more recent conditions (i.e., May, 2004). As well, the FCC's estimates only include carriers with at least 10,000 lines in a state. [See FCC LCR Table 6 footnote.] While this has the potential for understating both ILEC and CLEC data, the discrepancy would be largest when comparing with data for a large ILEC like Qwest.

> Total numbers reported by incumbent local exchange carriers (ILECs) filing FCC Form 477 may be slightly understated because smaller carriers are not required to report data. However, as the reporting ILECs account for about 98% of all ILEC lines, the understatement should not be large. (All ILECs, whether or not they normally report to the FCC, provide data on the number of telephone lines served to the National Exchange Carrier Association for use in conjunction with the Commission's universal service mechanism.) We are less certain about the extent to which comparable lines as reported by CLECs are understated as a result of the state-specific reporting threshold, but we expect such understatement to be larger, on a percentage basis, than for ILECs. [FCC LCR, p. 1, footnote 3]

Needless to say, Arizona is not unique in this regard–small carrier data are excluded from all states in the FCC LCR. Table 1 below shows how Arizona compares to the other Qwest states and the nationwide totals, as of December 2003. These data suggest that competition in Arizona is somewhat more intense than, competition in other Qwest states.

Table 5
End-User Switched Access Lines
in States Served by Qwest
(As of December 31, 2003 per FCC LCR)

State	ILECs	CLECs	Total	CLEC Share
Arizona	**2,541,931**	**707,477**	**3,249,408**	**22%**
Colorado	2,496,330	505,777	3,002,107	17%
Idaho	678,088	46,859	724,947	6%
Iowa	1,285,764	188,647	1,474,411	13%
Minnesota	2,453,860	581,239	3,035,099	19%
Montana	490,505	18,616	509,121	4%
Nebraska	736,105	199,498	935,603	21%
New Mexico	919,450	n/a	n/a	
North Dakota	275,457	25,039	300,496	8%
Oregon	1,813,627	249,701	2,063,328	12%
South Dakota	297,540	64,784	362,324	18%
Utah	993,796	241,454	1,235,250	20%
Washington	3,375,160	433,977	3,809,137	11%
Wyoming	238,045	n/a	n/a	
Total Qwest	18,595,658	3,263,068	20,701,231	16%
Total Qwest w/o AZ	15,815,682	2,555,591	17,451,823	15%
Nationwide	151,837,752	29,565,509	181,403,261	16%

Q. Does the FCC LCR provide any clues concerning the composition of the roughly 22% of statewide lines the CLECs are serving in Arizona?

A. Yes. Table 10 of the FCC LCR shows that 50% of the CLEC lines in Arizona are purely facilities-based (using loops that are self-provided) and 33% are UNE-based (including both UNE-P and UNE-L). The remaining 17% of CLEC lines are provided through resale of the ILEC's retail services; as noted earlier, this portion is relatively insignificant to the issues in this proceeding, since these CLECs are not in a position to place downward pricing pressure on Qwest. If the Commission allows the Company to increase its retail rates, this will automatically increase the wholesale costs incurred by these carriers, and therefore these firms will most likely increase their prices as well.

Q. How does this competitive mix compare to other states?

A. Table 6 below provides this comparison. With respect to facilities-based competition, Arizona represents over 30% of facilities based lines in Qwest's 14 state territory.

Table 6
CLEC-Reported End-User Switched Access Lines By State
(As of December 31, 2003 per FCC LCR)

State	CLEC-Owned (%)	UNEs (%)	Resold Lines (%)
Arizona	**50**	**33**	**17**
Colorado	32	44	24
Idaho	7	n/a	n/a
Iowa	20	72	8
Minnesota	29	50	21
Mississippi	4	68	28
Montana	77	n/a	n/a
Nebraska	65	21	14
North Dakota	26	69	5
Oregon	15	66	19
South Dakota	54	45	1
Utah	30	40	29
Washington	33	42	25
Wyoming	n/a	n/a	n/a
Total Qwest	35	44	20
Total w/o AZ	31	47	20
Nationwide	23	61	16

Q. Based on this data can you summarize the overall status of competition in Arizona?

A. Yes. The available empirical evidence indicates that Qwest continues to enjoy dominant

positions in many local markets, which are at least partially protected by substantial barriers to entry. Although competition has been increasing–particularly in business markets–Qwest continues to enjoy a very large share of the market (see Table 7 below).

Data provided during discovery shows that Qwest is experiencing substantial market share losses in Phoenix and Tucson, but it continues to dominate most Arizona local exchange markets. In some markets competitors have been quite successful in winning customers; in other cases, relatively few competitors have been attracted into the market, or they have not been very successful in winning a share of the market. Effective competition might already be present for some services in some Arizona wire centers, and it may be realized in other markets in the relatively near-term future. However, the prospects for intense competition in other areas seem to be little more than a possibility on the distant horizon.

Successful competitive entry is not easy anywhere; but in some locations entry barriers are higher than in other areas–and potential entrants have not made much of an effort to hurdle those daunting barriers.

Table 7
CLEC Market Share as of December 31, 2003
per Qwest data
*****Proprietary*****

	Total	**Business**	**Residential**
CLEC market share in Qwest's Area			

1 **Q. You have indicated that varying levels of competition exist across Qwest's serving**
2 **territory. Can you elaborate on this point?**
3 A. Yes. Most large ILEC service territories cover a very large geographic area which
4 encompasses a range of different market conditions. Even within the same local calling area or
5 local exchange there can be extreme differences between the operating and engineering
6 characteristics of wire centers in the downtown urban core and the characteristics of the
7 outlying wire centers. In turn, these differences can translate into substantial differences in the
8 costs and difficulties involved in serving customers in different wire centers.
9 The most obvious example of these differences concerns the unbundled UNE loop
10 rates; lower rates tend to apply to urban wire centers while higher rates apply to rural wire
11 centers. But differences in UNE loop rates are just the tip of the iceberg. There may be even
12 more dramatic percentage differences in non-loop costs when comparing the cost per line of
13 serving customers using a CLEC switch in urban and rural wire centers (e.g., due to differences
14 in available economies of scale with respect to inter-office transport facilities and collocation
15 facilities).
16 Similarly, the mix of high revenue customers and low revenue customers may differ
17 throughout a service territory. Hence, CLECs may confront entirely different conditions in
18 considering the potential for using their own switch to serve mass market customers in different
19 parts of a service territory. For instance, revenues from some services (e.g., custom calling)
20 may be lower in some small towns relative to some urban areas, due to differences in demand
21 characteristics and/or income levels. As well, marketing and sales costs can sometimes be
22 higher in small towns and rural areas. For instance, marketing options may be relatively limited,

and entrants may be forced to expend precious advertising dollars on television and media coverage areas that are far wider than the intended target market.

As a result of differences in the underlying characteristics of each geographic area and differences in the mix of customers that are present in each area, competitive pressures will vary widely within a single ILEC's service territory. In general, one would expect to see lower barriers to entry and more intense competitive pressures in downtown urban areas, with higher barriers to entry and weaker competitive activity in rural areas. Similarly, it is reasonable to anticipate that competitive carriers will focus, at least initially, on concentrations of customers that use large volumes of telecommunications services (sometimes referred to as "enterprise" customers).

Q. You have testified that CLECs tend to disproportionately focus on serving enterprise customers. Do you have any data that show more specifically where the enterprise customers are located within the Qwest service territory?

A. Yes. Publicly available access line count data demonstrate that a higher proportion of enterprise lines exists in the higher density wire centers. Although it is somewhat dated, public information concerning geo-specific line counts and line densities is available within the FCC's Synthesis or Hybrid Cost Proxy Model (HCPM), which the FCC uses to administer the federal Universal Service Fund (USF). This information can be downloaded from the FCC's website at http://www.fcc.gov/wcb/tapd/hcpm/. I used data from this model to estimate the extent to which enterprise customers are present in each of Qwest's wire centers in Arizona. For ease of use, I analyzed the data in the following manner: Single-line business lines were subtracted

from total business lines to develop an estimate of multiline business lines. Voice grade equivalent special access lines were then added to the latter number in order to develop an estimate of the total number of enterprise lines in each area. This estimate was divided by total lines (including voice grade equivalent special access lines), to develop the "enterprise ratio" or the relative proportion of enterprise lines present in each wire center. Table 8 shows the results of these calculations in summary format. As shown, enterprise lines tend to be most prevalent in wire centers that serve the more urbanized, higher density parts of the state.

Table 8
Ratio of Enterprise Lines by Varying Density

Wire Center Density (lines per square mile)		Enterprise Ratio
0	25	0.14
26	50	0.26
51	100	0.26
101	200	0.32
201	400	0.41
401	800	0.28
801	1600	0.39
1601	3200	0.42
Greater than	3200	0.60
Overall		0.44

Q. Are there other publicly available data that can also be used to demonstrate the existence of heterogeneity within Qwest's Arizona service territory?

A. Yes. Table 9 demonstrates the existence of substantial differences in monthly per line costs by wire center. Just as I used data from the FCC's universal service cost model to estimate the extent to which enterprise customers are present in each of Qwest's wire centers in Arizona, I used data from the same model to provide an indication of the potential for variation in the average monthly costs incurred by Qwest in serving customers in different wire centers.

While there are many different factors that can lead to cost differences, I have sorted FCC cost model data in accordance with line density, since this is one of the more obvious factors that contributes to these cost differences. While the cost figures do not capture all of the relevant costs incurred by CLECs that vary geographically, they do provide some confirmation of the potential for widely varying cost conditions within the state.

Table 9
FCC Model Monthly Per Line Costs
by Varying Density

Wire Center Density (lines per square mile)		Monthly Costs
0	25	$86.09
26	50	$46.63
51	100	$35.22
101	200	$27.70
201	400	$22.92
401	800	$21.69
801	1600	$19.31
1601	3200	$18.30
Greater than	3200	$16.44
Overall		$20.16

While I do not have specific data to offer regarding the internal costs incurred by CLECs, it is important to remember that there can be even more substantial differences in the per-line costs incurred by facilities-based CLECs, due to the impact of spreading the fixed cost of collocation and transport facilities over widely varying numbers of lines. Collocation costs that represent a small amount per line in a large urban wire center might represent a very large amount per line in a rural wire center. In general, in smaller wire centers, for a CLEC serving a small percentage of the market, the fixed costs of collocation and transport facilities can be too high for facilities-based entry to be a viable option.

Q. How do these cost differences relate to different levels of competition?

A. In general, one would expect that areas with low density and high per-line costs will see less competitive entry than areas with high density and low per-line costs. In the absence of a state USF which adequately alleviates the high costs of serving rural customers, there is relatively little potential for competition in the lower density, higher cost parts of the state.

In general, it is reasonable to anticipate that Qwest will continue to face the greatest competitive pressures in areas with the highest line density.

Q. Have you prepared any other analyses showing the extent to which local exchange markets in Arizona have moved away from monopoly towards effective competition?

A. Yes. For this purpose I relied upon two statistics – the four-firm concentration ratio and the Herfindahl-Hirschmann Index (HHI). In general, a market that exhibits a high four-firm concentration ratio will be more monopolized, and less competitive, compared to a market that exhibits a low ratio. If the top four firms control more than 70% of the market, it is unlikely that competition will be fully effective. Rather, the largest one or two firms will often dominate the industry, while smaller firms follow the leader(s). The extent to which market performance falls short of the competitive ideal will depend upon specific circumstances, including the presence or absence of barriers to entry and the distribution of market shares (which is not fully indicated by the four-firm concentration ratio).

The HHI also provides useful insight into market structure and market power. Economists use this statistic because it reflects the well-established fact that where industry sales are highly concentrated in a small number of firms, the largest firms tend to have market

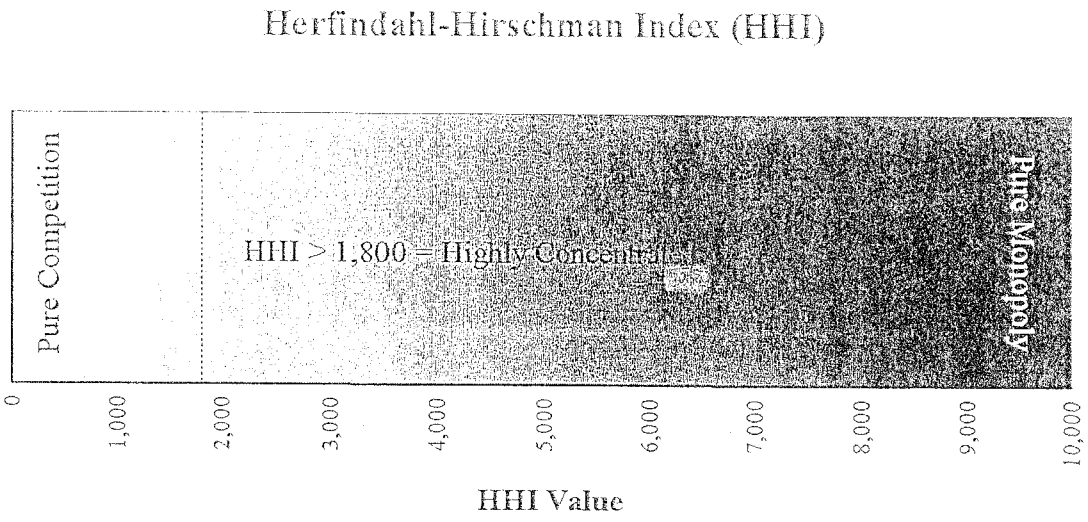
power, and market results tend to deviate greatly from the purely competitive benchmark.

Q. Can you elaborate on the rationale behind the HHI analysis?

A. Yes. The HHI has long been used by the Department of Justice (DOJ), the Federal Trade Commission (FTC), and others involved in analyzing antitrust and other market structure issues from a public policy perspective. For example, the Merger Guidelines adopted by DOJ specify that: 1) HHIs below 1,000 indicate that the market is "unconcentrated"; 2) HHIs between 1,000 and 1,800 indicate that the market is "moderately concentrated"; and 3) HHIs above 1,800 indicate the market is "highly concentrated," as indicated on illustrative Graph 3. [1997 Horizontal Merger Guidelines, §1.51] Where a high HHI is present, or a merger would significantly increase the HHI, DOJ is less likely to approve a proposed merger or acquisition.

To compute the HHI, the market share (expressed in percentage points) of each firm in the relevant market is squared and then totaled. Thus, if a single firm controls 100% of the market, the HHI is equal to 100 times 100, or 10,000. If 10 firms each have a market share of 10%, the HHI is 1,000. If the market contains thousands of very small firms, each with a minuscule market share, the HHI can potentially approach zero. Accordingly, potential HHI values range from 0 to 10,000, with a value near zero indicating pure competition and a value near 10,000 indicating a pure monopoly. While these values represent the extreme points, the HHI is best interpreted as a continuum, with varying levels of concentration being indicated by different numerical values along this continuum. Not only does the HHI provide a sound basis of judging where a market stands on the continuum from pure competition to pure monopoly, it is particularly useful because it captures in a single number the extent to which sales are

Graph 3



Graph 4

(See Exhibit 2)

concentrated in a small number of firms as well as the distribution of market shares across multiple firms.

Q. Have you prepared detailed market share and HHI calculations?

A. Yes. I have prepared a variety of different calculations, including estimated Total, Business, and Residential market shares, 4-firm concentration ratios, and HHIs for each Qwest Arizona wire center. The results are depicted on Schedules 4 and 5 attached to this testimony.

Q. What is the four-firm concentration ratio for Qwest's Arizona service territory?

A. Using data acquired through the discovery process, I estimate that the four-firm concentration ratio for Qwest's Arizona service territory as a whole exceeds 87%. As I stated earlier, a four-firm concentration ratio in excess of 70% suggests a market that, in all likelihood, falls well short of effective competition. Clearly, the Qwest service territory as a whole is not effectively competitive.

Q. Are any of the CLECs using their own facilities to compete with Qwest?

A. Yes. Table 7 above shows the overall CLEC market share is approximately ***Proprietary Proprietary***. As shown in Table 10 below, a majority of this competitive activity is from facilities-based carriers.

Table 10
Competitive Activity in
Qwest's Service Area
*****Proprietary*****

	CLEC Total Market Share	UNE-L/EEL	UNE-P	Resale	Facilities-Based
Entire Qwest Area					
Qwest Competitive Zones					

Q. Can you describe the process you used to estimate HHIs?

A. Yes. For the Total HHI I first calculated Qwest's retail switched access lines by wire center as of June 30, 2004 using data obtained through discovery (RUCO 02-027S1 HIGHLY CONFIDENTIAL ATTACHMENT A.xls column F).

Q. Did you make any adjustments to the Qwest data?

A. Yes. While reviewing RUCO 02-029S1 CONFIDENTIAL ATTACHMENT A.xls I learned that the switched access line counts include resold lines. I removed these lines to avoid double counting and to more accurately represent Qwest's market share in any given wire center.

Q. What data did you use to estimate CLEC lines in each wire center?

A. I asked Qwest to provide an estimate of competitive switched access lines by CLEC by Qwest

wire center. In response, Qwest provided Resale data as of May 31, 2004 by CLEC by wire center (Highly Conf AZ RUCO 02-035 Att A.xls). Qwest also provided UNE-L and EEL lines as of May 31, 2004 (Highly Conf AZ RUCO 02-033 Att A.xls), UNE-P lines as of May 31, 2004 (Highly Conf AZ RUCO 02-033 Att A.xls), and an estimate of Facilities Based lines as of December, 2003 (RUCO 02-38 Highly Confidential Attachment A.xls) by CLEC and by wire center.

Q. How did you use this data?

A. The Resale, UNE, and Facilities Based line count data were combined and analyzed for each Qwest wire center. The line counts for Qwest and the individual CLECs were summed across each wire center to arrive at an estimate of total retail lines available to end users in each Qwest wire center.

Q. You mention the facilities based lines provided by Qwest were estimated. Can you please elaborate?

A. Yes. The facilities based line counts I have included in this analysis were estimated by Qwest. As Qwest explains in their discovery response

> only the CLECs, not Qwest, know precisely the number of local exchange access lines being served via CLEC-owned loop facilities... However, Qwest can estimate the number of CLEC-owned loop facilities based on Local Interconnection Service (LIS) trunk quantities identified in Confidential Exhibit DLT-17 to Mr. Teitzel's direct testimony. [Qwest Supplemental Response 07/30/04, RUCO 02-038S1].

Qwest assumes that each LIS trunk supports approximately 2.75 local access lines and further explains the estimating procedure by noting that

> LIS trunks are utilized by CLECs to exchange end user calling traffic between CLEC switches and ILEC switches. The end users in this instance may be served either by CLECs using CLEC-owned loops or by CLECs using UNE loops purchased from the ILEC. To estimate the number of CLEC owned in each Qwest Arizona wire center, the number of LIS trunks is multiplied by 2.75, then the number of UNE loops being used by CLECs in those wire centers can be subtracted from that number. The remainder can be used as an estimate of CLEC owned loops [Qwest Supplemental Response 07/30/04, RUCO 02-038S1].

Q. What is the HHI for Qwest's local exchange market in Arizona?

A. Based upon the Qwest market share data, I estimate that the overall HHI in the area served by Qwest in Arizona is ***Proprietary Proprietary***. Graph 4 shows where this estimated HHI level falls along the overall continuum from pure competition to pure monopoly. As shown, the HHI in the average Qwest exchange remains relatively close to near-monopoly levels, suggesting these markets are still highly concentrated. While the overall picture remains relatively close to quasi-monopoly conditions, the picture is not the same throughout the state, nor is it the same in residential and business markets.

Q. Did you estimate residential and business specific HHIs for each Qwest wire center?

A. Yes. I used Qwest residential and business listing data to estimate CLEC residential and business lines in each Qwest wire center. Qwest provided these data in HIGHLY CONF AZ

STF 3.20 ATT B.xls. Specifically, I calculated the Qwest ratio of residential lines per residential listing and business lines per business listing. This allowed me to estimate CLEC residential and business facilities based lines by CLEC by wire center from the CLEC listing data.

Differences exist between the business and residential markets, although both remain highly concentrated. For the average exchange in Qwest's Arizona service territory, based upon public data, I estimate that the Business HHI is ***Proprietary Proprietary*** while the Residential HHI is ***Proprietary Proprietary***.

Q. What do these analyses demonstrate?

A. Since I relied on Qwest's estimates concerning facilities based carriers, it is impossible to be perfectly precise in these calculations. Still, they are sufficient to provide a sense of current market conditions, and the degree to which competition is more heavily concentrated in certain markets. While conditions have dropped below pure-monopoly levels, most wire centers remain well above the 1,800 benchmark which the DOJ and FTC use as a guideline in evaluating highly concentrated markets.

If a similar analysis had been performed 8 years ago, the calculated local exchange HHI would have been close to 10,000 for both residential and business. Competitive pressures have clearly increased since adoption of the 1996 Telecom Act, but the increase has not been as rapid, or as substantial, as many observers were anticipating at that time, given the sweeping changes portended by the 1996 Telecom Act. The data suggest that nearly 9 years after adoption of the 1996 Telecom Act, relatively low levels of competitive penetration have

occurred in many markets. Within some rural areas Qwest continues to enjoy near-monopoly levels of market dominance, whereas in some urban business markets the HHI is approaching the 1,800 benchmark used by the DOJ and FTC. In fact, the estimated business HHI in the Phoenix Main wire center is below 1,800.

The relatively slow rate of decline in concentration, combined with the striking lack of entry efforts by most of the strongest, best qualified firms (e.g., the failure of other ILECs like BellSouth or SBC to aggressively enter Qwest's territory) strongly suggests the continued existence of substantial barriers to entry, particularly in the less urbanized parts of the state. These barriers are discouraging entry and delaying the transition to effective competition. There is still reason to be optimistic that the trend towards more intense competition will continue, and perhaps accelerate. If so, competition will eventually become a more complete and effective alternative to regulation. However, it is too early to predict when this will occur or to reach any definitive conclusions about whether competitive carriers will ever be able to exert enough downward pricing pressure to eliminate the need for strong, effective regulation in some markets.

Q. Can you again place these HHI statistics in context with the Merger Guidelines?

A. Recall that an HHI near zero indicates a market that is purely competitive and an HHI near 10,000 indicates a market that is purely monopolistic. Qwest's competitors face substantial barriers to entry and exit, and they cannot serve additional customers without incurring substantial additional costs. Thus, there is no basis for assuming they can stop Qwest from exercising its market power.

To the contrary, there is good reason to assume that the Company still has considerable market power within most of its Arizona service territory, as indicated by the fact that the Company still serves more than ***Proprietary Proprietary*** of the market in its service area.

Q. Would you please briefly state your conclusions regarding the Company's competition arguments?

A. In evaluating the extent to which barriers to entry have diminished in the Arizona market and whether that market has moved toward effective competition, the telling evidence is the extent to which the new firms have actually attempted to enter various markets, and have been successful in gaining a substantial share of the market. I have presented a host of data that demonstrate that CLECs nationally, and in Arizona, have had only limited success in gaining market share from the respective incumbent provider. Overall CLEC market share in Arizona remains relatively low in many areas. The HHI in most Qwest exchanges in Arizona is far above the 1,800 standard that traditionally defines a market that is "highly concentrated." And none of the RBOCs have made any substantial effort to enter into any Arizona local exchange markets.

Q. What is your overall impression of the status of competition in Arizona local exchange markets?

A. The 82 wire centers identified by the Company have seen more competitive activity than some other parts of the state, but even in these areas, the trend towards increased competition is at a

very early stage. I expect competitors will continue to refine their business plans, and will increasingly gain credibility with customers. Over time, they can be expected to provide an increasingly more significant competitive challenge to Qwest. However, even the most generous interpretation of the market data suggests that competitive entry is not an easy process, and it will be quite a while before Qwest no longer dominates the market in most parts of the state.

If the existing system of regulation were truly hamstringing Qwest's ability to respond to competitive pressures, if barriers to entry had truly declined by as much as the Company implies, and if asymmetrical regulation were truly placing the company at a severe disadvantage (e.g., because the Company can't cut prices in response to competitors), the competitors' market share would be much larger, and the Company's share of the market would be declining much more rapidly than it actually has. Further, in such an environment, I would not expect that Qwest would pursue policies that would result in increased rates and, as a result, even greater market share losses. Such policies would exacerbate the Company's competitive disadvantage in the market. Instead, I would expect the Company to enact rate reductions in order to respond to increasing competitive pressures, rather than pursue pricing flexibility that it could then use to increase rates. Aside from TSLRIC price floors, nothing about the existing system of regulation prevents Qwest from pursing policies that would result in lower rates for consumers and a more effectively competitive Company.

While the data supplied by the Company has limitations and ambiguities which make it difficult to fully evaluate market conditions, it is more than sufficient to confirm the obvious: it is not yet time to being thinking about deregulating the Company, or providing it with the type of

extreme pricing flexibility that it seeks in this proceeding. Qwest continues to enjoy a dominant share of most Arizona telecommunications market, and its competitors are far too small to provide an adequate substitute for continued regulatory oversight by the Commission.

Q. Would you please elaborate upon why the current market share data argues against giving Qwest all of the pricing flexibility it seeks?

A. Yes. An effectively competitive market cannot emerge until barriers to entry have been lowered and customers perceive the competitive offerings as adequate substitutes for the services provided by the dominant carrier. The extent to which barriers to entry persist, and the extent to which customers accept the competitive offerings as viable substitutes for those of Qwest is shown by, *inter alia*, by the way they behave in the marketplace. Until customers actually change carriers, and are satisfied with the service provided by the new entrants, there is no empirical basis for assuming that the market has successfully completed the transition from monopoly conditions to effective competition.

Legal barriers to entry were largely eliminated with passage of the 1996 Federal Act, and many economic and technical barriers to entry are being reduced over time. However, this does not mean that the remaining barriers to entry are insignificant. To the contrary: the 1996 Federal Act is now more than eight years old, yet the transition to effective competition is still at a relatively early stage. This is confirmed by many indicators, including the fact that very few customers have ever seriously contemplated changing their local carrier, and the fact that the total number of competitive local exchange carriers operating in Arizona is much lower than the analogous number of competitive long distance providers.

1 Even more tellingly, local competitors have not yet enjoyed much success in actually
2 penetrating the local exchange market, developing a market presence, gaining customers, or
3 building revenues. Despite all the rhetoric and impressive sounding announcements, the actual
4 level of market penetration is very modest, as indicated by the Company's market share.
5 The mere fact that a certain number of "warm bodies" have shown up and announced
6 their intention to offer local telephone service is not indicative of the extent to which meaningful
7 "entry" is actually occurring or the extent to which customers are willing to accept these firms'
8 offerings as viable substitutes for those of their existing carrier. It is one thing to claim that a
9 market is potentially "contestable"; it is another (and far more significant) thing to show that
10 barriers to entry have largely or entirely been eliminated, or to show that the market is in fact
11 being successfully contested.
12 Government price regulation has historically been imposed on firms like Qwest as a
13 substitute for effective competition. In fact, one of the key economic principles underlying
14 traditional rate of return regulation was the premise that regulation should attempt to simulate
15 the results of effective competition. The mere presence of new entrants is not sufficient to justify
16 eliminating the protections afforded by regulation. Regulation should be relaxed, or withdrawn,
17 as competitive conditions intensify to the point where customers no longer need the protections
18 it affords. Stated differently, as market conditions evolve, providing customers with more and
19 more of the benefits of effective competition, (including protection from price gouging), the role
20 of regulation should evolve and diminish. But, regulatory protections should not be removed
21 prematurely.
22

V. Response to Qwest Proposals and Recommendations for Action

A. Baskets and Competition

Q. In section one of your testimony, you outlined how services are assigned to baskets under the current Plan and how they would be assigned to baskets under Qwest's proposed Plan. What is RUCO recommending with respect to baskets?

A. RUCO recommends adopting a series of changes to Qwest's current Plan, including a few aspects of its proposed Plan, as well as some new concepts.

Under the current Plan, services are assigned to one of three baskets based upon their individual characteristics. For example, the Wholesale Services basket contains just what the name implies – wholesale services including

> Intrastate Carrier Switched Access, Discounted Wholesale Offerings, Unbundled Network Element (UNE) Offerings, Wholesale services such as PAL lines, and all other wholesale offerings unless specifically listed in Attachments C and E as included in either Basket 1 or 3. [Current Plan, 3.a.]

Under the proposed Plan, services would continue to be assigned to the same three baskets, but the flexibility afforded the Company in pricing the services within those baskets is altered significantly. Mr. Shooshan states that the approach used in the proposed Plan "will provide it [Qwest] with a reasonable opportunity to compete more effectively in the very competitive market in Arizona." [Shooshan Direct, p. 4]

RUCO agrees with Qwest that competitive conditions in the state have intensified since the Commission approved the current Plan, but we believe a more appropriate response is to modify the basket structure, in order to better align services with similar competitive characteristics. More specifically, RUCO recommends establishing three baskets: Moderate Pricing Flexibility Services; High Pricing Flexibility Services; and Total Pricing Flexibility Services.

Services should be assigned to these three baskets primarily on the basis of the intensity of the competitive pressures currently being faced by Qwest. The assignment of services would not necessarily be accomplished on a statewide basis. To the extent competitive conditions vary for some services across the state, those services would be split into multiple baskets, consistent with the competitive conditions applicable to each geographic area. In determining the most appropriate assignment of each service, the Commission could also consider other relevant factors, including public safety or other public interest concerns, evidence that competition is likely to intensify or diminish in the future, and evidence that viable substitutes are available for those customers who would be unwilling or unable to use a competitive offering, if the price of the service in question were to be increased substantially.

Q. Can you explain why you believe RUCO's recommended approach is an improvement over the current Plan?

A. Yes. By aligning the degree of pricing flexibility with the degree of competitive intensity, the Commission can further the goals of the 1996 Telecom Act while also protecting customers from Qwest's remaining market power.

The 1996 Telecom Act is designed to encourage greater competition, and it declared invalid all state rules that restricted entry or otherwise limited competition in telephone service. Since the development of competition for telephone services was one of the primary goals of the 1996 Telecom Act, and since competition for some services has grown considerably in recent years, it is reasonable to use competitive conditions as the primary basis for assigning services to baskets.

By including three baskets, it is feasible to provide greater protection to consumers while also giving the Company greater pricing flexibility. The High Pricing Flexibility Services basket provides the Company with substantial pricing freedom, while placing reasonable limitations on that flexibility, appropriate to the transitional period when Qwest may continue to enjoy a significant degree of monopoly power. The rules applicable to this basket can limit the abuse of this power, to the extent competitive forces alone are not strong enough to fully protect customers.

Q. How do you propose to determine which services should go into each basket?

A. Each service, and each geographic area, should be analyzed based on available evidence concerning their competitive characteristics. Services can be distinguished based on their technical characteristics, the location of customers, the type of customers that typically purchase each service, the number of carriers providing the service in each area, the extent to which these carriers rely upon their own facilities, the extent to which competing carriers rely on Qwest's facilities in providing the service, market share data, and other relevant evidence.

This analysis should be performed on a fairly granular basis. For example, there are

differences in the competitive status of residential and business basic exchange service. Although residential and business customers sometimes purchase very similar products, their competitive status can differ greatly. From an economic perspective, it is appropriate to recognize that residential and business customers often purchase services in distinct product markets (or sub-markets). Hence, residential and business local exchange services may appropriately be placed in different baskets, even though the same facilities are sometimes used in providing these services, since the underlying market conditions, including typical rate structures, rate levels and gross profit margins, are so different.

In the course of this analysis, the heterogeneity of competitive conditions and other service characteristics should be considered in their totality. For example, a particular service purchased by a business customer in a metropolitan center may or may not have similar competitive characteristics to the same service being offered in a rural area, depending upon the actual extent to which other carriers are successfully competing in providing this type of service in each respective area. By allowing for the possibility that geographic heterogeneity exists, the competitive nature of individual services can properly be evaluated, and the Commission can avoid unduly limiting Qwest's pricing freedom in the most competitive parts of its service territory (or unduly subjecting customers to abuses of monopoly power in the least competitive parts of its service territory).

Q. Can you please elaborate on how competitive conditions can be evaluated and services assigned to specific baskets?

A. Yes. Before granting increased pricing flexibility, I recommend the Commission evaluate

competitive conditions on three levels. First, it should conduct a broad examination of the status of competition in general, to provide a sound foundation for other, more detailed analyses. In the course of this broad examination, the Commission should look at data for Qwest relative to other carriers (operating in Arizona and elsewhere). Second, the Commission should evaluate data concerning general business and residence market conditions on a geographically specific basis–preferably examining data for individual wire centers. Third, the Commission should evaluate data concerning specific services. To the extent feasible, this examination can also be conducted on a geographically specific basis; however, to the extent this is not feasible, the Commission can apply sound judgment in evaluating the joint implications of its service-specific and wire center-specific analyses.

Q. Is this approach similar to the "competitive zones" in Qwest's proposed Plan?

A. Yes. The approach to assigning services to baskets that I have outlined in this section is similar to Qwest's competitive zones insofar as both are meant to account for the geographic heterogeneity of competitive conditions. RUCO's approach is somewhat more complex and is considerably less sweeping in its likely impact, however. Because an evaluation of actual market conditions is required before increased pricing flexibility is granted, there is much less risk that excessive pricing flexibility will be granted in markets where Qwest still enjoys substantial market power.

Q. What types of data can be used to perform the competitive analysis you have described?

A. Earlier in my testimony I provided some examples of the types of public data that are available. In addition, a variety of different types of proprietary or confidential data can be relied upon. In general, the first priority is to estimate the market shares held by the incumbent carrier and competitive carriers. In evaluating the extent to which competition for a particular service is substantial, the most telling evidence is the extent to which competing carriers have already been successful in obtaining a substantial market share. For any given service, if the incumbent continues to enjoy an overwhelmingly large market share relative to the new entrants, it would generally not be appropriate to remove pricing controls on that service.

One simple and useful way of interpreting market share data is to focus on the four-firm concentration ratio, which I mentioned earlier in my testimony. If the largest four firms collectively serve nearly 100% of a market, the Commission needs to be concerned about the potential for a cooperative oligopoly market structure, where the smaller firms all follow the leader's pricing decisions, increasing their prices whenever the leader increases its prices. Needless to say, if the four-firm concentration ratio is very high, it would not be prudent to immediately place a service in the Total Pricing Flexibility Services basket. Instead, it would be more appropriate to grant a degree of increased pricing flexibility, then observe what happens. If competitive conditions continue to intensify, and the smaller firms are not simply following the dominant firm's lead, a further relaxation of the pricing restrictions may eventually be warranted.

Another useful tool is the HHI, which I also mentioned earlier in my testimony. Economists use this statistic because it reflects the well-established fact that where industry

1 sales are highly concentrated in a small number of firms, the largest firms tend to have market
2 power, and market results tend to deviate greatly from the purely competitive benchmark. If the
3 HHI for a service is high, it is a strong indication that competition has not developed
4 significantly, and thus it would not be prudent to place the service in the Total Pricing Flexibility
5 Services basket.

6 Another useful set of data concerns the number of competitors, the degree to which
7 carriers are relying on their own facilities in providing service, and the number of carriers that
8 have installed collocation facilities in each wire center. These statistics provide an independent
9 indication of the degree to which a service is competitive. While valuable, the Commission
10 should only consider these numbers in conjunction with the HHI or the four-firm concentration
11 ratio. If one only judged by the number of announced competitors, or the number of
12 competitors with collocation arrangements, a misleading impression could be given concerning
13 the level of competition. However, if the Commission also evaluates the extent to which these
14 firms have actually entered the market and are succeeding in persuading customers to use their
15 services, then a reasonably accurate picture of each market will emerge.
16
17 **Q. Can you offer the Commission some guidelines for the appropriate application of these**
18 **tools?**
19 A. Yes. As a starting point, the Commission should look closely at the incumbent's market share,
20 the four-firm concentration ratio, and the HHI applicable to each market or submarket.

21 If the incumbent carrier controls roughly two-thirds of the market and the remaining
22 third is largely accounted for by a small number of firms, the market is unlikely to be subject to

effective competition. Such a market will probably have a four-firm concentration ratio in excess of 90%, and an HHI in excess of 4,000. Regardless of how many smaller firms may be present in the market, the result of granting Total Pricing Flexibility in that situation is likely to be similar to the result of deregulating a monopolist. The dominant firm's stockholders will benefit from the increased freedom to charge monopoly prices, but the public interest is unlikely to be advanced. Of course, the Commission should also take into account other relevant evidence, including information concerning the extent of barriers to entry and exit, and the extent to which customers fluidly move between suppliers or tend to stay with a single supplier.

At the other end of the continuum, if the incumbent carrier controls just a third of the market, and the remaining two-thirds is spread over a reasonably large number of competing firms, including several facilities-based carriers, the market is much more likely to be subject to effective competition. In such a market, the four-firm concentration ratio will probably be less than 75%, and the HHI will probably be less than 1,800. Hence, there is little likelihood that granting Total Pricing Flexibility will adversely affect the public interest. Needless to say, a variety of other evidence should also be considered before reaching a final conclusion, including information concerning barriers to entry and exit. In most cases, however, if the market has reached this stage in the transition towards effective competition, there is relatively little risk that the incumbent carrier will be able to impose unwarranted price increases on the market, or take advantage of increased pricing freedom by extracting monopoly profits from the market.

Q. Can you provide the Commission with a few examples of how these guidelines can be used to assign services to baskets?

A. Yes. To illustrate the approach RUCO is recommending, I analyzed data for several markets. The first example I considered was residential basic local exchange (1FR) service. I computed residential HHI values for each Qwest wire center. Since residential competition has generally been slower to develop than business competition, I expected to find relatively high HHIs in most wire centers (indicative of a low degree of competitive penetration). For the most part, that is what I found. However, two wire centers – Phoenix-Main and Tucson-Main exhibited significantly lower HHIs – below the 4,000 benchmark mentioned earlier. Consequently, it would be reasonable for the Commission to put 1FR service provided in the Phoenix-Main and Tucson-Main wire centers into the High Pricing Flexibility basket, while keeping 1FR service in all other wire centers in the Moderate Pricing Flexibility basket.

The second example I considered was business basic local exchange service. There are most likely differences in the intensity of competition for various business services, including 1FB, PBX trunks, and Centrex. In general, I would anticipate greater competitive penetration for PBX trunk service than for 1FB service, and greater competition for Centrex than for PBX trunk service. However, due to data limitations I was not able to compute separate HHIs for each of these services.

On an overall basis, I found one wire center (Phoenix-Main) where the HHI for business local exchange service fell below the 1,800 threshold, and three others where the HHI fell within the range of 1,800 to 4,000 (Phoenix-Pecos, Tucson-Southwest, and Phoenix-Foothills). This data suggests that, with the exception of these four wire centers, it would be

reasonable for the Commission to keep 1FB service in the Moderate Pricing Flexibility basket. However, it appears that competition in these four wire centers has advanced sufficiently to justify providing Qwest with additional 1FB pricing flexibility in these particular wire centers. For instance, it would be reasonable to place 1FB service in the Phoenix-Pecos, Tucson-Southwest, and Phoenix-Foothills wire centers in the High Pricing Flexibility basket. As well, it would not be unreasonable to place this service in the Phoenix-Main wire center in the Total Pricing Flexibility basket, considering the highly advanced state of business competition in the geographic area served by this wire center.

Q. Are there other factors the Commission could also consider before reaching a final decision concerning the competitive status of each service?

A. Yes. For instance, a more granular approach may be feasible if additional data can be obtained concerning the competitive status of specific business services. For instance, depending upon the available evidence, it may be feasible to move enterprise-class PBX trunk service into the High Pricing Flexibility basket (or the Total Pricing Flexibility basket) within additional wire centers.

Similarly, the Commission can also consider the presence of other services which are close substitutes for the service in question. This is important when these other firms' offerings are not exact substitutes, but they are reasonably comparable to, and are reasonably close substitutes for, the incumbent's services. In that case, the market for these substitutes may have the effect of reducing the incumbent's market power. If enough customers are willing to discontinue using the incumbent's services and replace them with one of these substitute

1 services, this will increase the price elasticity of demand for the incumbent's services, and
2 reduce the incumbent's ability to generate monopoly profits. The combined impact of less-
3 than-fully effective competition and the availability of reasonably close substitutes may constrain
4 the incumbent's market power sufficiently to justify a further relaxing of regulatory price
5 controls.

6 The concept of product substitution pertains directly to one of the key criteria
7 underlying effective competition-the reasonable uniformity of competing products. Two
8 products may not be identical, or nearly uniform, yet consumers may nevertheless perceive
9 them to have very similar attributes. If consumers consider two services or products to be
10 close substitutes, and they are priced at comparable levels, the availability of these non-uniform
11 alternatives may enhance the prospects for effective competition.

12

13 **Q. Have Mr. Shooshan and Mr. Teitzel presented examples of alleged substitutes that**
14 **are available in Qwest's serving area?**

15 A. Yes. Mr. Shooshan and Mr. Teitzel contend that wireless service, internet telephony (VoIP)
16 and cable telephony are all significant competitive alternatives to Qwest's wireline service. As I
17 explained in the previous section, wireless service is primarily a complement to wireline service,
18 rather than a competitive alternative. While I am not suggesting this service should be
19 completely ignored, I recommend giving little weight to this particular substitute, since its
20 technical characteristics are so different, and since wireless prices tend to be higher than
21 wireline prices.

22 While I will readily concede that wireless service has grown enormously, and that some

customers may react to an increase in Qwest's wireline prices by abandoning their traditional phone, for most customers this is not a viable option, because wireless service is functionally different, and it is primarily used for different purposes. As a result, the vast majority of consumers who purchase wireless service also continue to purchase wireline service. I have identified the following nine key attributes of wireline services that distinguish them from wireless services:

1. There are ergonomic differences between conventional and mobile phones.
2. Wireline services typically provide higher quality, more reliable communication than wireless services.
3. Wireline services provide the ability to have multiple (extension) phones share the same line and the same phone number.
4. Wireline services allow multiple family members or employees to share the same line.
5. Wireline services allow consumers to reliably and conveniently access the internet, and transmit large volumes of data at minimal cost.
6. Wireline services allow consumers to conveniently and reliably transmit and receive faxes.
7. Wireline services currently provide better access to emergency services, particularly E911 services.
8. Wireline service subscribers automatically have their phone number listed in the telephone directory for free.
9. There are safety concerns (real or perceived) associated with wireless services that do

not apply to wireline services.

I am well aware that a growing number of consumers are replacing their land line with a wireless phone, but in the typical market just 6.0% of all consumers have made this switch. [FCC, Telephone Subscribership in the United States (Data through March 2004), August 2004, footnote 2] On balance, it is reasonable to be cognizant of the availability of wireless services, but these services should not be classified with wireline services in evaluating market conditions (e.g. calculating HHIs). Wireless services do not constrain Qwest's ability to exploit its monopoly power in traditional wireline markets.

Q. What about cable telephony and VoIP?

A. Both VoIP and cable telephony are potentially much more direct substitutes for traditional telephony. Both of these technologies are in their infancy, and thus for many customers these offerings may still be seen as too risky to be considered viable alternatives to Qwest's traditional wireline services. As these technologies mature, however, they will need to be given increasing emphasis during an evaluation of the extent to which Qwest's services are subject to effective competition. In fact, in developing the HHI statistics discussed earlier, I included an estimate of lines served by Cox Cable, regardless of whether these lines were provided using cable telephony or a more traditional technology.

Q. Earlier, you mentioned the possibility that the trend towards competition may slow, or even reverse. Should the Commission have the flexibility to address this possibility, if it were to occur?

A. Yes. RUCO recommends modifying the current Plan to specify that services can be moved from one basket to another as competitive conditions intensify or weaken. The current Plan does not contain any provisions that explicitly deal with reclassifying services from one category to another. Although RUCO is not recommending adoption of Qwest's competitive zone approach, one of the positive aspects of this proposal is that it anticipates the possibility that services might be classified differently in different parts of the state, depending on actual market conditions. To effectuate this concept appropriately, RUCO and other parties should be allowed to oppose such a reclassification request if it is not warranted by the facts, or to recommend that a service be assigned to a different basket than the Company has proposed. Furthermore, RUCO, the Commission Staff, and other interested parties should be allowed to initiate requests for reclassification of services in response to changing market conditions. If the competitive trend were to reverse, and Qwest were to regain its quasi-monopoly status with respect to particular services or geographic areas, it would be unlikely to request reclassification to a basket that provides a lower degree of pricing flexibility. Hence, RUCO should be allowed to petition the Commission for modifying the service classifications to be consistent with changing competitive conditions.

1 ***B. Rate Element Caps and Rebalancing***

2

3 **Q. In addition to a different basket configuration, are there other aspects of the**
4 **Company's current Plan you would like to discuss?**

5 A. Yes. RUCO has developed recommendations for changes to a number of different aspects of
6 the current Plan. The most substantial of these changes relates to the structure of the price caps
7 that constrain Qwest's ability to increase rates. Under the current Plan, Qwest has been
8 restricted by hard caps that preclude rate increases for some services, and by other attributes of
9 the current Plan which have the effect of constraining its ability to exploit its remaining monopoly
10 power. Qwest has proposed to greatly modify or eliminate these restrictions, enabling it to
11 more fully exploit its remaining market power. These changes are not consistent with the public
12 interest, and thus the proposed Plan should be rejected. RUCO does agree, however, that a
13 further loosening of the current pricing constraints would be reasonable at this time, provided
14 the modifications are appropriately linked to actual market conditions. The Company should be
15 provided with some additional flexibility to respond to competitive pressures in markets where
16 competition has become relatively intense, without prematurely removing regulatory protections
17 from monopoly power in markets where competition remains relatively weak.

18

19 **Q. What types of caps are in the Company's current Plan?**

20 A. There are two basic types of caps in the Company's current Plan – basket-wide price caps,
21 and caps on individual rate elements. The details vary, depending on the specific basket.

22

1 **Q. Would you please discuss the caps that apply to the most restrictive basket?**

2 A. Yes. Under the current Plan, the Company has the least amount of flexibility concerning prices
3 in the Basic/Essential Non-competitive Services basket. Under the proposed Plan, the least
4 flexibility is given to the Limited Pricing Flexibility Services basket. In the current Plan, prices of
5 some services cannot increase (they are subject to a hard cap) and the overall level of prices in
6 the Basic Services basket cannot increase year-over-year by more than the annual change in
7 the GDP-PI minus 4.2%. Thus, if GDP-PI increases by 4.5%, under the current Plan, the
8 overall level of rates in the Basic Services basket cannot increase by more than .3%. Under the
9 proposed plan, the hard cap is eliminated, and Qwest will be given unlimited freedom to
10 increase individual prices year-over-year, subject only to "a basket-level revenue cap." This
11 "revenue cap" is not well defined, but it is clearly less binding than the existing constraints. To
12 the extent Qwest's revenues from certain services are declining due to the loss of market share
13 or otherwise, Qwest might be free to recoup its lost revenues through price increases imposed
14 on other services or other geographic areas, where its market position is stronger.

15 Under the proposed Plan, there are no limitations placed on rate increases for rate
16 elements, or entire services. It appears that the Company would only need to make sure that
17 the increase in revenues that results from Basket 1 price increases is offset by reductions in
18 other revenues in Basket 1. While the proposed language is rather vague, this may include both
19 revenue reductions due to reductions in rates for other services, as well as revenue reductions
20 due to market share erosion. Furthermore, it appears that the Company can even request rate
21 increases that do not meet this "revenue neutrality" test, provided it receives Commission
22 approval. In contrast, under the current Plan many rates have been subject to a hard cap, and

rate increases must be offset by rate decreases of a similar or greater magnitude (depending upon the rate of inflation relative to the 4.2% offset). Moreover, individual rate elements cannot be raised year-over-year by more than 25%. The latter provision also has the effect of limiting rate increases for any specific service to no more than 25% (assuming every rate element within that service is increased to the maximum permissible extent).

Q. Before you outline RUCO's recommendations for price constraints applicable to the Moderate Pricing Flexibility Services basket, would you please clarify the subtle distinction between service-level caps and rate element caps?

A. Yes. Earlier, in my testimony, I outlined the ways in which the "rate element" caps in the current Plan differ from the "service" caps in the proposed Plan. While the Qwest witnesses do not explain this change, it would give the Company greater freedom to increase rates toward "whatever the market will bear." The Company will be able to increase rates for those service elements where it enjoys the highest degree of monopoly power, while reducing or holding constant rates for those service elements which are subject to intense competitive pressures. This is a significant increase in pricing freedom–an increase that has not been adequately justified.

Q. What restrictions does RUCO propose for its recommended Moderate Pricing Flexibility Services basket?

A. I propose including both a basket-wide revenue cap and a rate element cap in the Moderate Pricing Flexibility Services basket. The basket-wide cap is essentially identical to the cap

applied to the Basic Services basket in the current Plan – the change in GDP-PI minus the same 4.2% offset that is currently in effect. This cap provides Qwest the same pricing freedom it is afforded under the current Plan, and provides more protection for customers than the ambiguous "basket-level revenue cap" in Qwest's proposed Plan. For the reasons I discussed earlier, I also feel that it is important to impose a 25% rate element cap for the services that will be included in the Moderate Pricing Flexibility Services basket.

Q. Why do you believe it is appropriate to retain the productivity offset component of the basket-wide revenue cap?

A. An offset continues to be appropriate, since it ensures that industry-wide increases in ILEC productivity and decreases in ILEC costs will be passed through to customers, as they would be under effective competition, as well as under traditional regulation. An offset also ensures that ratepayers share in some of the benefits of technological improvements, increased economies of scale and other forces which have contributed to the long-term decline in telecommunications costs.

Mr. Shooshan contends that productivity offsets, in a number of jurisdictions, "are no longer used. There is a growing recognition that competition can now serve as a constraint on both prices and earnings, and as a means for distributing the gains from increased productivity." [Shooshan Direct, pp. 8-9] This line of reasoning would be more persuasive if elimination of the offset were limited to situations where Qwest is able to prove that market forces alone are strong enough to ensure continuation of the long term historic pattern of decreasing costs and prices. If competitive forces are, in fact, strong enough to force carriers to pass productivity

gains through to consumers, thereby ensuring that prices decline as fast as costs, then the offset simply serves as a backup safety measure–one that protects consumers in the event competitive forces weaken. As well, the offset is helpful since it provides some protection for consumers if the market environment is not as Mr. Shooshan describes. In other words, the offset will only have an impact if productivity gains would not be passed along to consumers, absent such a requirement.

Mr. Shooshan offers an additional argument in favor of eliminating the offset. He claims that

> given the inroads being made by competitors, Qwest faces the real risk in many geographic areas of excess capacity and/or stranded plant—both of which reduce productivity. The revenue cap proposed by Qwest here requires Qwest to increase productivity more rapidly than the economy as a whole by the rate of inflation in order to maintain a level of profitability. In today's environment, that plan poses a sufficiently difficult challenge to Qwest. [*Id.*, p. *10*]

Without digressing into a lengthy discussion of the most appropriate way to calculate an appropriate offset or "X" factor, I would simply point out that recent fluctuations in "X" have not been unexpected, nor is there any reason to believe a 4% or 5% offset is too large. To the contrary, in all but one of the overlapping five year periods commencing with 1986, the level of "X" that was achieved by the industry was equal to or greater than 4.2% as shown in Table 11 below.

Table 11
"X" Factor Moving Average: 1986 - 2003

Time Period	5-year Moving Average
1986-1990	5.00%
1987-1991	5.57%
1988-1992	5.30%
1989-1993	5.80%
1990-1994	5.24%
1991-1995	5.09%
1992-1996	5.04%
1993-1997	5.33%
1994-1998	5.25%
1995-1999	7.00%
1996-2000	7.46%
1997-2001	6.62%
1998-2002	4.29%
1999-2003	3.40%

It is well understood that productivity and input cost changes can (and do) fluctuate from year to year, sometimes drastically, and that it is difficult to accurately forecast the change that will occur in any given year. However, the fact that "X" fluctuates, or that it is hard to forecast, does not provide a logical basis for assuming a zero "X" factor, or for adopting changes to price cap regulation which would only make logical sense if one were confident that "X" will average out to zero in the future. To better appreciate the flaw in this logic, consider a

simple analogy. It is unclear what interest rates will be in the future, but that does not provide a logical basis for assuming interest rates will drop to zero, or for asking someone to loan you money without charging any interest.

While telephone industry productivity and input cost reductions fluctuate from year to year, they do not generally fluctuate in a range above and below zero, nor is there any evidence that "X" will average out to zero in the future. To the contrary, the achieved level of the "X" factor is normally well above zero, regardless of how one measures it, and on a multi-year basis it has consistently averaged far above zero, as demonstrated in Table 11 above.

Although there have been wide year-to-year fluctuations in "X" throughout the historic record, there is no reason to believe it will now disappear, or decline to zero. During the period from about 1996 through 2001 the industry experienced an unusually rapid decline in costs. This brief burst in productivity translated into higher than typical levels of "X" for a few years. Following this brief, sharp decline in costs, which was not fully passed through to consumers, the industry has been experiencing a few years in which costs are not declining as rapidly as the long term trend. In the subsequent few years, costs have declined more slowly than normal, and therefore "X" has been lower than the long term average, but there is every reason to anticipate it will eventually return to its long-term average.

Q. Would you please discuss the price caps applicable to baskets that offer somewhat greater pricing flexibility?

A. Yes. Under the current and proposed Plans, the Company has either more limited pricing flexibility in the Basic/Essential Non-competitive basket, or near complete pricing freedom in

1 the Flexibly-priced Retail Competitive basket. There is not a basket in either Plan that affords
2 the Company an "in between" measure of pricing flexibility. The Wholesale Services basket,
3 while "in between" in that it is Basket 2, does not afford the Company a significant amount of
4 pricing flexibility, because most services in that basket are "governed by their own specific
5 pricing rules and will continue to be governed by such rules." [Proposed Plan, 3.b.] In
6 RUCO's recommended approach, however, the High Pricing Flexibility Services basket
7 provides an "in between" degree of flexibility.

8 This basket would contain services for which the Company is experiencing a substantial
9 amount of competition, but the competition is currently not intensive enough, or not robust
10 enough, to justify total reliance on competitive forces, and a total absence of regulatory
11 protection. Consistent with this concept, we recommend providing the Company with
12 complete freedom to reduce prices in the High Pricing Flexibility Services basket, and a very
13 substantial amount of freedom to increase prices of these services. However, there would be
14 reasonable limits on the upward pricing freedom, to provide at least a limited amount of
15 protection from potential abuse of any remaining monopoly power the Company may still enjoy
16 in these markets.

17 More specifically, we recommend using a basket-wide revenue cap of two times the
18 yearly change in the GDP-PI, as well as a rate element cap of 25% per year. Thus, Qwest is
19 precluded from rapidly increasing the overall level of rates for these services, but it is free to
20 engage in extensive rate rebalancing within this category.

21 Under RUCO's recommended Plan, services in the High Pricing Flexibility basket
22 would be subject to more rapid rebalancing, since it would be allowed to increase overall rate

levels within this basket by as much as twice the inflation rate, and increases of up to 25% per year are allowed, provided they are offset by decreases in other rates within this basket. If, as RUCO recommends, services are only placed in this basket if they are subject to a substantial level of competition, the Company would be unlikely to fully exercise this upward pricing freedom.

Q. Would you please discuss the rules applying to the Total Pricing Flexibility Services basket?

A. Yes. In the current and proposed Plans the Flexibly-priced Retail Competitive Services basket affords the Company the maximum amount of pricing freedom. The most comparable basket in RUCO's recommended Plan is the Total Pricing Flexibility basket.

In the current Plan, there is a basket-wide cap on rates or revenues for the services in the Flexibly-priced Competitive basket equal to the "weighted average price level of all the services in the Basket as calculated by the formula set forth in subpart (c)." [Current Plan, 4.b.] In the Company's proposed Plan, however, there is no basket-wide cap on rates or revenues in the Flexibly-priced Retail Competitive Services basket. As well, there are no limitations on the magnitude of rate increases which can be imposed on individual services, once they are placed in the Flexibly-priced Retail Competitive basket. In effect, the Company will be free to charge whatever the market will bear. This type of pricing flexibility only makes sense if these services are, in fact, subject to effective competition, as Qwest alleges.

Q. Do you propose any basket-wide or rate element caps for the Total Pricing Flexibility basket?

A. Yes. I propose that rates for services in the Total Pricing Flexibility basket be capped according to the maximum rate provisions of existing Commission rules A.A.C. R14-2-1109 and A.A.C. R14-2-1110. In this regard, RUCO's recommendation is similar to Qwest's proposal. The premise underlying this recommendation is that it will only include services where multiple providers are successfully competing with Qwest, and the Company does not enjoy any significant residual monopoly power in the specified markets. Assuming that competition is sufficiently strong, any attempt by Qwest to impose unjustified rate increases will fail–the net effect will be a further erosion of the Company's market share, and a reduction in its profits, rather than an increase in those profits. And, customers will easily be able to avoid paying the increase rates, by simply switching to a competitor's service. Consistent with this reasoning, there is no logical reason to excessively limit the Company's pricing freedom, assuming market forces are (in fact) strong enough to serve as an adequate substitute for regulation (just as regulation has traditionally been used as a substitute for competition in monopoly markets).

Needless to say, given the lack of any significant constraint on prices, it is imperative for the Commission to closely examine the evidence concerning the actual (not just assumed) competitive status of the services that are placed in this basket.

Q. Has Qwest proposed a specific program of rate rebalancing as part of its proposed Plan?

A. No. The Company has simply indicated that it intends to make "revenue neutral filings for

services within Basket 1." There are no provisions in the proposed Plan which set forth specific reductions in access revenues, or increases in other rates.

Q. Has Qwest closed the door on access rate decreases, local rate increases, or other forms of rate rebalancing?

A. No. Mr. Ziegler states:

> For the reasons discussed in Mr. McIntyre's testimony, Qwest *is not proposing* any further changes to switched access charges at this time. The FCC is presently investigating the entire topic of intercarrier compensation. Several parties are submitting proposals for comprehensive plans for the complete revamping of intercarrier compensation. Since this all-encompassing restructure of intercarrier compensation is imminent, it seems appropriate to wait for that restructure to address access charges.
>
> To the extent that the Commission chooses to order additional reductions in intrastate access charges at this time, such changes must be revenue neutral. As Qwest proposed in its prefiled testimony filed in the Access Docket and in Mr. McIntyre's testimony in this case, if Qwest's intrastate access charges are reduced in this docket, the Commission should implement a subscriber line charge or other end-user charge in an amount sufficient to offset the access reduction. Mr. McIntyre explains the amount of subscriber line charge that would be required to offset a reduction in Qwest's intrastate access rates to the current interstate levels. For each $5 Million reduction in Intrastate access, Qwest would need to receive 20¢ per line in a subscriber line charge. [Ziegler Direct, pp. 14-15]

Q. Qwest and other parties have sometimes advocated increasing local rates in order to reduce switched access rates. Do you agree this type of rebalancing is imperative?

A. No. There is no pressing need to greatly reduce switched access rates, or to dramatically

increase local exchange rates. The claim that basic local residential rates are below cost, and that switched access rates are above cost, is hardly a new argument, nor is a crisis looming if access rates are not reduced. This dispute has a long and controversial history. I have personally been involved in hundreds of regulatory proceedings in which this issue has been vigorously debated, stretching back more than 25 years, and the argument predates that time period. Given the controversial nature of these claims, it is not surprising that Congress included some provisions in the 1996 Telecommunications Act that directly relate to this issue. The Act adds an entirely new section to federal law dealing with Universal Service – Section 254. Within this context, a portion of § 254(k) reads:

> [T]he States, with respect to intrastate services, shall establish any necessary cost allocation rules, accounting safeguards, and guidelines to ensure that services included in the definition of universal service bear no more than a reasonable share of the joint and common costs of facilities used to provide those services. [47 U.S.C. § 254(k) (1996).]

Congress clearly realized the existence of a continuing controversy over whether or not basic local exchange service is provided "below cost" and recognized that the heart of this controversy is the appropriate treatment of joint and common costs. In most cases, claims that basic service is priced below cost (as well as the corresponding claim that switched access is priced above cost) rest upon cost analyses which allocate little or no joint costs to switched access service, and which allocate a disproportionate share (or all) of the joint costs to basic service. The remaining parts of § 254(k) make it clear that the purpose behind these rules, safeguards, and guidelines is to prevent any excess cost burden being placed on basic local

1 service (as well as any other services that are included within the "universal service" category).
2 In my experience, virtually every time someone in a regulatory proceeding claims that
3 basic exchange rates are below cost (or that intrastate switched access rates are above cost)
4 these claims are based upon assumptions or cost studies that place more than a reasonable
5 share of the joint and common costs onto basic service. Most typically, they place 100% of the
6 joint loop costs onto basic service; most often, correcting this one error alone is sufficient to
7 demolish the claim that basic service is subsidized, or priced below cost.
8 In any event, I am somewhat puzzled why Qwest would be anxious to rapidly increase
9 its local exchange rates while making offsetting reductions in its access rates. Qwest claims that
10 its local exchange services are undergoing increased competitive pressures, yet it is asking for
11 greater freedom to increase the prices it charges for these services. Needless to say,
12 competitive pressure–when it actually exists–is almost always in the downward direction. I have
13 trouble visualizing a situation where a firm would be forced to *increase* its prices in order to
14 respond to increasing competitive pressures. In competitive markets firms typically increase
15 their prices in response to cost increases, while they *decrease* rates in response to competitive
16 pressures.
17 To the extent that Qwest wants greater freedom to raise its basic local exchange prices,
18 this strongly suggests that it continues to enjoy a substantial degree of market power, and that it
19 sees an opportunity to increase rates that are currently below the monopoly profit-maximizing
20 level. By removing the rate element constraints, reducing and reorganizing baskets, and making
21 other changes to its current Plan, Qwest is seeking the opportunity to more fully exploit its
22 market power, and to generate profits that come closer to the levels it could potentially achieve

as a completely unregulated monopolist.

While I question the logic or merits of proposals to greatly reduce switched access rates and increase basic exchange rates, under RUCO's recommended Plan the Company will be allowed to gradually rebalance these rates if it so chooses. RUCO's recommended Plan does not include any constraint on annual reductions in switched access rates, so regardless of where these rates are placed within the recommended Plan, Qwest can reduce these rates as rapidly as it chooses. The extent to which it can offset these reductions with increases in other rates will depend the degree of competition facing switched access services, and thus which basket it is placed into. For instance, nothing in the recommended Plan would prevent the Company from reducing its intrastate switched access rates to levels comparable to those charged in the federal jurisdiction, if for some reason it felt this was desirable (although this would result in reduced profits, if the reduction were to be implemented very rapidly, and there aren't sufficient opportunities to recoup the lost revenues with increases in other rates within the same basket).

C. Rate Design

Q. What are the Company's rate design proposals?

A. In addition to the USF proposals described in section two of my testimony, Qwest proposes the following rate revisions:

1. Elimination of residential and business zone increment charges
2. Elimination or limitation of "older" packages
3. Elimination of the free call allowance for directory assistance (DA) service
4. Increase in the rates for some private line services
5. Changes in the rates for 800 Database Access Service (800 DB)
6. Deregulation of third party Billing and Collection (B&C)

Q. Can you be more specific about the magnitude of these rate changes, as reflected in the Company's revised filing?

A. Yes. Qwest only quantifies the impact of items four and five in the above list. The Company's private line proposals will result in a revenue increase of "just under $748,000 annually." [McIntyre Direct, p. 4] The 800 DB changes will result in a revenue increase of "almost $46,000." [Id., p. 16]

Q. How does Qwest support its rate design proposals?

A. Mr. Teitzel states that the elimination of zone increment charges "will streamline Qwest's local exchange pricing structure." [Teitzel Direct, p. 84] Mr. Ziegler believes this change "will simplify billing and minimize customer confusion." [Ziegler Direct, p. 12] Recall that Qwest has proposed to replace these zone increment charges with draws from the AUSF. I addressed the Company's support for this proposal earlier in my testimony.

Mr. Teitzel also speaks to items two and three in the above list. He believes that eliminating a number of "older" packages "will result in a narrowed package set that is better

focused on the range of features customers desire and will position Qwest's packages more favorably in the competitive market." [Teitzel Direct, p. 100] Mr. Teitzel proposes eliminating the free call allowance for directory assistance service "to alleviate customer confusion resulting from multiple Directory Assistance products and to streamline Qwest's Directory Assistance product line." [Id., p. 94]

Mr. McIntyre provides the Company's reasoning for changing private line and 800 DB rates, as well as the regulatory framework for third part B&C. Regarding private line services, he states

> The demand for these services is declining, relative to other private line services, and they are outdated. Many new services have been introduced that provide the same or better functionality. These services are also costly for Qwest to maintain. In some cases they utilize outdated technology or equipment. The proposed price changes will gain consistency in the rates across all rate elements. [McIntyre Direct, p. 8]

He goes on to explain why he believes the private line market is highly competitive [Id., pp. 11-12]

Mr. McIntyre favors revising 800 DB rates in an effort to "mirror Qwest rates effective in the federal jurisdiction." [Id., p. 16] And he favors deregulation of the Company's B&C service because the market for that service is "robustly competitive." [Id., p. 17]

Q. Does RUCO object to the Company's rate design proposals?

A. For the most part, no, particularly if these rate changes are implemented by Qwest while

working within the price constraints recommended by RUCO. In some cases this may require Qwest to phase-in its rate proposals (e.g. to ensure that rates do not increase by more than 25% per year), but that is not an unreasonable restriction, since it provides customers with additional time to modify their service configuration, or find a competitive alternative.

With regard to the zone increment charges, the existing charges are not sufficient to fully compensate for the higher cost of serving low density, rural areas. That is not to say that I agree with Mr. Teitzel when he states

> Since residential line local exchange rates in UNE Cost Zone 2 and 3 wire centers are below cost, these rates are currently receiving an implicit subsidy, which is not sustainable in a competitive marketplace. Supporting residential rates in these wire centers with AUSF funds will make this subsidy explicit, will protect customers in these areas from dramatic rate increases and ensure continued affordable service in high cost areas, and is competitively neutral. [Teitzel Direct, p. 89]

In section two, I demonstrated that Zone 2 and 3 local exchange rates are not receiving an "implicit subsidy" from any other service. This line of argument, then, is not a proper justification for the Company's Arizona USF proposals, or the corresponding proposals regard zone increments. By the same token, however, profit margins are not as high in rural areas, and in some low density areas the total level of revenues is less than the total cost of providing service to customers in that area. Needless to say, it would not be consistent with the public interest to dramatically increase rates in these low density areas, in an effort to recoup the relatively high cost of serving these areas.

Instead, it would be more appropriate to modify the Arizona USF to allow both the

1 Company and CLECs to draw from this fund, to the extent they serve customers in these
2 extraordinarily high cost outlying areas. More specifically, RUCO recommends adopting a
3 USF approach similar to the one used in Kansas, as I briefly described in an earlier portion of
4 my testimony.

5 As for some of Qwest's other rate design proposals, I do not have a problem with the
6 Company's attempt to obsolete, or increase rates for some of its "older" service packages,
7 provided customers are given adequate notice of these changes. I do not believe that customers
8 of those packages will be excessively burdened if they must subscribe "to another Qwest
9 package that meets their individual needs or ... purchase the specific features desired on an ala
10 carte basis." [Id., p. 100]

11 Similarly, RUCO does not object to Qwest's proposals for revamping its rates for
12 private line services and 800 DB service, provided these changes are accommodated within the
13 framework of RUCO's recommended price cap system. Of course, if it is true that "Qwest's
14 share of the Private Line market in Arizona has experienced steady erosion" [McIntyre Direct,
15 p. 13] I would question the wisdom of greatly increasing these rates. To the extent this is a
16 "highly competitive"market, as Qwest alleges, it should be looking for ways to slash its costs
17 and reduce its rates, rather than increasing them. Nevertheless, it is not unreasonable to allow
18 Qwest the freedom to experiment with various price changes, while working within the various
19 pricing constraints recommended by RUCO.

20

21 **Q. Can you explain Qwest's directory assistance proposal?**

22 A. Yes. Mr. Teitzel argues that removal of the free call allowance for "traditional Directory

Assistance" will (1) alleviate customer confusion, (2) improve DA administrative efficiency, and (3) enhance the competitive positioning of Qwest's DA product line. [Teitzel Direct, p. 94]

Mr. Teitzel tells us that DA customers are charged the same rate for intraLATA and interLATA DA ($1.15 per call). The only difference in the pricing structure for the two services is that intraLATA DA customers are allowed one free DA call per month. He goes on to argue that "customers typically do not understand distinction between LATAs and the relationship between LATA boundaries and rate structures."

Mr. Teitzel also contends that Qwest's DA customers have an increasing array of alternatives, including use of their wireless service and the Internet to obtain directory listings. Of course, the higher rate will also apply to customers who don't have wireless and internet alternatives. Still, this type of rate change is permissible within the price cap structure recommended by RUCO in this proceeding. In other words, it is not unreasonable to provide management with the discretion of eliminating the free call allowance, provided the revenues generated by this rate change are properly accounted for within the framework of the overall revenue requirement and price constraints that are adopted in this proceeding.

Q. Has Qwest proposed any specific changes to its intrastate switched access rates?

A. Not at this time. Mr. Ziegler states

> Qwest is not proposing any further changes to switched access charges at this time. The FCC is presently investigating the entire topic of intercarrier compensation. Several parties are submitting proposals for comprehensive plans for the complete revamping of intercarrier compensation. Since this all-encompassing restructure of intercarrier

> compensation is imminent, it seems appropriate to wait for that restructure to address access charges. [Ziegler Direct, p. 14]

Qwest has offered a couple contingency plans regarding access, however. First, it states that:

> If the Commission reverses the access charge reduction ordered in Decision No. 66772, Qwest would propose intrastate access charges be reduced by $5 million in this case. Assuming that the proposals Qwest has made for revisions to the Plan are adopted, Qwest would not request any specific rate increase to offset this rate reduction. [Id.]

Second, it discusses a more drastic possibility:

> **Q. WHAT IF THE ARIZONA COMMISSION WISHES TO PROCEED WITH SWITCHED ACCESS REFORM EVEN THOUGH THE FCC MAY MOVE AHEAD WITH A COMPREHENSIVE RESTRUCTURE?**
>
> A. In that case, Qwest will ask the Commission to provide a plan on how to recover the revenue currently provided by Switched Access. If, for example, intrastate Switched Access rates are reduced to interstate levels and the revenue recovery is shifted to residential rate payers, the impact will be a rate increase of about $1.00 per month per residential access line. [McIntyre Direct, p. 15]

To the extent the Company wants to restructure intrastate access rates to be more closely aligned with the corresponding interstate rates, it can takes steps in that direction, while working within the confines of the pricing freedom offered by RUCO's recommended price cap plan. The general trend in telecommunications costs and rates is downward, and it is not unreasonable for the interexchange carriers and their customers to share in the benefits of this

1 downward trend (e.g. by reducing switched access rates without necessarily increasing other
2 rates by the same dollar amount).
3 If the Commission wants to go farther, and it wants to greatly reduce or eliminate
4 intrastate switched access rates, I recommend this be accomplished as part of a comprehensive
5 expansion of the Arizona Universal Service Fund, similar to the manner in which intrastate
6 access rates were reduced or eliminated in Kansas. In that state, the state's Universal Service
7 Fund has largely replaced intrastate switched access charges, and this change was
8 accomplished in a manner that encourages more effective competition in rural areas.
9
10 **Q. Does this conclude your direct testimony which was prefiled on November 18, 2004?**
11 A. Yes, it does.

Appendix A

Qualifications

Present Occupation

Q. What is your present occupation?

A. I am a consulting economist and President of Ben Johnson Associates, Inc.®, a firm of economic and analytic consultants specializing in the area of public utility regulation.

Educational Background

Q. What is your educational background?

A. I graduated with honors from the University of South Florida with a Bachelor of Arts degree in Economics in March 1974. I earned a Master of Science degree in Economics at Florida State University in September 1977. The title of my Master's Thesis is a "A Critique of Economic Theory as Applied to the Regulated Firm." Finally, I graduated from Florida State University in April 1982 with the Ph.D. degree in Economics. The title of my doctoral dissertation is "Executive Compensation, Size, Profit, and Cost in the Electric Utility Industry."

Clients

Q. What types of clients employ your firm?

A Much of our work is performed on behalf of public agencies at every level of government involved in utility regulation. These agencies include state regulatory commissions, public counsels, attorneys general, and local governments, among

others. We are also employed by various private organizations and firms, both regulated and unregulated. The diversity of our clientele is illustrated below.

Regulatory Commissions

Alabama Public Service Commission—Public Staff for Utility Consumer Protection
Alaska Public Utilities Commission
Arizona Corporation Commission
Arkansas Public Service Commission
Connecticut Department of Public Utility Control
District of Columbia Public Service Commission
Idaho Public Utilities Commission
Idaho State Tax Commission
Iowa Department of Revenue and Finance
Kansas State Corporation Commission
Maine Public Utilities Commission
Minnesota Department of Public Service
Missouri Public Service Commission
National Association of State Utility Consumer Advocates
Nevada Public Service Commission
New Hampshire Public Utilities Commission
North Carolina Utilities Commission—Public Staff
Oklahoma Corporation Commission
Ontario Ministry of Culture and Communications
Staff of the Delaware Public Service Commission
Staff of the Georgia Public Service Commission
Texas Public Utilities Commission
Virginia State Corporation Commission
Washington Utilities and Transportation Commission
West Virginia Public Service Commission—Division of Consumer Advocate
Wisconsin Public Service Commission
Wyoming Public Service Commission

Public Counsels

Arizona Residential Utility Consumers Office
Colorado Office of Consumer Counsel
Colorado Office of Consumer Services
Connecticut Consumer Counsel
District of Columbia Office of People's Counsel
Florida Public Counsel
Georgia Consumers' Utility Counsel
Hawaii Division of Consumer Advocacy
Illinois Small Business Utility Advocate Office
Indiana Office of the Utility Consumer Counselor
Iowa Consumer Advocate
Maryland Office of People's Counsel
Minnesota Office of Consumer Services
Missouri Public Counsel
New Hampshire Consumer Counsel
Ohio Consumer Counsel
Pennsylvania Office of Consumer Advocate
Utah Department of Business Regulation—Committee of Consumer Services

Attorneys General

Arkansas Attorney General
Florida Attorney General—Antitrust Division
Idaho Attorney General
Kentucky Attorney General
Michigan Attorney General
Minnesota Attorney General
Nevada Attorney General's Office of Advocate for Customers of Public Utilities
South Carolina Attorney General

Utah Attorney General
Virginia Attorney General
Washington Attorney General

Local Governments

City of Austin, TX
City of Corpus Christi, TX
City of Dallas, TX
City of El Paso, TX
City of Galveston, TX
City of Norfolk, VA
City of Phoenix, AZ
City of Richmond, VA
City of San Antonio, TX
City of Tucson, AZ
County of Augusta, VA
County of Henrico, VA
County of York, VA
Town of Ashland, VA

Town of Blacksburg, VA
Town of Pecos City, TX

Other Government Agencies

Canada—Department of Communications
Hillsborough County Property Appraiser
Provincial Governments of Canada
Sarasota County Property Appraiser
State of Florida—Department of General Services
United States Department of Justice—Antitrust Division

1 Utah State Tax Commission

2

3 Regulated Firms

4

5 Alabama Power Company
6 Americall LDC, Inc.
7 BC Rail
8 CommuniGroup
9 Florida Association of Concerned Telephone Companies, Inc.
10 LDDS Communications, Inc.
11 Louisiana/Mississippi Resellers Association
12 Madison County Telephone Company
13 Montana Power Company
14 Mountain View Telephone Company
15 Nevada Power Company
16 Network I, Inc.
17 North Carolina Long Distance Association
18 Northern Lights Public Utility
19 Otter Tail Power Company
20 Pan-Alberta Gas, Ltd.
21 Resort Village Utility, Inc.
22 South Carolina Long Distance Association
23 Stanton Telephone
24 Teleconnect Company
25 Tennessee Resellers' Association
26 Westel Telecommunications
27 Yelcot Telephone Company, Inc.
28

1 Other Private Organizations

2

3 Arizona Center for Law in the Public Interest
4 Black United Fund of New Jersey
5 Casco Bank and Trust
6 Coalition of Boise Water Customers
7 Colorado Energy Advocacy Office
8 East Maine Medical Center
9 Georgia Legal Services Program
10 Harris Corporation
11 Helca Mining Company
12 Idaho Small Timber Companies
13 Independent Energy Producers of Idaho
14 Interstate Securities Corporation
15 J.R. Simplot Company
16 Merrill Trust Company
17 MICRON Semiconductor, Inc.
18 Native American Rights Fund
19 PenBay Memorial Hospital
20 Rosebud Enterprises, Inc.
21 Skokomish Indian Tribe
22 State Farm Insurance Company
23 Twin Falls Canal Company
24 World Center for Birds of Prey
25

26 ***Prior Experience***

27

28 **Q. Before becoming a consultant, what was your employment experience?**
29 A. From August 1975 to September 1977, I held the position of Senior Utility
30 Analyst with Office of Public Counsel in Florida. From September 1974 until
31 August 1975, I held the position of Economic Analyst with the same office. Prior

to that time, I was employed by the law firm of Holland and Knight as a corporate legal assistant.

Q. In how many formal utility regulatory proceedings have you been involved?

A. As a result of my experience with the Florida Public Counsel and my work as a consulting economist, I have been actively involved in approximately 400 different formal regulatory proceedings concerning electric, telephone, natural gas, railroad, and water and sewer utilities.

Q. Have you done any independent research and analysis in the field of regulatory economics?

A. Yes, I have undertaken extensive research and analysis of various aspects of utility regulation. Many of the resulting reports were prepared for the internal use of the Florida Public Counsel. Others were prepared for use by the staff of the Florida Legislature and for submission to the Arizona Corporation Commission, the Florida Public Service Commission, the Canadian Department of Communications, and the Provincial Governments of Canada, among others. In addition, as I already mentioned, my Master's thesis concerned the theory of the regulated firm.

Q. Have you testified previously as an expert witness in the area of public utility regulation?

A. Yes. I have provided expert testimony on more than 250 occasions in proceedings before state courts, federal courts, and regulatory commissions throughout the United States and in Canada. I have presented or have pending expert testimony before 35 state commissions, the Interstate Commerce Commission, the Federal Communications Commission, the District of Columbia Public Service

Commission, the Alberta, Canada Public Utilities Board, and the Ontario Ministry of Culture and Communication.

Q. What types of companies have you analyzed?

A. My work has involved more than 425 different telephone companies, covering the entire spectrum from AT&T Communications to Stanton Telephone, and more than 55 different electric utilities ranging in size from Texas Utilities Company to Savannah Electric and Power Company. I have also analyzed more than 30 other regulated firms, including water, sewer, natural gas, and railroad companies.

Teaching and Publications

Q. Have you ever lectured on the subject of regulatory economics?

A. Yes, I have lectured to undergraduate classes in economics at Florida State University on various subjects related to public utility regulation and economic theory. I have also addressed conferences and seminars sponsored by such institutions as the National Association of Regulatory Utility Commissioners (NARUC), the Marquette University College of Business Administration, the Utah Division of Public Utilities and the University of Utah, the Competitive Telecommunications Association (COMPTEL), the International Association of Assessing Officers (IAAO), the Michigan State University Institute of Public Utilities, the National Association of State Utility Consumer Advocates (NASUCA), the Rural Electrification Administration (REA), North Carolina State University, and the National Society of Rate of Return Analysts.

Q. Have you published any articles concerning public utility regulation?

A. Yes, I have authored or co-authored the following articles and comments:

"Attrition: A Problem for Public Utilities—Comment." *Public Utilities Fortnightly*, March 2, 1978, pp. 32-33.

"The Attrition Problem: Underlying Causes and Regulatory Solutions." *Public Utilities Fortnightly*, March 2, 1978, pp. 17-20.

"The Dilemma in Mixing Competition with Regulation." *Public Utilities Fortnightly,* February 15, 1979, pp. 15-19.

"Cost Allocations: Limits, Problems, and Alternatives." *Public Utilities Fortnightly,* December 4, 1980, pp. 33-36.

"AT&T is Wrong." *The New York Times,* February 13, 1982, p. 19.

"Deregulation and Divestiture in a Changing Telecommunications Industry," with Sharon D. Thomas. *Public Utilities Fortnightly*, October 14, 1982, pp. 17-22.

"Is the Debt-Equity Spread Always Positive?" *Public Utilities Fortnightly,* November 25, 1982, pp. 7-8.

"Working Capital: An Evaluation of Alternative Approaches." *Electric Rate-Making,* December 1982/January 1983, pp. 36-39.

"The Staggers Rail Act of 1980: Deregulation Gone Awry," with Sharon D. Thomas. *West Virginia Law Review,* Coal Issue 1983, pp. 725-738.

"Bypassing the FCC: An Alternative Approach to Access Charges." *Public Utilities Fortnightly*, March 7, 1985, pp. 18-23.

"On the Results of the Telephone Network's Demise—Comment," with Sharon D. Thomas. *Public Utilities Fortnightly*, May 1, 1986, pp. 6-7.

"Universal Local Access Service Tariffs: An Alternative Approach to Access Charges." In *Public Utility Regulation in an Environment of Change,* edited by Patrick C. Mann and Harry M. Trebing, pp. 63-75. Proceedings of the Institute of Public Utilities Seventeenth Annual Conference. East Lansing, Michigan: Michigan State University Public Utilities Institute, 1987.

With E. Ray Canterbery. Review of *The Economics of Telecommunications: Theory and Policy* by John T. Wenders. *Southern Economic Journal* 54.2 (October 1987).

"The Marginal Costs of Subscriber Loops," A Paper Published in the Proceedings of the Symposia on Marginal Cost Techniques for Telephone Services. The National Regulatory Research Institute, July 15-19, 1990 and August 12-16, 1990.

With E. Ray Canterbery and Don Reading. "Cost Savings from Nuclear Regulatory Reform: An Econometric Model." *Southern Economic Journal,* January 1996.

1 ***Professional Memberships***

2

3 **Q. Do you belong to any professional societies?**

4 A. Yes. I am a member of the American Economic Association.

5

PROPRIETARY EXHIBIT 1

for the

TESTIMONY

OF BEN JOHNSON, PH.D.

On Behalf of

THE STATE OF ARIZONA

RESIDENTIAL UTILITY CONSUMER OFFICE

Before the

ARIZONA CORPORATION COMMISSION

Docket No. T-01051B-03-0454

Docket No. T-00000D-00-0672

Note 1: Multiple proprietary notes on the same line are noted by a, b, c, etc.

Note 2: Proprietary tables in their entirety will follow this list.

Page	Line(s)	Proprietary Information

Page	Line(s)	Proprietary Information

Table 1
Pure TSLRIC Approach
****Proprietary****

Customer Category	Local Direct Revenues	Local Direct Costs	Contribution	Contribution Percent
Residential				
Zone 1				
Zone 2				
Zone 3				
Statewide				
Business				
Zone 1				
Zone 2				
Zone 3				
Statewide				

Table 3
Matrix of Revenue-cost Comparisons for
UNE Zone 1 Residential Mid-Toll Users
****Proprietary****

Feature Revenues	Total Revenue	Total Costs	Contribution (Subsidy)
Example 1: $ 0.00			
Example 2: $ 2.50			
Example 3: $ 5.00			
Example 4: $ 9.25			
Example 5: $12.05			

Table 7
CLEC Market Share as of December 31, 2003
per Qwest data
*****Proprietary*****

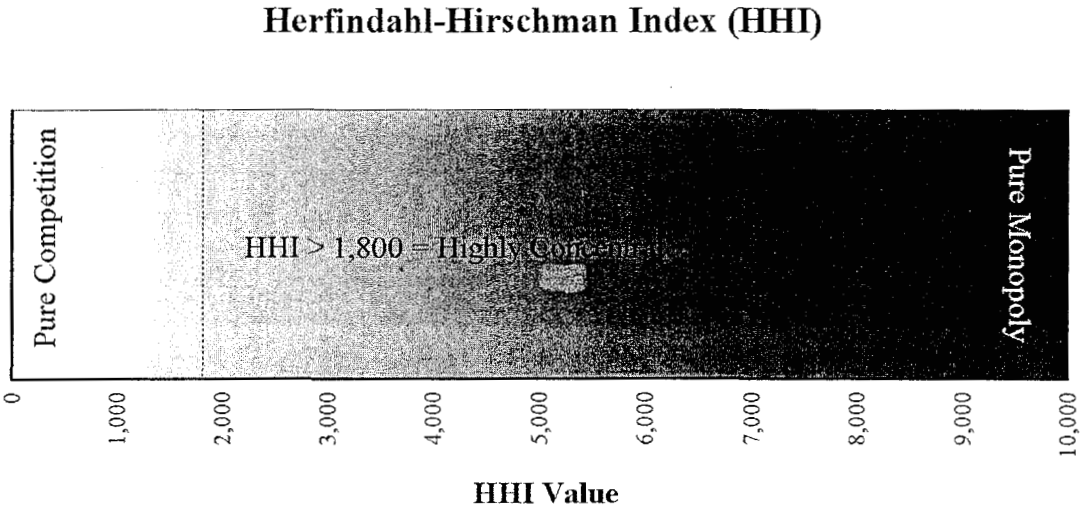
	Total	**Business**	**Residential**
CLEC market share in Qwest's Area			

Table 10
Competitive Activity in
Qwest's Service Area
*****Proprietary*****

	CLEC Total Market Share	**UNE-L/EEL**	**UNE-P**	**Resale**	**Facilities-Based**
Entire Qwest Area					
Qwest Competitive Zones					

EXHIBIT 2

Graph 3



Graph 4

Pure TSLRIC Subsidy Analysis

Qwest - 2003 Revenues

Description	Revenues	Costs		
	Local	Local Direct	Common @ 10.4%	Contribution (Subsidy)
Residential Service				
Zone 1				
Zone 2				
Zone 3				
Statewide Average				
Business Service				
Zone 1				
Zone 2				
Zone 3				
Statewide Average				

Subsidy Analysis with Allocations

Qwest - 2003 Revenues

Description	Revenues Local	Costs Local Direct	Joint @ 50.0%	Common @ 0.104	Contribution (Subsidy)
Residential Service					
Zone 1					
Zone 2					
Zone 3					
Statewide Average					
Business Service					
Zone 1					
Zone 2					
Zone 3					
Statewide Average					

Subsidy Analysis with Multiple Services

Low Toll Users

Description	Revenues Local	Revenues Other	Costs Local Direct	Costs Other Direct	Costs Joint @ 100.0%	Costs Common @ 10.4%	Contribution (Subsidy)
Residential Service							
Zone 1							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Zone 2							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Zone 3							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Statewide Average							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							

Subsidy Analysis with Multiple Services

Mid Toll Users

Description	Revenues: Local	Revenues: Other	Costs: Local Direct	Costs: Other Direct	Costs: Joint @ 100.0%	Costs: Common @ 10.4%	Contribution (Subsidy)
Residential Service							
Zone 1							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Zone 2							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Zone 3							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Statewide Average							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							

Subsidy Analysis with Multiple Services

High Toll Users

	------Revenues------		----------Costs----------				
Description	Local	Other	Local Direct	Other Direct	Joint @ 100.0%	Common @ 10.4%	Contribution (Subsidy)
Residential Service							
Zone 1							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Zone 2							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Zone 3							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Statewide Average							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							

Residential Local Exchange Service Competition in Qwest Wire Centers

Sorted by Qwest Market Share

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
PHNXAZMA	PHOENIX-MAIN			
TCSNAZMA	TUCSON-MAIN			
PHNXAZBW	PHOENIX-BETHANY WEST			
PHNXAZSE	PHOENIX-SOUTHEAST			
PHNXAZ81	PHOENIX-FOOTHILLS			
AGFIAZSR	SUNRISE			
TCSNAZFW	FLOWING-WELLS			
TCSNAZSE	TUCSON SE			
CSGRAZMA	CASA GRANDE			
PHNXAZPP	PHOENIX-PECOS			
GDYRAZCW	COLDWATER			
PHNXAZNO	PHOENIX-NORTH			
SCDLAZSH	SHEA			
TEMPAZMC	TEMPE-MCCLINTOCK			
PHNXAZMY	PHOENIX-MARYVALE			
MESAAZGI	GILBERT			
PHNXAZMR	PHOENIX-MID RIVERS			
PHNXAZPR	PHOENIX-PEORIA			
CHNDAZWE	CHANDLER-WEST			
PHNXAZEA	PHOENIX-EAST			
YUMAAZMA	YUMA-MAIN			
TCSNAZCR	CRAYCROFT			
YUMAAZSE	YUMA-SOUTHEAST			
TCSNAZRN	RINCON			
SPRSAZWE	SUPERSTITION-WEST			
CHNDAZMA	CHANDLER-MAIN			
LTPKAZMA	LITCHFIELD PARK			
BRDSAZMA	BEARDSLEY			
PHNXAZNW	PHOENIX-NORTHWEST			
GLDLAZMA	GLENDALE-MAIN			
CHNDAZSO	CHANDLER-SOUTH			
TCSNAZNO	TUCSON-NORTH			
SCDLAZMA	SCOTTSDALE			
PHNXAZWE	PHOENIX-WEST			
PHNXAZCA	PHOENIX-CACTUS			
TEMPAZMA	TEMPE-MAIN			
SPRSAZMA	SUPERSTITION-MAIN			
MESAAZMA	MESA-MAIN			
PHNXAZGR	PHOENIX-GREENWAY			
TCSNAZCO	CORTARO			
TCSNAZSO	TUCSON-SOUTH			

Residential Local Exchange Service Competition in Qwest Wire Centers

Sorted by Qwest Market Share

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
TCSNAZCA	CATALINA			
TCSNAZEA	TUCSON-EAST			
DRVYAZNO	DEER VALLEY NORTH			
PHNXAZSO	PHOENIX-SOUTH			
PAGEAZMA	PAGE			
PRSCAZMA	PRESCOTT MAIN			
CRNDAZMA	CORONADO			
FLGSAZEA	FLAGSTAFF EAST			
PRVYAZPP	PINNACLE PEAK			
SCDLAZTH	THUNDERBIRD			
PHNXAZNE	PHOENIX-NORTHEAST			
TLSNAZMA	TOLLESON			
TCSNAZTV	TANQUE VERDE			
PHNXAZSY	PHOENIX-SUNNYSLOPE			
GLOBAZMA	GLOBE			
FLGSAZMA	FLAGSTAFF MAIN			
YUMAAZFT	YUMA FORTUNA			
GNVYAZMA	GREEN VALLEY			
SPRSAZEA	SUPERSTITION-EAST			
FTMDAZMA	FORT MCDOWELL			
CVCKAZMA	CAVE CREEK			
CTWDAZSO	COTTONWOOD-SOUTH			
SRVSAZMA	SIERRA VISTA-MN			
HGLYAZMA	HIGLEY			
PYSNAZMA	PAYSON			
PRSCAZEA	PRESCOTT EAST			
NGLSAZMA	NOGALES			
SEDNAZMA	SEDONA-MAIN			
HGLYAZQC	HGLY QUEEN CREEK			
SEDNAZSO	SEDONA-SOUTH			
NGLSAZMW	NOGALES MIDWAY			
TCSNAZWE	TUCSON WEST			
CHVYAZMA	CHINO VALLEY			
VAILAZSO	VAIL SOUTH			
NWRVAZMA	NEW RIVER			
PHNXAZLV	PHOENIX-LAVEEN			
TCSNAZSW	TUCSON SOUTHWEST			
CTWDAZMA	COTTONWOOD-MAIN			
MRCPAZMA	MARICOPA			
HMBLAZMA	HUMBOLDT			
CRCYAZMA	CIRCLE CITY			

Residential Local Exchange Service Competition in Qwest Wire Centers

Sorted by Qwest Market Share

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
STFDAZMA	STANFIELD			
WNSLAZMA	WINSLOW			
WNBGAZ01	WINTERSBURG			
SNMNAZMA	SAN MANUEL			
ELOYAZ01	ELOY			
CLDGAZMA	COOLIDGE			
MARNAZMA	MARANA			
MSPKAZMA	MUNDS PARK			
SRVSAZNO	SIERRA VISTA NO			
SPRRAZMA	SUPERIOR			
WLCXAZMA	WILLCOX			
TUBCAZMA	TUBAC			
BCKYAZMA	BUCKEYE			
BNSNAZMA	BENSON			
WHTKAZMA	WHITE TANKS			
MIAMAZMA	MIAMI			
DDVLAZNM	DUDLEYVILLE			
JSCYAZMA	JOSEPH CITY			
FLRNAZMA	FLORENCE			
TMBSAZMA	TOMBSTONE			
YRNLAZMA	YARNELL			
PIMAAZMA	PIMA			
BLCNAZMA	BLACK CANYON			
DGLSAZMA	DOUGLAS			
PLMNAZMA	PALOMINAS			
CMVRAZMA	CAMP VERDE			
VAILAZNO	VAIL NORTH			
SMTNAZMA	SOMERTON			
ORCLAZMA	ORACLE			
WLTNAZMA	WELLTON			
SFFRAZMA	SAFFORD			
BNSNAZSD	SAINT DAVID			
TNCKAZMA	TONTO CREEK			
FLGSAZSO	FLAGSTAFF SOUTH			
SRVSAZSO	SIERRA VISTA SO			
FTMDAZNO	RIO VERDE			
BISBAZMA	BISBEE			
MMTHAZMA	MAMMOTH			
WLMSAZMA	WILLIAMS			
PINEAZMA	PINE			
GLBNAZMA	GILA BEND			

Residential Local Exchange Service Competition in Qwest Wire Centers

Sorted by Qwest Market Share

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
KRNYAZMA	KEARNY			
ASFKAZMA	ASHFORK			
WCBGAZMA	WICKENBURG			
GRCNAZMA	GRAND CANYON			
HYDNAZMA	HAYDEN			
PTGNAZEL	PATOGONIA ELGIN			
PTGNAZMA	PATAGONIA			
TCSNAZML	MOUNT LEMMON			
WHTLAZMA	WHITLOW			

Business Local Exchange Service Competition in Qwest Wire Centers

Sorted by HHI

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
PHNXAZMA	PHOENIX-MAIN			
PHNXAZPP	PHOENIX-PECOS			
TCSNAZSW	TUCSON SOUTHWEST			
PHNXAZ81	PHOENIX-FOOTHILLS			
HGLYAZMA	HIGLEY			
TCSNAZMA	TUCSON-MAIN			
TCSNAZTV	TANQUE VERDE			
SEDNAZMA	SEDONA-MAIN			
SPRSAZMA	SUPERSTITION-MAIN			
CSGRAZMA	CASA GRANDE			
HGLYAZQC	HGLY QUEEN CREEK			
SRVSAZSO	SIERRA VISTA SO			
PHNXAZCA	PHOENIX-CACTUS			
VAILAZSO	VAIL SOUTH			
MSPKAZMA	MUNDS PARK			
HMBLAZMA	HUMBOLDT			
CVCKAZMA	CAVE CREEK			
FTMDAZMA	FORT MCDOWELL			
YUMAAZFT	YUMA FORTUNA			
PHNXAZMY	PHOENIX-MARYVALE			
NWRVAZMA	NEW RIVER			
GLDLAZMA	GLENDALE-MAIN			
PHNXAZPR	PHOENIX-PEORIA			
PHNXAZGR	PHOENIX-GREENWAY			
SPRSAZEA	SUPERSTITION-EAST			
FLGSAZEA	FLAGSTAFF EAST			
SCDLAZSH	SHEA			
CTWDAZMA	COTTONWOOD-MAIN			
PHNXAZNW	PHOENIX-NORTHWEST			
PRVYAZPP	PINNACLE PEAK			
SPRSAZWE	SUPERSTITION-WEST			
PHNXAZSO	PHOENIX-SOUTH			
PHNXAZLV	PHOENIX-LAVEEN			
CHNDAZMA	CHANDLER-MAIN			
MESAAZGI	GILBERT			
CHVYAZMA	CHINO VALLEY			
TCSNAZCO	CORTARO			
GDYRAZCW	COLDWATER			
TEMPAZMC	TEMPE-MCCLINTOCK			
MESAAZMA	MESA-MAIN			
CHNDAZSO	CHANDLER-SOUTH			

Business Local Exchange Service Competition in Qwest Wire Centers

Sorted by HHI

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
LTPKAZMA	LITCHFIELD PARK			
TCSNAZCA	CATALINA			
BRDSAZMA	BEARDSLEY			
PRSCAZMA	PRESCOTT MAIN			
CRNDAZMA	CORONADO			
NGLSAZMW	NOGALES MIDWAY			
TCSNAZNO	TUCSON-NORTH			
SRVSAZMA	SIERRA VISTA-MN			
AGFIAZSR	SUNRISE			
PHNXAZMR	PHOENIX-MID RIVERS			
PHNXAZSY	PHOENIX-SUNNYSLOPE			
PHNXAZNO	PHOENIX-NORTH			
TCSNAZSE	TUCSON SE			
PHNXAZNE	PHOENIX-NORTHEAST			
YUMAAZSE	YUMA-SOUTHEAST			
PHNXAZWE	PHOENIX-WEST			
SCDLAZMA	SCOTTSDALE			
SCDLAZTH	THUNDERBIRD			
TEMPAZMA	TEMPE-MAIN			
TCSNAZFW	FLOWING-WELLS			
GNVYAZMA	GREEN VALLEY			
CHNDAZWE	CHANDLER-WEST			
FLGSAZMA	FLAGSTAFF MAIN			
PYSNAZMA	PAYSON			
TCSNAZRN	RINCON			
PHNXAZBW	PHOENIX-BETHANY WEST			
BCKYAZMA	BUCKEYE			
YUMAAZMA	YUMA-MAIN			
TCSNAZEA	TUCSON-EAST			
DRVYAZNO	DEER VALLEY NORTH			
TMBSAZMA	TOMBSTONE			
PHNXAZSE	PHOENIX-SOUTHEAST			
PHNXAZEA	PHOENIX-EAST			
TCSNAZSO	TUCSON-SOUTH			
TCSNAZCR	CRAYCROFT			
TLSNAZMA	TOLLESON			
SRVSAZNO	SIERRA VISTA NO			
BLCNAZMA	BLACK CANYON			
GLOBAZMA	GLOBE			
SEDNAZSO	SEDONA-SOUTH			
PTGNAZEL	PATOGONIA ELGIN			

Business Local Exchange Service Competition in Qwest Wire Centers

Sorted by HHI

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
MIAMAZMA	MIAMI			
CRCYAZMA	CIRCLE CITY			
ELOYAZ01	ELOY			
PLMNAZMA	PALOMINAS			
PAGEAZMA	PAGE			
PRSCAZEA	PRESCOTT EAST			
WLMSAZMA	WILLIAMS			
PINEAZMA	PINE			
NGLSAZMA	NOGALES			
GLBNAZMA	GILA BEND			
CTWDAZSO	COTTONWOOD-SOUTH			
TNCKAZMA	TONTO CREEK			
WNSLAZMA	WINSLOW			
MMTHAZMA	MAMMOTH			
MRCPAZMA	MARICOPA			
CLDGAZMA	COOLIDGE			
BNSNAZSD	SAINT DAVID			
BNSNAZMA	BENSON			
WCBGAZMA	WICKENBURG			
SFFRAZMA	SAFFORD			
SMTNAZMA	SOMERTON			
TUBCAZMA	TUBAC			
CMVRAZMA	CAMP VERDE			
WNBGAZ01	WINTERSBURG			
VAILAZNO	VAIL NORTH			
BISBAZMA	BISBEE			
DGLSAZMA	DOUGLAS			
STFDAZMA	STANFIELD			
PIMAAZMA	PIMA			
GRCNAZMA	GRAND CANYON			
ASFKAZMA	ASHFORK			
WLTNAZMA	WELLTON			
WLCXAZMA	WILLCOX			
TCSNAZWE	TUCSON WEST			
FTMDAZNO	RIO VERDE			
HYDNAZMA	HAYDEN			
WHTKAZMA	WHITE TANKS			
SPRRAZMA	SUPERIOR			
YRNLAZMA	YARNELL			
PTGNAZMA	PATAGONIA			
ORCLAZMA	ORACLE			

Business Local Exchange Service Competition in Qwest Wire Centers

Sorted by HHI

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
MARNAZMA	MARANA			
FLGSAZSO	FLAGSTAFF SOUTH			
JSCYAZMA	JOSEPH CITY			
FLRNAZMA	FLORENCE			
TCSNAZML	MOUNT LEMMON			
KRNYAZMA	KEARNY			
SNMNAZMA	SAN MANUEL			
WHTLAZMA	WHITLOW			
DDVLAZNM	DUDLEYVILLE			

EXHIBIT
RUCO-11
admitted

IN THE MATTER OF QWEST CORPORATION'S
FILING OF RENEWED PRICE REGULATION PLAN.

DOCKET NO. T-01051B-03-0454

and

IN THE MATTER OF THE INVESTIGATION OF THE
COST OF TELECOMMUNICATIONS ACCESS.

DOCKET NO. T-00000D-00-0672

DIRECT TESTIMONY

OF

DR. BEN JOHNSON

PROPRIETARY

On Behalf of
The
RESIDENTIAL UTILITY CONSUMER OFFICE

November 18, 2004

TESTIMONY

OF BEN JOHNSON, PH.D.

On Behalf of

THE STATE OF ARIZONA

RESIDENTIAL UTILITY CONSUMER OFFICE

Before the

ARIZONA CORPORATION COMMISSION

Docket No. T-01051B-03-0454

Docket No. T-00000D-00-0672

Introduction

Q. Would you please state your name and address?

A. Ben Johnson, 2252 Killearn Center Boulevard, Tallahassee, Florida 32309.

Q. What is your present occupation?

A. I am a consulting economist and president of Ben Johnson Associates, Inc., an economic research firm specializing in public utility regulation.

Q. Have you prepared an appendix that describes your qualifications in regulatory and utility economics?

A. Yes. Appendix A, attached to my testimony, will serve this purpose.

Q. Does your testimony include any attachments?

A. Yes. I have attached two proprietary exhibits and five schedules. These attachments were prepared under my supervision and are true and correct to the best of my knowledge.

Q. What is your purpose in making your appearance at this hearing?

A. Our firm has been retained by the Residential Utility Consumer Office ("RUCO") to assist with RUCO's participation in this proceeding, which is intended to resolve issues raised in two separate Arizona Corporation Commission (Commission) dockets – T-01051B-03-0454 (which examines proposed revisions to Qwest Corporation's Arizona Price Regulation Plan) and T-00000D-00-0672 (which investigates the pricing of Qwest's intrastate switched access service).

Following this introduction, my testimony has five major sections. In the first section, I briefly sketch the background of this proceeding. In the second section, I discuss universal service and access issues. In this section, I sketch the historical context of key issues involved in this proceeding, including positions taken over the past century by the U.S. Supreme Court, other state public utility commissions, Congress, and the Federal Communications Commission (FCC) concerning certain issues which are crucial to the outcome of this proceeding. I focus on universal service and relate this issue to those surrounding access rates and costs. I explain that transferring cost recovery responsibility from inter-exchange carriers (IXCs) to end users (through higher local rates or per-line end user charges) may result in net benefits for high toll users but low toll users may experience higher bills, which may discourage them from having phone service. I conclude with a discussion of the proposals of Qwest Corporation (Qwest or

"the Company") for changes to the Arizona universal service fund (AUSF) and whether these proposals are commensurate with a properly functioning USF.

In the third section, I outline how regulated telecommunications markets have evolved and the current status of those markets. In this section, I also introduce some market data in an effort to examine the effect various regulatory mechanisms have had on prices and other characteristics of these markets. I discuss the inflation offset, or "X" factor, which is a key part of the price cap plans in Arizona and most other jurisdictions.

In the fourth section, I summarize and respond to Qwest's claims regarding the competitive landscape in Arizona. In this section, I use market data to examine the extent to which competitive local exchange carriers (CLECs) have been successful in competing with Qwest. The fifth section contains my response to individual revisions that the Company is proposing (the proposed Plan) relative to its existing Arizona Price Regulation Plan (the current Plan).

Q. Would you please very briefly summarize your conclusions?

A. As I explain in section two of my testimony, the investigation of switched access charges that has been merged into this proceeding is closely tied to the concept of universal service. To achieve further reductions in switched access rates, Qwest will most likely seek higher local exchange rates. This type of "rate rebalancing," as it has been called, could endanger the universal service goal, particularly if it is implemented in an extreme manner. My analysis comparing the revenues Qwest generates from a typical customer's bill to the costs it incurs in serving that customer indicates that residential rates are not "subsidized." However, they do not

generate profit margins as large as those generated by business rates. Hence, Qwest could use its proposed pricing flexibility to increase residential local exchange rates, particularly in the low density, higher cost parts of the state where margins are slim, and competition is limited.

If the Commission is convinced that the existing system of implicit support is not sustainable or acceptable, it would be more appropriate to revamp the Arizona Universal Service Fund, to provide an appropriate mechanism for dealing with these cost disparities. In section two, I outline how the AUSF can be properly constructed using benchmarks and geographic averaging.

As I explain in section three of my testimony, rate of return regulation and effective competition have historically been quite successful in forcing firms to provide customers with the benefits of cost reductions and requiring customers to compensate firms for cost increases. I present graphical evidence that, historically, traditional regulation has been effective in reducing prices to reflect declining costs. In recent years, however, as regulators have moved away from traditional regulation and toward alternatives (like price caps), the RBOCs have not passed through to consumers a large portion of the cost reductions they have experienced since about 1995. I present further graphical evidence that neither the current regulatory system, nor competitive pressures, are forcing rates down to levels that are fully consistent with the declining level of costs incurred by the RBOCs.

As I explain in section four, the Arizona telecommunications market continues to retain barriers to entry for competitive carriers. I attempt to measure those barriers to entry through an examination of competitors' market shares. I found that in many parts of the state, local competitors have not yet enjoyed much success in penetrating the local exchange market,

developing a market presence, gaining customers, or building revenues. Despite the Company's rhetoric and selective evidence, the competitive market penetration is very modest in many parts of the state, as indicated by the Company's dominant market share. The mere fact that a certain number of "warm bodies" have shown up and announced their intention to offer local telephone service is not indicative of the extent to which meaningful "entry" is actually occurring or the extent to which customers are willing to accept these firms' offerings as viable substitutes for those of their existing carrier.

As I explain in section five, after careful review of each of Qwest's proposed changes to its current Plan, I conclude that most of the changes it proposes do not represent an improvement over the current Plan. Some of the proposed changes would exacerbate existing flaws, or they would create new problems. As a result, I have proposed an alternative Plan with an alternative basket structure and an alternative system of price caps. Of note, I believe it is appropriate to continue using a productivity offset to cap rates because (1) it better ensures that industry-wide increases in incumbent local exchange carrier (ILEC) productivity and decreases in ILEC costs will be passed through to customers, and (2) historical industry wide data confirms that a 4% or 5% offset is not too large. Finally, in this section, I conclude that many of Qwest's rate design proposals are reasonable, provided that Qwest implements these proposals within the confines of the pricing flexibility afforded by the price cap system, and provided that any expansion of the AUSF is accompanied by appropriate structural improvements to the fund.

I. BACKGROUND

T-00000D-00-0672 (Access Docket)

Q. Would you please begin by briefly sketching the background of the Access Docket?

A. Certainly. The Commission opened the Access Docket in September 2000 with the intent of analyzing the relationship between the rates charged and the costs incurred in the provision of access service. [Procedural Order, December 3, 2001, p. 1] Due to "significant changes" that it cited as having occurring in access markets, the Commission Staff (Staff) filed a request for a procedural order in this docket on November 21, 2001. [Id.] In that request, Staff developed a list of 25 questions which it felt the Commission should seek comment on from the intervening parties. [Id., pp. 2-4] The Commission subsequently issued a Procedural Order on December 3, 2001. [Id., p. 5] In that Order, the Commission asked parties to comment on each of Staff's 25 questions and asked Staff to file a proposed procedural schedule. [Id., p. 2] The list of questions covered such topics as methods for reforming intrastate access charges, implicit subsidies, monopoly power in access markets, universal service, and a host of procedural matters.

After having the time to file comments extended by the Commission, the Arizona Local Exchange Carrier Association ("ALECA"), AT&T, Citizens Communications, Cox Telecom, Eschelon Telecom, Qwest, RUCO, Sprint, Table Top Telephone Company, Verizon, and Worldcom all filed responses to the Commission's questions by March 8, 2001. [Staff Recommended Procedural Order, March 28, 2002, pp. 1-2] After reviewing the filed

comments Staff recommended that the Commission open a generic proceeding in which the parties could file multiple rounds of testimony. [Procedural Order, May 21, 2002, p. 1] Staff felt that parties should be required to draft direct testimony that answered four general questions, similar to those asked in the first Procedural Order.

1. Whether IXCs may be at a competitive disadvantage if access charges are not reformed.
2. Whether transferring cost recovery responsibility from IXCs through CCL charges to end users (through flat rate end user charges) results in end users subsidies of ILEC-provided toll services.
3. Whether transferring cost recovery responsibility from IXCs (through CCL charges) to end users (though end flat rate end user charges) results in end user benefits.
4. What considerations make access charge reform in the public interest and in addition what considerations make the interested party's proposed access charge reform plan in the public interest. [Id., pp. 1-2]

Following a Qwest response which sought to exclude the consideration of special access issues from this proceeding, the Commission issued a Procedural Order on May 21, 2002. The Commission declined to exclude discussion of special access, while recognizing that the primary focus of the investigation is switched access, and it adopted these four general questions for purposes of guiding the parties' testimony. [Id., p. 3] The Order also set a procedural timetable for the filing of testimony.

On June 28, 2002 (the day that intervenors were scheduled to file direct testimony), Staff filed a Motion to Suspend the Procedural Schedule. It did so because it did not have "sufficient resources available to adequately address the very complex and difficult issues raised

in this case." [Procedural Order, July 8, 2002, p. 1] The Commission granted the motion on July 8, 2002.

Parties to the Access Docket filed briefs on November 3, 2003, addressing (1) whether the Commission must make a fair value determination and (2) whether Qwest's access charges should be examined separately from other carriers'. In a November 17, 2003 Procedural Order, the Commission ruled as follows.

> The general consensus of all parties is that access charges may not be reduced outside the context of a rate setting proceeding unless, at a minimum, a revenue-neutral mechanism is developed. Due to these limitations, and because Qwest has requested a review of its current rate cap plan in Docket NO. T-01051B-03-0454, it is appropriate to consider Qwest's access charges in conjunction with its rate cap review, where all of Qwest's rates will be analyzed. [Procedural Order, November 17, 2003, p. 3]

The Access Investigation was subsequently combined with the rate cap review in this proceeding, and thus it is feasible for the Commission to implement changes to Qwest's access rate structure in this proceeding, should it decide this is appropriate.

T-01051B-03-0454 (Price Cap Docket)

Q. Would you please begin by briefly sketching the background of the Price Cap Docket?

A. Yes. The origin of the Price Cap Docket can be found in the Commission's Order No. 63487. This Order approved the Company's current Plan. The current Plan was contained within a Settlement Agreement drafted by Qwest and Staff and filed with the Commission on October

20, 2000 in Docket No. T-01051B-99-0105. One of the provisions of that Settlement Agreement was a requirement that Qwest

> submit an application for continuation or modification of the Price Cap Plan nine months prior to its expiration, to be reviewed by Staff and RUCO. Continuation or modification of the Plan is subject to Commission approval and the Plan remains in effect pending a Commission decision renewing, modifying or terminating it. [Decision No. 63487, March 30, 2001, p. 6]

Qwest filed its application on July 1, 2003. Specifically, Qwest filed a Revised Price Regulation Plan (proposed Plan). The Commission's Decision No. 66772 lays out some of the major provisions of the proposed Plan.

> 1. Elimination of the productivity/inflation adjustment mechanism;
> 2. Replacement of an indexed basket cap on the Basic/Essential Service Basket with a newly determined revenue cap;
> 3. Introduction of a "competitive zone" test for moving services out of the Basic/Essential Services Basket on a geographic basis;
> 4. Ability to move wholesale services to a competitive sub-basket within Basket 2;
> 5. Elimination of the revenue cap on the Competitive Services Basket; and
> 6. Greater flexibility for services in the Competitive Services Basket.
>
> [Decision No. 66772, February 10, 2004, p. 1]

Decision No. 66772 was issued on February 10, 2004 as a response to a November 7, 2003 Qwest Motion to Clarify, Or In the Alternative, Terminate Price Cap Plan. In the Motion, Qwest asked the Commission whether (1) the Price Cap Index for Basket 1 Services,

(2) access charges, and (3) the hard caps for Basket 1 Services would change if the current Plan were to expire on March 30, 2004. In its Decision No. 66772, the Commission ruled that the Price Cap Index and hard caps for Basket 1 Services would remain in place even if the Commission did not approve a revised Price Regulation Plan by March 30. The Commission also directed Qwest to make a final $5 million reduction in switched access charges on April 1, 2004.

On February 25, 2004, Qwest filed an Application for Rehearing of Decision No. 66772. In that Application, Qwest challenged each of the Commission's findings. After debate among five parties to the case, the Commission chose to affirm its Decision No. 66772 findings regarding Basket 1 mechanisms, but it "reconsidered" its finding regarding access charge reductions. [Decision No. 67047, June 18, 2004, p. 7]

Decision No. 66772 was also important insofar as it required the Company to comply with the filing requirements of A.A.C. R14-2-103 (103). The Commission chided Qwest for not, to that point, filing updated and accurate financial statements. The 103 filing that Qwest was ordered to assemble would contain those statements. Decision No. 66772 read:

> Under the terms of the Settlement Agreement, Staff is entitled to request whatever information it believes is necessary for its analysis. Thus, Qwest has agreed to provide Staff with the information that would be required under R14-2-103, if Staff believes such information is necessary for its analysis. Because at this point, Qwest is seeking to continue some sort of Price Cap Regulation, Staff should review the information required under R14-2-103 to determine if the form of the information that must be provided pursuant to that rule is best suited to Staff's task of reviewing the experience under the current Price Cap

> Plan and for evaluating a modified plan. [Decision No. 66772, February 10, 2004, p. 9]

Qwest submitted its 103 filing on May 20, 2004, simultaneous to the testimony of nine Company witnesses.

Q. Are you familiar with the testimony that has been filed by Qwest in this proceeding?

A. Yes. Peter Cummings testified to the fair rate of return on equity and total capital for Qwest in connection with the Company's 103 filing. Phillip Grate testified to the contents of Qwest's 103 filing. Nancy Heller Hughes testified to the Reproduction Cost New Less Depreciation (RCNLD) value of Qwest's Arizona plant. Scott McIntyre testified in support of revisions to Private Line, Switched Access, and Billing and Collection services that the Company has introduced in this proceeding. Teresa Million testified to the contents of the Total Service Long Run Incremental Cost (TSLRIC) studies that have been filed in support of the price changes that the Company has filed in this proceeding. Harry Shooshan III testified to a policy framework for the proposed Plan and the current competitive conditions that exist in Qwest's service area in Arizona. David Teitzel testified to the current competitive conditions that exist in Qwest's service area in Arizona and the Company's proposals that are intended to address increasing competitive pressures. K. Dennis Wu testified to a "technical update" for Qwest's Arizona depreciation rates. Finally, David Ziegler's testimony details the Company's 103 filing, proposed Plan, rate restructuring proposals, AUSF proposals, and access proposals.

I will be responding to some of the issues raised in the Qwest testimony, while other RUCO witnesses will be responding to other issues.

Qwest Proposed Plan

Q. Would you please summarize the ways in which the proposed Plan differs from the current Plan?

A. Yes. The following are some key provisions of the current Plan:

1. Existing services are grouped into three baskets.
2. Prices for Basic/Essential Non-competitive Services cannot change in a given year by more than the change in the preceding year Gross Domestic Product Price Index (GDP-PI) minus an Offset.
3. Prices for certain Basic/Essential Non-competitive Services, like flat rate residential and business service, cannot exceed their initial levels for the term of the current Plan.
4. Prices for all other Basic/Essential Non-competitive rate elements cannot change in a given year by more than 25%.
5. Prices for all Wholesale services cannot exceed their initial levels for the term of the current Plan unless the pricing rules governing them are altered.
6. Intrastate Switched Access Services must be reduced by $5 million per year for each of three years.

7. Prices for Flexibly-priced Competitive Services cannot change in a given year by more than 10%.
8. Initially, revenue headroom for Flexibly-priced Competitive Services is capped at $25.3 million but will increase by $5 million per year to offset the $5 million per year reductions in Intrastate Switched Access Services.
9. All new and packages services (unless they are wholesale in nature) are classified as Flexibly-priced Competitive Services.
10. The designation of Basic/Essential Non-competitive Services can be changed to Flexibly-priced Competitive Services if they meet the "competitive" standards of A.A.C. R14-2-1108.
11. Yearly, Qwest will file with the Commission a report containing the prices and quantities of its price capped services, as well as the Basic/Essential Non-competitive Services and Flexibly-priced Competitive Services indicies.

The following are some key provisions of the proposed Plan:

1. Services are grouped into three baskets.
2. Prices for Basic/Essential Non-competitive Services cannot change in a given year by more than a basket-level revenue cap.
3. Prices for individual Basic/Essential Non-competitive Services may be increased so long as Commission approval is obtained.

4. Qwest can establish "competitive areas" or zones in which competitive carriers are marketing or offering "alternative" services provided over the competitors' facilities.
5. Basic/Essential Non-competitive Services provided in competitive zones will be reclassified as Flexibly-priced Competitive Services.
6. The Wholesale Services basket is split into two subparts – A (non-competitive services) and B (competitive services).
7. Prices for Wholesale A Services cannot exceed their initial levels for the term of the current Plan unless the pricing rules governing them are altered.
8. Prices for Wholesale B Services can change with Commission approval, consistent with A.A.C. R14-2-1109.
9. The Commission can grant approval to the Company for the transfer of services from Wholesale A to Wholesale B.
10. The Company has nearly complete freedom to increase or decrease prices for Flexibly-priced Competitive Services.
11. All new services and new packages of services are classified as Flexibly-priced Competitive Services.

Q. Would you please discuss in greater detail some of the most significant changes being proposed by Qwest?

A. Yes. The first and most obvious difference is the establishment of "competitive areas" or "zones" – Qwest wire centers in which competition is demonstrably present. [Proposed Plan, footnote 2] Qwest has included the following provision in its proposed Plan.

> Qwest is allowed under the Renewed Price Plan to make filings supporting its evidence showing that telephone services are competitive in a specific geographic relevant market area (i.e., a *Competitive Zone*). Upon application by Qwest and a showing of competition within specific wire centersor geographic subset thereof, whether or not from certificated providers, the Commission may designate each such wire center or geographic subset thereof as a Competitive Zone. [Proposed Plan, 2.iv.]

Competitive zones would be used to reclassify services in the Basic/Essential Non-competitive basket to the Flexibly-priced Retail Competitive basket. [Id., 2.vii.] This "competitive zone" concept is not included in the current Plan.

Q. How does the Company define a competitive zone?

A. The simple answer is that a competitive zone is a wire center, or group of wire centers, in which the Company is experiencing competitive pressures for "a group of identified services."

Q. How does the Company determine if it is experiencing competitive pressures in a given area?

A. The proposed Plan contains a two-pronged test. First, "alternative" services to Qwest's services must be present in the area. Qwest defines these "alternatives" as "functionally equivalent or substitute services readily available at competitive rates, terms and conditions." [Id., footnote 3] Second, these alternatives must be "reasonably available" to consumers in the area. Qwest defines "reasonably available" as follows:

> Either (one of each or, two of type 1 or, two of type 2):
> (1) A competitor has facilities in place and is marketing or offering services in competition with Qwest; and/or,
> (2) A competitor is marketing or offering services through the provision of unbundled network elements provided by Qwest.
> [Id., 2.vi.]

Q. What is the implication of this competitive zone approach?

A. Under the proposed Plan, as in the current Plan, Basic/Essential Non-competitive Services receive the greatest amount of pricing constraint. To the extent certain of these services are determined to be provided in a competitive zone, they will be shifted to the Flexibly-priced Retail Competitive Category; as a result, they will be subject to far fewer pricing constraints; arguably, the Company will be free to charge whatever the market will bear. [Id., footnote 2]

Q. How do Qwest witnesses support the competitive zone approach?

A. Mr. Shooshan summarizes the Company's reasoning.

> The new competitive zone test is preferable to a statewide, service-by-service approval for two reasons. First, a service-by-service approach to the classification of competitive services is not necessary or appropriate. This is warranted since Qwest's competitors typically offer—and customers increasingly purchase—packages of services rather than individual services. Second, the competitive zone approach takes into account the reality that competition is more intense in certain geographic areas and less so in others. R 14-2-1108 does not require that services be deregulated only on a statewide basis. Indeed, the Commission has invited parties to propose an approach to deregulating services in defined areas where Qwest faces competition.. [Shooshan Direct, pp. 12-13]

Mr. Teitzel believes that the added pricing flexibility that Qwest would gain in competitive zones is warranted because it is a measure of flexibility already enjoyed by CLECs in the state.

> CLECs are selecting specific wire centers and geographic areas within the state in which to offer service and are approaching service introduction on a gradual, phased-in basis in Qwest's service territory. As indicated in the Competitive Landscape section above, in tariffs filed with the Commission, several CLECs have identified specific wire centers in which they will provide service. ... Qwest's competitors enjoy the flexibility of being able to serve select markets and design offerings to meet specific customer demands within those areas. [Teitzel Direct, pp. 71, 72]

Mr. Ziegler concludes that it is for this reason that pricing services according to competitive zones "will permit Qwest to compete on equal terms and will provide the ratepayers of Arizona with the benefits of a true competitive choice." [Ziegler Direct, p. 10]

Q. What wire centers does Qwest propose to classify as competitive zones?

A. Mr. Teitzel proposes that the following wire centers within the Phoenix metropolitan statistical area (MSA) be classified as competitive zones.

> Beardsley, Buckeye, Chandler Main, Chandler South, Chandler West, Coolidge, Circle City, Casa Grande, Cave Creek, Deer Valley, Dudleyville, Eloy, Florence, Foothills, Ft. McDowell, Rio Verde, Coldwater, Gila Bend, Glendale, Higley, Queen Creek, Kearny, Litchfield Park, Gilbert, Mesa, Mammoth, Maricopa, New River, Oracle, Bethany West, Cactus, Phoenix East, Phoenix Main, Phoenix North, Phoenix Northeast, Phoenix Northwest, Phoenix South, Phoenix Southeast, Phoenix West, Greenway, Laveen, Mid Rivers, Maryvale, Pecos, Peoria, Sunnyslope, Pinnacle Peak, Scottsdale Main,

> Shea, Thunderbird, San Manuel, Superior, Superstition East, Superstition Main, Superstition West, Stanfield, Tempe, McClintock, Tolleson, Wickenburg, White Tanks, Whitlow, Wintersburg [Teitzel Direct, pp. 74-75]

Mr. Teitzel proposes that the following wire centers within the Tucson MSA be classified as competitive zones.

> Coronado, Green Valley, Marana, Catalina, Cortaro, Craycroft, Flowing Wells, Tucson East, Tucson Main, Tucson North, Tucson South, Tucson Southeast, Tucson Southwest, Tucson West, Mt. Lemon, Rincon, Tanque Verde, Vail North, Vail South [Id., p. 75]

Cumulatively, these wire centers encompass 83.3% of Qwest's retail access lines in the state.

Q. Why did Mr. Teitzel select these wire centers?

A. Because

> in each of the proposed competitive zones, at least one competitor provisions service through the use of Qwest wholesale services including unbundled network elements, resale, unbundled loops, and Local Interconnection Service ("LIS") trunks used to provide service over a provider's own facilities, such as in the case of cable telephony. [Id.]

Q. How can Qwest rationalize relying on the presence of a single wireline competitor in order to classify a wire center as a competitive zone?

A. This isn't clear, but perhaps Qwest is at least implicitly relying on the existence of firms offering other communication services. Mr. Shooshan explains:

> This approach does not consider wireless competitors, of which there are usually between 2 and 6 licensees in each market, or emerging competing platforms such as Voice over Internet Protocol ("VoIP"). Mr. Teitzel identifies wireless and VoIP providers currently serving Arizona business and residence customers. The possibilities of competition from these technologies should not be under-estimated. [Shooshan Direct, p. 13]

Q. Are there other significant differences between the current Plan and the proposed Plan?

A. Yes. There are also differences in the specific pricing constraints that apply to the various baskets. The current Plan includes a number of provisions that limit the extent to which the Company can increase rates for services in each of the current Plan's three baskets. The "inflation minus productivity" indexing mechanism, hard service caps, and rate element cap in Basket 1 are all examples of existing provisions that limit the Company's pricing flexibility. These specific provisions and others would be modified in the proposed Plan, thereby providing greater opportunities to charge higher prices to all the Categories. The current Plan describes the "inflation minus productivity" indexing mechanism as follows:

> Given the uncertainty of recent interpretations of Arizona law regarding rate increase mechanisms, for the initial three year term of the plan, the weighted average price level (or "price Index") of all services contained in Basket 1 is capped, using an "inflation minus productivity" indexing mechanism, subject to annual updates in the quantities of demand for each service. [Current Plan, 2.b.i.]

"Productivity" (Offset or X) is specified in the current Plan, and equals 4.2% for the Basic/Essential Non-Competitive Services basket. In the proposed Plan, the indexing mechanism is replaced with a "basket-level revenue cap." [Proposed Plan, 2.b.i.]

Q. Can you define the revenue cap in the proposed Plan?

A. Unfortunately, I'm not sure I can. The language in the proposed Plan introduces an ambiguous "basket-level revenue cap" within which the Company can make "revenue-neutral filings" and petition the Commission for "non-revenue neutral price increases." However, no reference is made to the specific level at which Basket 1 prices will be capped under the proposed Plan.

Additionally, neither Mr. Shooshan, nor Mr. Ziegler (the only two Qwest witnesses who discuss this difference between the current and proposed Plans), define the revenue cap. Mr. Shooshan simply claims that

> The overall revenue cap is an important improvement over the productivity/inflation index that resulted in overall revenue decreases for the past 3 years. These automatic revenue reductions are clearly unsustainable over any long period of time. [Shooshan Direct, pp. 6-7]

Mr. Ziegler provides some additional information only insofar as he gives some idea as to how the Basket 1 basket-wide cap will change from the current to the proposed Plan.

> Qwest is proposing to replace the current Basket 1 Cap with a new cap reflecting the effect of the rate rebalancing proposed in the testimony of Mr. Teitzel and Mr. McIntyre, and the elimination of distance-sensitive zone charges for customers in retail Zones 1 and 2 ($1.00 in Zone 1 and $3.00 in Zone 2). The impact of these revisions

> will be a slight downward adjustment in the Basket 1 Cap, which will then remain unchanged over the life of the revised plan. [Ziegler Direct, p. 9]

So, it appears that the proposed plan will no longer require rates to decline with declining costs (based upon industry-wide improvements in productivity and reductions in input costs), and it appears that changing to a "revenue cap" will help accomplish this "improvement" thereby helping Qwest charge higher rates and earn higher profits. However, it is not clear precisely how the new "revenue cap" will work, or how this proposal differs from what would happen if the existing plan were simply modified to eliminate both the inflation and the "X" factors.

Q. How does Qwest support removal of the indexing mechanism?

A. Mr. Shooshan address this change to the pricing rules. He supports the removal insofar as it is not consistent with the current competitive marketplace.

> There is a growing recognition that competition can now serve as a constraint on both prices and earnings, and as a means for distributing the gains from increased productivity. Indeed, there is an even more fundamental effect of competition that must be noted here. As I mentioned previously, competition has substantially increased the risks faced by Qwest in the marketplace. As a result, attempting to gauge the appropriate rate of return—even indirectly or implicitly by means of a productivity offset—is much more problematic today than it was historically. [Shooshan Direct, pp. 8-9]

And

> Today, given the inroads being made by competitors, Qwest faces the real risk in many geographic areas of excess capacity and/or stranded plant—both of which reduce productivity. The revenue cap proposed by Qwest here requires Qwest to increase productivity more rapidly than the economy as a whole by the rate of inflation in order to maintain a level of profitability. In today's environment, that plan poses a sufficiently difficult challenge to Qwest. [Id., p. 10]

He also claims that removal of the indexing mechanism will benefit consumers.

> Taking this step now will give Qwest the incentives to continue to make the investments in its network that are necessary to meet the demands of the "digital information age" (e.g., fiber and packet-switching). This investment will benefit consumers who choose Qwest as their provider and competitors that choose to resell Qwest's services or to rely on Qwest's network. It will also spur competitors to make infrastructure investments of their own to compete with a modern, state-of-the-art, feature-rich Qwest network. [Id., p. 9]

And

> Consumers in general are protected by the overall revenue cap on Basket 1. As I noted previously, any price changes in Basket 1 services must be revenue neutral. Price increases must be offset by price reductions. Consumers will also benefit to the extent that Qwest is better able to price its services to the market. The result will be that Qwest and its many competitors will be forced to compete harder. [Id., p. 11]

Q. Earlier you referenced hard caps on Basket 1 services as another example of a pricing constraint in the Company's current Plan. Is Qwest proposing changes to this constraint?

A. Yes. Mr. Shooshan writes

> Additionally, the "hard cap" on certain services in Basket 1, while serving to protect consumers of these basic services during what amounted to a transition to price regulation, nonetheless has severely limited Qwest's ability to adjust its overall pricing to reflect market conditions. [Shooshan Direct, p. 7]

In other words, the Company is asking for permission to "respond to competitive pressures" by increasing rates for flat rate residential, flat rate business, telephone assistance programs, PBX trunks with features, basic listing service, and other services. It is unclear why Mr. Shooshan thinks competition is somehow creating "pressure" for Qwest to raise its prices. Normally, competition from low cost firms places downward pressure on the prices. While upward pressures also can occur, these are typically the result of inflation or declining productivity, not competition.

Q. You spoke of a rate element cap on Basket 1 services earlier. Is Qwest proposing changes to this constraint?

A. Yes. Under the current Plan, there is a pricing constraint that applies to individual *rate elements* in Basket 1. Under the proposed Plan these constraints are eliminated, allowing Qwest to increase individual *rate elements* as much as it wants, provided other *rate elements*

are decreased (or are increased by a lesser amount). For instance, under the current Plan, price increases for individual *rate elements* cannot exceed 25% in a given year. Under the proposed Plan, price increases for individual *services* are unchecked so long as they are "revenue neutral."

In effect, under the proposed pricing rules, Qwest would only be constrained in its ability to make "non-revenue neutral price increases." Further, these increases apply to entire *services*. It would no longer face constraints on its freedom to increase the rates paid by specific groups of customers or customers in specific geographic areas. This follows directly from the fact that a service is often comprised of many different "rate elements" which may apply disproportionally to specific service configurations, geographic areas, or types of customers.

An example of a service in the Basic/Essential Non-competitive Services basket in the current Plan is Custom Calling Services (TIM Code E5.4.3). A rate element that partially comprises that service is Call Waiting (USOC ESX). Under the current Plan, Qwest is allowed to increase rates for Call Waiting or any other rate element within the larger Custom Calling Services by no more than 25% in a year. Were the 25% cap applied on a service basis, Qwest would be able to increase rates for Call Waiting or any other specific rate element within the Custom Calling Services category by any percentage amount (e.g., 200%), provided there are offsetting reductions in other rate elements. This increased freedom to increase individual rate elements implies a corresponding expansion in the Company's ability to dramatically increase the rates applicable to specific service sub-categories, geographic areas, and/or customers.

Q. Has Qwest proposed changes to the pricing constraints in Baskets 2 and 3?

A. Yes. In its proposed Plan, the Company has split the Wholesale Services basket (Basket 2) into an A and a B part.

> Basket 2A consists of wholesale services which are governed by their own specific pricing rules and will continue to be governed by such rules, as interpreted by the Commission and the Courts, under this Renewed Price Cap Plan. [Proposed Plan, 3.b.]
>
> Basket 2A service prices are capped for the term of the Renewed Price Cap Plan, or until the specific pricing rules are changed or the Commission determines that other prices are appropriate. [Id., 3.e.]
>
> Basket 2B consists of wholesale services that have been deemed to not be UNEs thus not subject to the pricing rules of UNEs. [Id., 3.c.]
>
> Basket 2B service prices are not capped for the term of the Renewed Price Cap Plan and may be changed with Commission approval as directed by A.A.C. R14-2-1109. [Id., 3.e.]

This delineation was not made in the current Plan and all services in Basket 2 were capped for the term of the Plan at their initial rates. [Current Plan, 3.e.]

As for Basket 3, Qwest has proposed the removal of the revenue cap therein. The current Plan includes a revenue cap equal to the "weighted average price level of all the services in the Basket" as calculated by a formula. Mr. Shooshan provides the Company's logic for removing this cap and, in turn, allowing the Company near complete pricing freedom over the services in this basket.

> Over the course of the current price regulation plan, competitive pressures have been effective at keeping these prices within the cap. We can expect that pressure from competitors to intensify as competition continues to progress in Arizona. Since the point of regulation is to act as a substitute for competition and competition is pervasive, regulation of competitive services is a waste of resources to achieve the goals which competition has been proven to meet more effectively. Elimination of this cap simplifies the regulatory rules and conditions that Qwest must meet and conserves resources for both the Company and the Commission, as well as for other parties. [Shooshan Direct, p. 16]

Q. Are these proposed changes in pricing rules significant?

A. Yes. As with competitive zones, the pricing rules in the proposed Plan will afford the Company far greater freedom to exploit its remaining monopoly power, and to engage in pricing strategies designed to maximize its profits. Under the current Plan, the GDP-PI minus 4.2% cap has typically fluctuated in the vicinity of 1% or less. In fact, because inflation has been low relative to the "X" factor, Qwest has been forced to lower its prices in line with industry-wide cost reductions.. By removing the GDP-PI minus 4.2% cap and replacing it with a revenue cap, Qwest is asking for the freedom to maintain prices under declining industry-wide cost conditions, or possibly to increase its prices under those conditions. The impact on specific customers, service sub-categories and geographic areas could be dramatic, if the rate element cap is also eliminated, as proposed. For instance, the current Plan precludes individual rate element increases of more than 25%. As a result, no customers will experience an increase in their Basic Service rates of more than 25% within a year. In contrast, under the proposed Plan

some customers could experience annual rate increases of 200% or more, provided Qwest keeps the overall average level of prices consistent with the overall revenue cap.

II. UNIVERSAL SERVICE

The Access Relationship

Q. Let's turn to the second section of your testimony. Would you please begin by providing a brief definition of intrastate access charges?

A. Yes. These are rates charged by LECs and paid by interexchange carriers (IXCs) for the origination and termination of long distance calls. When an end user places or receives a toll call, they typically use a phone line provided by their local exchange carrier, even if the call is handled by an IXC. In the latter case, the IXC typically bills the end user for the phone call, and the IXC pays one or more LECs for the use of network facilities which are used in processing the call. These inter-carrier billings are referred to as "switched access charges." The current system of access charges has evolved since the mid 1980's, but it represents a continuation of a cost recovery process which has existed for a much longer period. Although this cost recovery process has undergone extensive review and modification, it continues to be an important source of revenues for the LECs, and is one of the reasons why local exchange rates remain as low as they are--particularly in rural areas.

Q. Is the debate over the relationship between access costs and access rates a new one?

A. No. For more than 20 years, interexchange carriers have advanced the argument that they should be allowed to use the local networks without paying anything for this privilege. They have advanced many different arguments in support of this position, including the contention that the costs in question are "non-traffic sensitive" (NTS) and these costs shouldn't be recovered through traffic sensitive toll charges (or access charges), the argument that the costs of the local loop are entirely the responsibility of the end user who is connected to that loop, and the argument that economic efficiency or some other goal will be furthered if cost responsibility is shifted from toll to local markets.

Prior to divestiture, the argument was that toll competition was increasing, and that local rates needed to be increased in order to "level the playing field" and protect the financial viability of the local carriers in the face of increased toll competition. By the mid-1980's, this theme was amplified and repeated throughout the country, with an emphasis on the potential effect of equal access and divestiture. Some of the Bell Operating Companies (BOCs) even implied that unless local rates were dramatically increased at the time of divestiture, disaster would befall them. Events subsequently proved that the "doom and gloom" arguments were fundamentally false, or at least greatly exaggerated. Not only has history proven many of the arguments in favor of shifting cost responsibility from toll to local markets to be false, but the arguments in favor of drastic cost shifting tend to be inconsistent with both economic theory and common sense.

According to this line of thinking, the local exchange networks are the responsibility of the LECs and their local customers, and the interexchange carriers should not be required to

pay for using these networks, or at most they should make only token payments for their use of the local networks. By this reasoning, because the IXCs don't "cause" the costs of the local networks to be incurred, and/or because their usage is "incidental" to the primary purpose of those networks, and/or because the costs in questions are classified as "non-traffic sensitive" while access charges and retail toll rates are both "traffic sensitive" rates, access rates should be reduced towards zero. According to this argument, the cost of the loop, drop wire, line card, and channel connection are exclusively part of the incremental cost of providing local exchange service, and none of these costs can properly be considered part of the cost of providing switched access. If one believes this line of reasoning, it would seem that the LECs are wrong to charge the IXCs anything more than the direct, out of pocket cost of providing switched access service.

Q. Has the U.S. Supreme Court issued any ruling concerning this controversy?

A. Yes. The U.S. Supreme Court handed down a landmark decision concerning the interpretation and recovery of the joint cost of access lines more than 75 years ago in Smith vs. Illinois Bell Telephone Company ("Smith"). Writing for the Court on the question of whether the entire cost of the access line could be charged to a single service, Chief Justice Charles Evans Hughes noted as follows:

> In the method used by the Illinois Company in separating its interstate and intrastate business, for the purpose of the computations which were submitted to the court, what is called exchange property, that is, the property used at the subscriber's station and from that station to the toll switchboard, or to the toll trunk lines, was attributed entirely to the

> intrastate service.... While the difficulty in making an exact apportionment of the property is apparent, and extreme nicety is not required..., it is quite another matter to ignore altogether the actual uses to which the property is put. It is obvious that, unless an apportionment is made, the intrastate service to which the exchange property is allocated will bear an undue burden.... [282 U.S. 150, 151 (August 1923).]

In the years since, this principle of fairly distributing the joint or fixed costs of the network to all of the users of that network has been upheld again and again. Numerous state regulators have acknowledged that loop costs are properly treated as joint costs of the full family of services that make use of the loop, including access, and they should not be loaded entirely onto just one of those services (e.g. basic local service). Despite decades of pressure to shift network costs from toll to local services, the policy of spreading these costs across multiple services has been affirmed by state public utility commissions in numerous proceedings throughout the country. I provide an extended discussion of the joint and common cost concept in Appendix B to my testimony.

Q. Has Congress also spoken to the issue of shifting joint and common costs entirely onto local service customers?

A. Yes. The appropriate treatment of these shared costs has been vigorously debated for many years in many different forums. Thus, it isn't surprising that Congress included some specific provisions relating to this issue in the 1996 Telecom Act. The Act adds an entirely new section to federal law dealing with universal service--Section 254. Within this context, a portion of ¶254(k) reads:

> [T]he States, with respect to intrastate services, shall establish any necessary cost allocation rules, accounting safeguards, and guidelines to ensure that services included in the definition of universal service bear no more than a reasonable share of the joint and common costs of facilities used to provide those services. [47 U.S.C. § 254(k) (1996).]

Congress was aware of the long standing debate over the proper treatment of these costs, and the desire of many carriers to shift these costs from toll to local services, as well as the propensity of monopolists to attempt to shift costs onto their most captive customers when faced with an increased threat of competition. The remaining parts of 254(k) make it clear that the purpose behind these provisions is to prevent placing an excess cost burden on basic local service and other services included within the universal service category. While Congress hasn't mandated the specific allocation procedures to be used, or specified exactly how much of the joint costs can be placed onto the basic exchange category, it is obvious that 100% allocation of these costs onto local exchange service would be contrary to the intent of this passage.

Q. Historically, much of this debate has swirled around the Federal Communications Commission ("FCC"). What stance has the FCC taken with regard to the recovery of joint and common cost?

A. The FCC has recognized that telecommunications carriers provide multiple services using a common network, and it realizes that this situation greatly complicates issues of cost recovery. As the FCC has explained:

> 676. Certain types of costs arise from the production of multiple products or services. We use the term "joint costs" to refer to costs

> incurred when two or more outputs are produced in fixed proportion by the same production process (i.e., when one product is produced, a second product is generated by the same production process at no additional cost). [Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers, CC Docket Nos. 96-98, 95-185, First Report and Order, FCC 96-325 (adopted August 1, 1996) (Local Competition Order) at ¶ 676.]

The FCC has also recognized the fact that the loop is shared by multiple services. According to the FCC, the loop is "needed" and "used" by several telecommunication services--services which reside within both the interstate and intrastate jurisdictions. As previously acknowledged, dealing with costs associated with a shared facility can be challenging. The FCC states:

> Determining the costs that an incumbent LEC incurs to provide interstate access services and that, consequently, should be recovered from those services, is relatively straightforward in some cases and problematic in others. ... Most facilities, however, are used for both intrastate and interstate services. ... By contrast, the cost of other facilities used for both interstate and intrastate traffic do not vary with the amount of traffic carried over the facilities, i.e., the costs are non-traffic sensitive. These costs pose particularly difficult problems for the separations process: The costs of such facilities cannot be allocated on the basis of cost-causation principles because all of the facilities would be required even if they were used only to provide local service or only to provide interstate access service. A significant illustration of this problem is allocating the cost of the local loop, which is needed both to provide local telephone service as well as to originate and terminate long-distance calls. [Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Transport Rate Structure and Pricing and End User Common Line Charges, CC

> Docket Nos. 96-262, 94-1, 91-213, and 95-72, First Report and Order, FCC 97-158 (adopted May 7, 1997) (Access Charge Reform Order) at ¶ 23. emphasis added.]

In its initial First Report and Order concerning the implementation of local competition, the FCC recognized that the loop is a shared facility used to provide telecommunication services which gives rise to common costs. The FCC stated:

> As discussed in greater detail below, separate telecommunication services are typically provided over shared network facilities, the cost of which may be joint or common with respect to some services. The costs of local loops and their associated line cards in local switches, for example, are common with respect to interstate access service and local exchange service, because once these facilities are installed to provide one service they are able to provide the other at no additional cost. [Local Competition Order at ¶678.]

The FCC followed this first order with proposed rulemaking on access charge reform. In the context of this rulemaking process the FCC reaffirmed the concept that costs associated with the loop are common costs with respect to certain telecommunication services. [Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Transport Rate Structure and Pricing and Usage of the Public Switched Network by Information service and Internet Access Providers, CC Docket Nos. 96-262, 94-1, 91-213, and 96-263, Notice of Proposed Rulemaking, Third Report and Order, and Notice of Inquiry, FCC 96-488 (adopted December 23, 1996) (NPRM, Third Report and Order).] The FCC states:

> For example, interstate access is typically provided using the same loops and line cards that are used to provide local service. The costs

> of these elements are, therefore, common to the provision of both local and long-distance service. [¶237]

In an effort to respond to concerns about traffic sensitive recovery of NTS costs while maintaining consistency with the reasoning behind the Smith vs. Illinois Bell case, the FCC developed and announced the phase-in of an alternative to the CCL rate, called a "primary interexchange carrier charge" (PICC). The PICC was assessed on and paid by the end user's presubscribed interexchange carrier. The FCC believed that the PICC, along with the Subscriber Line Charge (SLC), would allow LECs to recover most of the interstate jurisdiction's portion of the loop cost through rates that weren't traffic sensitive. [Access Charge Reform Order at ¶54 and 55.]

In its decision to replace the Common Carrier Line Charge (CCL) with the PICC, the FCC stated:

> We reject claims that a flat-rated, per line recovery mechanism assessed on IXCs would be inconsistent with section 254(b) which requires "equitable and nondiscriminatory contributions to universal service" by all telecommunication providers. The PICC is not a universal service mechanism, but rather a flat-rated charge that recovers local loop costs in a cost causative manner.[Id., ¶104.]

The FCC has also rejected the argument that loop costs aren't attributable to long distance calling: "Much of the telephone plant that is used to provide local telephone service (such as the local loop, the line that connects a subscriber's telephone to the telephone company's switch) is also needed to originate and terminate interstate long-distance calls." [Id.]

Q. Let's talk about universal service. Why is this an appropriate policy goal?

A. Universal service is realized when nearly everyone is connected to the public switched telephone network, regardless of how low their income, or how little they value telephone service. Universal service is a desirable goal because it facilitates the free flow of communications within society. This benefits everyone--including the people who would otherwise not have a telephone, as well as everyone who needs to communicate with them.

While this goal is widely accepted, it sometimes gets less attention than it deserves. Because of the rapid changes taking place in the telecommunications industry--including increased competition, deregulation, and changing federal policies--many state regulators are hard pressed to balance the goal of universal service with other policy objectives. Even so, it should never be forgotten that all of society–including business and residential end users as well as both local and long distance carriers–benefits when nearly everyone participates on a universal, fully interconnected telephone network.

There is no inherent conflict between the goal of universal service, and the idea of opening the local telephone markets to competition--provided that all carriers are required to interconnect with each other on reasonable terms and conditions. In other words, nearly everyone can be connected to a universal public switched network, yet portions of that overall network may be owned and operated by competing firms. A global network of interconnected networks can achieve the goal of universal service just as effectively as a smaller group of monopoly networks. However, individual customers and carriers do not necessarily have the incentive to advance the goal of universal service. For instance, incumbent carriers may seek to discourage entry by competitors by making it difficult, or unduly costly for the newer firms to

interconnect with, or utilize portions of, the established firm's network. Accordingly, the Commission should establish appropriate policies to ensure that all of the networks are interconnected and compatible with each other, and to encourage every business and every household to connect to this network of networks.

Q. In light of the universal service goal, are there specific requirements that local rates must be "just, reasonable, and affordable"?

A. Yes. The Consumer Protection clause of the 1996 Telecommunications Act provides that both the FCC and the states "should ensure that universal service is available at rates that are just, reasonable, and affordable." [§ 254(i)]. This is the first time that Congress has used the term "affordable" in the context of universal service. The extent to which people can afford telephone service is typically measured through telephone penetration rates, and percentages of income spent on telephones.

Q. Can you relate your discussion of the goal of universal service more specifically to the investigation of switched access charges that has been merged into this proceeding?

A. Yes. These issues are intimately connected. Switched access service is an important source of revenues that has historically been used to help pay for the costs of providing Universal Service. If these rates are greatly reduced, as some parties are advocating, there will be increased pressure to replace this revenue stream with an alternative source of funding, such as higher local exchange rates. This type of "rate rebalancing," as it has been called, may endanger the universal service goal, particularly if it is implemented in an extreme manner.

Q. Can policy decisions regarding access charges have an effect on universal service?

A. Yes, particularly to the extent access rate reductions are offset by increases in the fees paid by local exchange customers. It is difficult, if not impossible, to separate concerns about the level of access charge from concerns about universal service support, despite the fact that these issues are often dealt with in separate proceedings. The FCC recognized this linkage in its Access Charge Reform Order:

> [T]hrough this First Report and Order in our access reform docket and our Universal Service Order, we set in place rules that will identify and convert existing federal universal service support in the interstate high cost fund, the dial equipment minutes (DEM) weighting program, Long Term Support, Lifeline, Link-up, and interstate access charges to explicit federal universal service support mechanisms. [¶ 5]

Care must be exercised to ensure that the intrastate mechanisms used to maintain support for affordable local rates are sustainable in the long run, achieve their intended purpose, and do not unduly distort the market. In this regard, the support mechanisms which help maintain affordable rates in high cost rural areas are of particular importance. One way to reduce market distortions and ensure long term sustainability is to use support mechanisms which are explicit and carefully focused. Thus, for example, implicit support embodied in the existing access charges might be replaced with a more explicit form of support provided through an expanded version of the Arizona Universal Service Fund.

The Commission is responsible for ensuring that intrastate support mechanisms comply with the requirements of the 1996 Telecom Act, including the requirement that the services

which are vital to the universal service goal are not burdened with an excessive share of the joint and common costs of the network:

> SUBSIDY OF COMPETITIVE SERVICES PROHIBITED- A telecommunications carrier may not use services that are not competitive to subsidize services that are subject to competition. The Commission, with respect to interstate services, and the States, with respect to intrastate services, shall establish any necessary cost allocation rules, accounting safeguards, and guidelines to ensure that services included in the definition of universal service bear no more than a reasonable share of the joint and common costs of facilities used to provide those services. [Section 254(k).]

In determining the scope of this provision, the FCC concluded that this provision of the 1996 Telecom Act protects not only basic local exchange service but also the ability to access long distance carriers. However, it does not protect toll services provided by those carriers. As the FCC points out, this provision does not prevent universal service support for access:

> Regarding GCI's argument that interexchange service should not be supported because it is a competitive service, we emphasize that universal service support will be available for access to interexchange service, but not for the interexchange or toll service. [note omitted] We find that the record does not support including toll service among the services designated for support, although, as discussed in section V below, we find that the extent to which rural consumers must place toll calls to reach essential services should be considered when assessing affordability. Nevertheless, universal service should not be limited only to "non-competitive" services. One of the fundamental purposes of universal service is to ensure that rates are affordable regardless of whether rates are set by regulatory action or through the competitive marketplace. GCI's argument implies that, if there were multiple carriers competing to provide, for example, basic dialtone service at $1000 per month, there could be no universal service support because

> the price was set through competition. Such a result would be inconsistent with Congress's intentions to preserve and advance universal service in adopting section 254. We note that section 254(k), which forbids telecommunications carriers from using services that are not competitive to subsidize competitive services, is not inconsistent with our conclusion that it is permissible to support competitive services. [note omitted] [Access Charge Reform Order, ¶ 77]

There are undoubtedly a variety of different ways the Commission can ensure compliance with this provision of the 1996 Telecom Act. Where doubt exists concerning the best policy to adopt, or the most appropriate distribution of the burden of joint and common costs, it is clear that priority must be given to ensuring that universal service is protected–even if that results in long distance toll rates which are higher than would otherwise be desired. Stated another way, the Commission will undoubtedly receive conflicting advice in this proceeding concerning the most appropriate way of spreading the burden of joint and common costs between basic local exchange service and long distance toll services. In evaluating this conflicting advice, it would be appropriate to err in the direction of ensuring that the "price of entry" onto the telephone network remains at attractively low levels–thereby helping to maintain very high penetration rates. That is not to say that the Commission should be unwilling to deviate from the status quo, or that it should refuse to consider any reductions to access charges for fear of the consequences. However, the Commission should place a very high burden of proof on parties that are urging extreme changes to cost recovery patterns which have proven so successful for so many years.

Efficiency and Subsidies

Q. It is sometimes argued that, because rates are far in excess of economic costs, reductions in access rates can enhance economic efficiency. Can you please respond?

A. Yes. Economic theory suggests that allocative efficiency is most readily achieved when prices are set equal to marginal cost, assuming this can be achieved while still allowing the firm an opportunity to recover its total costs. In an industry where economies of scale and scope are pervasive, pricing at marginal cost may not allow the firm to recover its total costs, and thus some mark-up above marginal cost will generally be necessary to ensure the long run viability of the firm. While there is certainly some merit to marginal cost pricing, there are also problems with using this logic as a basis for lowering access rates–particularly if this is done at the expense of higher local rates.

It would not be in the public interest to adopt proposals that would shift a large share of the revenue burden from toll and access to residential basic exchange services, if this would risk the universal service objective. Some may argue that such a shift will encourage efficiency, by bringing the toll and access rates closer to marginal cost. But to determine if such a shift would truly result in a net gain in efficiency, the Commission would also need to consider any offsetting efficiency losses that would result in the local market, where prices would be increased farther above marginal cost. As well, in evaluating questions of efficiency, it is important to take into consideration the phenomena of network externalities, which suggests that society greatly benefits from pricing policies which encourage high network participation rates.

Q. The debate over economic efficiency is generally couched in terms of cost recovery. Can you briefly explain the types of costs which are currently recovered through access rates?

A. Yes. Switched access rates have been designed to recover the costs of both the traffic-sensitive (TS) and non-traffic-sensitive (NTS) functions performed by the LEC in processing IXC calls. The TS costs are those that vary depending upon the usage placed over the network (e.g., the portion of the switching equipment which varies in size and cost, depending upon call volumes). In comparison, NTS costs are those costs that do not tend to increase as the number of calls placed over the network increases (e.g. the cost of ordinary copper loops is largely fixed, regardless of the volume of traffic carried by the loop).

Most of the NTS costs have another important characteristic: they are joint or common costs which are not only necessary for the provision of intrastate switched access service, but also are necessary for the provision of interstate switched access, local exchange and custom calling services. Common costs are incurred when production processes yield two or more outputs. Joint costs are a specific type of common cost. The classic definition specifies that joint costs are incurred when production processes yield two or more outputs in fixed proportions. More intuitively, joint costs arise in situations where there are production factors that, once acquired for use in producing one good, are costlessly available for use in the production of others. Thus, for example, cattle feed that is acquired for use in producing hamburgers is costlessly available for use in producing leather shoes.

Despite any contrary claims that might be made by other parties to this proceeding, the local loop fits the definition of a joint cost because, except when congestion is present, there is

no trade-off between the joint uses of the loop. If an access line is acquired for purposes of placing local calls, it is costlessly available for use in placing long distance calls, as well. When an additional access line is installed, it simultaneously increases the intermediate output (access) available to both toll and local markets (as well as the market for other services, such as custom calling). Even if a line is intended strictly for local calls, it can also be used to place and receive toll calls, and vice versa. Accordingly, local loops are analogous to cattle feed in the production of steaks and leather coats. Even if feed is strictly intended to increase the amount of available beef, it concurrently increases the amount of hides which are available.

To be more precise, one can say that the access line connecting a residence or business to the LEC's central office yields at least two joint products: access to customers within the same locality (local access) and access to customers within other cities (toll access). Since the latter form of access is provided via toll carriers, one can think of the access line as providing access to the local and toll networks. Of course, since communication is generally two-way, we can also say that at least two other joint products are also provided: access to the customer installing the line is provided to other customers within the same locality, and access is provided to toll carriers and to their customers who have a potential interest in talking with the business or household that installed the line.

To assign the entire amount of these joint costs to local exchange service is not appropriate, and the resulting total cannot meaningfully be arrayed beside the revenues derived from basic local exchange service. The LECs have many revenue sources which help cover these joint costs, including toll, switched access, and custom calling. Carriers have long relied upon all of these different revenue sources in order to pay their loop costs. The loop facilities

used in providing local exchange service are also required for (and used by) other services that local carriers provide, including interstate switched access, intrastate switched access, intrastate toll, custom calling, and Caller ID service. The poles, cable, drop wire, line card, and channel connection are equally required for the provision of these other services, and there is no logical reason to impose the entirety of these costs onto just one of the services benefitting from them.

Generally, when a customer is connected to the public switched network, that customer is provided with access to the other lines situated within the same city, but access is simultaneously provided to the toll carriers with points of presence in that city; and via their facilities, access is provided to millions of lines located in hundreds of other cities around the state and country. It makes no economic sense to impose the entire cost of the access line, as part of the price of local service, on the particular end user who requests installation of the line. Rather, it is appropriate to recover the cost from all of the beneficiaries of that line--including the other local customers in that city and the toll carriers that also benefit from the new line, whether directly or indirectly.

Q. You have distinguished between NTS and TS costs, and explained the important concept of joint and common costs. Can you briefly discuss the concept of "economic costs"?

A. Many of the parties in this proceeding will agree that prices ought to be based on economic costs. Most state commissions have moved away from embedded cost allocation approaches, and have placed increased reliance upon economic or incremental costing methods instead. While embedded costs--the accountant's measure of cost--are quite practical, readily available,

and fairly consistent from firm to firm, the economist's idea of cost is more useful in analyzing the critical decisions made by management and government.

Q. Are there different types of economic cost?

A. Yes. The form of economic cost that is, at present, perhaps the most widely advocated is TSLRIC, which stands for total service long run incremental cost. TSLRIC is defined as a firm's long-run total cost of producing all its goods and services except the service in question, subtracted from the firm's long-run total cost of producing all its goods and services including the service in question. In effect, it measures the difference between producing a service and not producing it.

However, TSLRIC is by no means the only relevant type of economic cost. Marginal cost, for example, is of great importance in the economic literature, among other reasons because it is of vital importance in understanding pricing behavior by unregulated firms and in evaluating the extent to which economic efficiency is being achieved in a particular situation.

Q. Can you briefly elaborate on the TSLRIC concept, and explain how it relates to the concept of joint and common costs?

A. Yes. An appropriately prepared TSLRIC study will almost invariably show a very low level of costs–typically the cost results are a small fraction of existing rate levels. For instance, a TSLRIC study for call waiting service will typically show costs that are at most a few pennies a month, primarily related to the cost of billing and collection. In contrast, the service is typically priced at a far higher level–typically $5 or more per month. There are many factors contributing

to the gap between current rates and TSLRIC, including the benefits of changing technology and increased economies of scale, which have improved since rates were initially established. However, the most important factor explaining the gap between TSLRIC and current rates is the manner in which joint and common costs are treated in properly developed TSLRIC calculations. Where network elements are required for multiple telecom services, the cost of these elements will generally not be reflected in the TSLRIC calculations for any single service. When properly developed, TSLRIC studies will exclude joint costs. This follows directly from the TSLRIC definition, which focuses attention entirely on costs which increase or decrease with the presence or absence of the specific service being studied.

A large gap between TSLRIC and price is typical for most telecom services. For instance, when the TSLRIC concept is applied to a service like Call Waiting, the estimated cost is likely to be just a few pennies per month. Similarly, when the TSLRIC concept is applied to switched access, the same pattern exists: the TSLRIC amount is a small fraction of the established price.

Although TSLRIC calculations for individual services do not include the full amount of joint and common (shared) costs that are incurred by the firm, this does not mean these costs are not recovered from customers. To the contrary, both regulated and unregulated firms recover their joint and common costs through the rates they charge for their products and services. In unregulated markets this is accomplished by setting rates which reflect demand conditions–services with strong demand are priced far above TSLRIC in order to ensure recovery of the firm's total costs.

Under competitive conditions, an efficient firm has an opportunity in the long run to recover its total costs, including its joint and common costs. The extent to which the joint and common costs are recovered through the prices charged for particular services, or recovered from particular groups of consumers will not be uniform. In unregulated markets, the pattern of cost recovery will be heavily influenced by demand conditions, including relative levels of perceived value, the extent to which close substitutes exist for particular products or services, and the price of those alternatives.

In regulated markets total cost recovery is also achieved, but the specific pricing pattern may differ. Whether by allowing a substantial mark-up above TSLRIC, by setting prices on the basis of cost allocation procedures, or by using some other procedure to reconcile rates with the firm's overall revenue needs, regulators have historically given carriers an opportunity to recover their joint and common costs. While the pattern of recovery may differ, the overall result is similar to that achieved under competition: joint and common costs are typically recovered from the array of services that require or benefit from these costs.

Q. Have you prepared any comparisons of revenues and costs that may be useful in better understanding these issues?

A. Yes. I've prepared three analyses; they differ primarily in with regard to their treatment of joint and common costs. I define these terms in Appendix B and discuss their significance in Appendix C.

The first analysis follows a "pure" TSLRIC approach. I define TSLRIC in Appendix B. This "pure" analysis, summarized on Schedule 1, excludes joint costs. To the extent direct

revenues exceed direct costs, this analysis measures the surplus that is available as a contribution to joint and common costs. This is generally my preferred approach, because it provides the most accurate picture of whether the current rates for basic local exchange service exceed the incremental cost of providing this service, and it indicates whether or not this service is "subsidized" by other services.

Q. When is a service subsidized?

A. While the term "subsidy" is often used loosely to describe any situation in which a service appears to be priced below some measure of cost, under standard economic terminology, a service is said to be subsidized only if its price is below a relevant measure of marginal or incremental cost. When speaking of whether or not a particular item is subsidized (e.g., local service purchased by residential customers who could not afford to pay a higher price, and thus would otherwise not be on the system), the "Incremental Service Incremental Cost" is the relevant test for a subsidy.

When analyzing whether or not an entire category of service is being subsidized in totality (e.g., basic local service as a whole), the Total Service Incremental Cost is generally the appropriate test for a subsidy. The analysis should assume that all other services (e.g. toll and custom calling) continue to be offered, and thus the relevant incremental cost excludes those costs which would be incurred in providing these other services even if the service in question (e.g., basic local service) were not provided. Most often, this type of analysis is performed on a long run basis, and thus is described as a Total Service Long Run Incremental Cost (TSLRIC) analysis.

Q. Can a properly designed TSLRIC study determine the presences of subsidies?

A. Yes. The key, however, is that it be properly designed. Having been active in utility regulation for more than 25 years, I have been a part of numerous proceedings in which subsidy claims are made. I have found that where differences of opinion exist concerning the presence or absence of cross subsidies, the debate almost always centers around a single major point of contention–the appropriate interpretation and treatment of joint and common costs.

Q. Can you briefly describe the other two revenue-cost comparisons you employed to evaluate the pattern of rate increases Qwest would likely seek if it were free to do so?

A. Yes. The second analysis I prepared uses an "allocation" approach. This analysis, summarized on Schedule 2, includes an allocated share of joint costs. The results I am presenting use a flat percentage allocator of 50% of the loop and port costs to basic service. This approach is consistent with the historic practice of allocating 25% of these costs to the federal jurisdiction; it allocates another 25% to intraLATA toll, intrastate interLATA switched access, custom calling, and ancillary services.

The third analysis is a "multiple service" or "total customer" approach. This analysis, shown on Schedule 3, includes 100% of the joint costs, together with all of the revenues and direct costs of the entire family of switched services provided to a typical customer.

Q. Where did you obtain the revenue and cost data used in these analyses?

A. I obtained revenue and rate data from the FCC's ARMIS database and Qwest's Exchange and Network Services Price Cap Tariff. I obtained cost data from Qwest witness Million's

workpapers supporting the Qwest TSLRIC cost studies.

Q. How did you arrive at the revenue estimates in your analysis?

A. In order to match revenues to costs which are provided at the UNE zone level, I calculated a weighted average of residence and business revenues, based upon the relative numbers of lines in the IBRA, Zone 1, and Zone 2 retail zones. Assuming a Residence rate (1FR) of $13.18, and exchange zone increments of $1.00 in zone 1, and $3.00 in Zone 2, I've estimated that local exchange revenue per line averages about $13.41 for residence customers. Assuming a Business rate (1FB) of $30.40, exchange zone increments of $1.00 in zone 1, and $3.00 in Zone 2, the weighted average Business revenue is $30.63. No revenues from ancillary services are considered in this part of the analysis. However, revenues are included from the FCC's subscriber line charge (since this is a mandatory charge paid by basic exchange customers). Adding $6.50 (residence SLC) and $6.53 (Business SLC) yields revenues of $19.91 and $37.16, respectively.

Q. Would you begin by summarizing the results of your revenue-cost comparisons using a "pure" TSLRIC analysis?

A. Yes. Set against these revenues are the direct costs of providing basic local exchange service, including an allowance for common costs.

As shown on Schedule 1, the revenues from basic local service consistently exceed the incremental direct cost of providing this service, leaving a substantial margin of contribution towards joint and common costs (which aren't reflected in these calculations). This pattern of

full coverage of incremental costs is true for both business and residence customers, regardless of the exchange classification. However, the contribution margin is larger for business customers than for residential customers, because the business local exchange rates are much higher. For customers in Zone 1, the average contribution is **Proprietary Proprietary** or **Proprietary Proprietary** for residence customers and **Proprietary Proprietary** or **Proprietary Proprietary** for business customers.[1] While the percentage difference in profit margin or contribution levels are relatively moderate, the difference in absolute dollars is quite substantial. Clearly, if Qwest were free to increase residential rates to levels approaching current business rates, it would be able to further increase its overall earnings.

For easy reference, I have summarized the revenue, cost and contribution estimates for the pure TSLRIC approach in Table 1 below. As shown, all categories of local exchange customers pay rates which substantially exceed the corresponding direct costs, and generate a substantial contribution toward loop and port costs, as well as other shared costs. Because the direct costs and the corresponding rates vary across exchange classifications, the magnitude of these contributions varies depending upon the particular classification.

[1] Proprietary information in this sentence, and all proprietary information in my testimony hereforward, is included in my Exhibit 1 attached to this testimony, and redacted from the public version.

Table 1
Pure TSLRIC Approach
****Proprietary****

Customer Category	Local Direct Revenues	Local Direct Costs	Contribution	Contribution Percent
Residential				
Zone 1				
Zone 2				
Zone 3				
Statewide				
Business				
Zone 1				
Zone 2				
Zone 3				
Statewide				

Q. What conclusions have you reached in light of this analysis?

A. While residential customers more than adequately cover their incremental direct costs, business customers are providing larger gross profit margins. To the extent the Company attempts to use increased pricing freedom to maximize profits, it may attempt to generate similarly high profit margins from its residential customers.

Under the terms of the proposed Plan, the Commission will receive "notice" of revenue neutral rate changes for Basket 1 services, but it cannot reject those changes. [Proposed Plan, 2.b.i.] Non-revenue neutral price increases can also be proposed, subject to Commission approval. [Id., 2.b.iii.] However, no criteria are provided in the proposed Plan to indicate

under what circumstances Commission approval would be appropriate or required. With regard to Basket 2 and 3 services, the existing rules (A.A.C. R14-2-1109) are the only constraint on the Company's ability to modify rates under the proposed Plan. [Id., 3.e. and 4.c.] With regard to services provided in competitive zones, the only constraints will be the prohibitions against exceeding "maximum price levels" pursuant to A.A.C. R14-2-1110. [Id., Competitive Zones, Subpart a.]

Q. Let's turn to your second approach to shared costs. Traditionally, many cost studies prepared for regulatory purposes include an allocation of shared costs. Have you provided the Commission with a set of cost estimates which includes a reasonable allocation of joint and common costs?

A. Yes. It has been my experience that some regulatory commissions are not comfortable relying exclusively upon a "pure" TSLRIC approach, or they want to also have the opportunity to look at studies in which a reasonable share of the loop costs are allocated to basic local exchange service, similar to the manner in which costs are allocated for jurisdictional purposes.

I am providing an example of an approach which allocates a reasonable share of joint and common costs to local exchange service, to provide further insight into the significance of these costs. Under an allocation approach, the pivotal question becomes one of the appropriate share of shared costs to be allocated to the service in question. The results I am presenting use a flat percentage allocator of 50% of the loop and port costs to basic service. This approach is consistent with the historic practice of allocating 25% of these costs to the federal jurisdiction; it allocates another 25% to intraLATA toll, intrastate interLATA switched access, custom calling,

and ancillary services.

Q. Would you please provide a further explanation of your use of a 50% allocation factor?

A. Yes. Although loop and port costs are required for the provision of local exchange, custom calling, switched access, and toll service, there is no universally accepted method of allocating these costs. Differences in the allocation percentage or method can result in very significant differences in the cost study results. That is one reason why I prefer a "pure" TSLRIC approach, which doesn't allocate shared costs to individual services. To the extent the Commission wants to review a basic local exchange cost study that includes a share of joint costs, I believe the Commission will best be served by relying upon a relatively simple allocation approach that is reasonably stable. A uniform 50% factor meets both criteria, although it is not the only reasonable factor that could be used.

This 50% factor is reasonably similar to the percentage allocation that would be assigned to basic local service under some other, more sophisticated allocation approaches, such as revenue-based methods, usage-based methods, and direct cost-based methods. For example, the Washington Commission in Docket No. U-85-23 assigned loop costs 25% to interstate toll, 16.95% to intrastate toll, and 58.05% to local services (including custom calling and other optional services). [See reference in WUTC Order in Docket No. UT-950200, p. 79.]

Revenue-based allocations assign shares of joint costs based upon the services' percentages of total revenues. For example, if basic service accounts for 45% of total

revenues, it might be allocated 45% of the joint costs. Usage-based allocations assign shares of joint costs by relative minutes of use, perhaps weighted in some way to distinguish toll from local and/or peak from off-peak, etc. Finally, the joint costs of switched services could be allocated in proportion to the direct costs of these services.

Q. Would you please explain your calculations assuming 50% of the joint costs are allocated to basic local exchange?

A. Yes. In this analysis, shown on Schedule 2, the revenues are derived entirely from the components of basic local service--the same as those reflected in the pure TSLRIC approach. Set against these revenues are the direct costs of providing this level of service and 50% of the joint costs–primarily the local loop and switch port. I have also included an allowance for common costs equal to ****Proprietary Proprietary**** of the aforementioned direct and joint costs.

An average residence customer will provide Qwest with $19.91 in basic local service revenues per month. From this amount, direct costs of ****Proprietary Proprietary**** are subtracted, along with joint costs of ****Proprietary Proprietary***, and common costs of ****Proprietary Proprietary**** (assuming the customer is in UNE Zone 2). This leaves a surplus of ****Proprietary Proprietary***. Stated another way, for the typical customer in UNE Zone 2, the direct, joint and common costs, total ****Proprietary Proprietary**** per month. This total is well below the current rate paid by most residential customers in this rate group, which is $19.91. Thus, the typical residence customer in UNE Zone 2 is not "subsidized" (as sometimes alleged) but instead provides a revenue surplus of

about **Proprietary Proprietary** or **Proprietary Proprietary**. Although residential customers aren't subsidized, they don't provide as substantial a contribution as business customers. Business customers in UNE Zone 2 generate revenues of $37.16; this leaves a much larger surplus of **Proprietary Proprietary** or **Proprietary Proprietary**.

Q. What conclusions have you drawn from this "allocated cost" comparison?

A. This data confirms the conclusions I reached using a "pure" TSLRIC approach. Business customers provide larger profit margins than residential customers. This analysis also confirms that if the Company is given greater freedom to raise residential rates, it may choose to do so. Furthermore, margins are smaller in the low density, higher cost parts of the state. Hence, there is reason to anticipate that although all residential customers may be forced to pay more for local service, the impact of increased pricing freedom is likely to be more severe in rural areas.

Given the high costs incurred in serving the lowest density, most rural parts of the state, as a profit-maximizing firm, the logical response to increased pricing freedom would be for Qwest to increase rates in these areas to generate profit margins more like those it earns in urban markets (just as it would be logical for Qwest to attempt to increase residential profit margins to levels comparable to those earned on its business services).

If the Company were allowed to increase residential rates to provide margins similar to those currently provided by business rates, the impact on rural residential customers would be particularly severe–their rates could potentially be increased by $15.00 or more per month. However, the standards for that review are not clear, and it is not readily apparent what

discretion the Commission will have to reject rate increase proposals. If the Commission approves the proposed Plan, will the Commission be free to reject rate increases if they will preclude customers from gaining the benefit of industry-wide improvements in productivity or reductions in input costs? Will the Commission be free to reject rate increases that might appear to be merited when viewed in isolation, simply because they could result in rate shock? Answers to these and other important questions are far from clear. The only thing that seems clear is that the Commission will have some "approval" powers in the event of a non-revenue neutral price increase.

Q. You have now discussed both the "pure" TSLRIC approach and the cost allocation approach. Could you now explain your third approach, in which you consider 100% of the loop and port costs?

A. Yes. Since shared costs are such a substantial fraction of a local exchange carrier's overall costs, it is useful to analyze these costs from a variety of different perspectives. Another useful approach focuses on customer groups, rather than specific services. Under this approach, the analyst looks at an incremental group of customers, and asks the question: What incremental revenues will the firm generate if it serves this group of customers? These incremental revenues are then matched with the incremental costs that are required to serve that group of customers.

For any one customer, the incremental revenue level may vary widely. If the customer never places or receives a long distance call, and never uses any of the optional services that are offered by the firm, the incremental revenues may amount to little more than the revenues from basic local exchange service and the FCC's end user fee. Even in this extreme case,

1 however, some other incremental revenues will arise.

2 For example, consider directory publishing revenues. Qwest and other incumbent local
3 exchange carriers earn very substantial revenues (and profits) from yellow page advertising.
4 These rates vary directly with the number of subscribers included in (and receiving) the
5 directory. As additional customers are added to the network, directory publishing revenues and
6 profits will expand. These incremental revenues can appropriately be considered in evaluating
7 the extent to which Qwest can profitably serve customers at current rates.

8 The situation is analogous to that of many publications. A magazine evaluating its
9 subscription efforts should consider not just the direct revenues generated by new subscriptions,
10 but also all the incremental revenues associated with those subscriptions. New revenues will
11 come from the additional ads sold as the circulation base expands, from the higher advertising
12 rates chargeable as the number of subscribers increases, and from the sale to new subscribers
13 of books, videos, or other ancillary products. In the same way, a local exchange carrier can
14 anticipate ancillary revenue from the sale of directory advertising and boldfaced white page
15 listings, which tend to increase as the number of customers on the network increases and the
16 directory becomes longer, even if the customers in question don't choose to purchase any
17 optional services.

18 Similarly, the volume of switched access minutes sold to interexchange carriers will
19 increase with the number of subscribers, since incremental customers place more outgoing toll
20 calls, and they also receive long distance calls which generates terminating access revenues for
21 the Company.

22 Moreover, many customers, having decided to purchase basic telephone service, will

also opt to purchase discretionary services. Call waiting service is perhaps the most popular example, but there are numerous optional services that generate revenues for Qwest as a result of the fact that it provides basic local exchange service. Increases or decreases in the number of basic service customers bring a corresponding increase or decrease in these ancillary revenues. Hence, an evaluation of how profitable it is for Qwest to serve residence customers at current rates should appropriately give consideration to these ancillary revenue sources.

I have not attempted to analyze all of these ancillary revenue streams in complete detail, nor have I analyzed them on a exchange classification-specific basis. The expected revenue stream may vary somewhat, depending upon the demographic and other characteristics of each geographic area, and the group of customers being studied. While I recognize this diversity exists, the data needed to analyze these patterns in detail were not readily available, nor would I expect the results to differ greatly from the simplified approach I have followed. I estimated a conservative level of revenues (and corresponding contribution to joint and common costs) that can reasonably be anticipated when typical customers are added to the network.

Q. Not all customers generate the same level of ancillary revenues. Have you developed an analysis using this third approach which allows the Commission to see the impact of variations in the level of ancillary revenues?

A. Yes. I developed multiple examples of this approach, thereby considering variations in the revenues and costs Qwest encounters in serving different types of consumers. For instance, Qwest does not gain the same amount of revenues nor incur the same level of costs in serving a customer who uses very little toll and does not subscribe to any custom calling features as it

experiences when serving a customer who uses a considerable amount of toll and many custom calling features. The matrix-based approach that I have used adds considerable detail to the contribution calculations, providing a more comprehensive view of the overall situation.

When a long distance call is completed by AT&T, MCI or another carrier, Qwest profits from "switched access charges" which it receives as compensation for originating and/or terminating the call. Switched access and long distance toll revenues are important aspects of the profit picture for any provider of local telephone service, but they vary depending upon usage levels. Accordingly, I consider the revenues that Qwest gains from three types of toll customer–one who uses very little toll, one who uses a moderate amount, and one who place toll calls quite frequently.

Many customers also enhance their local telephone service with one or more optional features, including call waiting, call forwarding, and Caller ID. The popularity of these types of features has been growing in recent years, creating an ever increasing stream of revenues for local exchange carriers. Today, the typical residential customer pays for at least one such feature and many pay for two or more. Since the revenues generated by custom calling and other premium features vary widely, we will consider five examples. Our first example is a household that purchases none of the available enhancements. Our second and third examples are customers that pay for either Call Waiting or Caller ID, respectively. Our fourth example is a customer that purchases both of these popular features and 8-number Speed Calling. Our fifth example is a customer that opts for these three as well as Call Forwarding and Three-Way Calling. The effect of these feature revenues in combination with the other revenue sources is illustrated for a customer in UNE Zone 2 in Table 2.

Table 2
Residential Revenues Including Features

Feature Revenues	Revenues from Low Toll User	Revenues from Mid Toll User	Revenues from High Toll User
Example 1: $ 0.00	$ 24.85	$ 28.05	$ 34.43
Example 2: $ 2.50	27.35	30.55	36.93
Example 3: $ 5.00	29.85	33.05	39.43
Example 4: $ 9.25	34.10	37.30	43.68
Example 5: $12.05	36.90	40.10	46.48

Clearly, the rate for basic local service alone does not begin to describe how much most consumers actually contribute to Qwest's revenues each month, nor does it provide any indication of the revenue levels which a competitive carrier can potentially capture. It is necessary to consider all of these revenue sources in order to meaningfully evaluate the extent to which residential customers are currently profitable to serve, or the prospects for competition in Arizona residential markets. Qwest doesn't rely exclusively on its basic monthly rate to recover its costs, nor do any of its competitors, which is one reason why the third approach (focusing on typical customers, rather than individual services in isolation) is helpful in evaluating the subsidy question.

Q. Would you please describe how revenues and costs are analyzed in this third approach?

A. Yes. The key difference between this approach and the others is that it looks at the entire set of

revenues which a carrier generates when serving a typical customer. I have depicted this revenue-cost comparison in my Schedule 3. For clarity, I have included the ancillary revenue sources. An estimate of the direct costs of providing these ancillary services, is included in the column labeled "Other Direct." These costs vary according to the amount of toll and access service that customers use each month as well as the number of custom calling and other optional services they subscribe to. As shown on page 1 of Schedule 3, in serving residential customers that use a small amount of toll and only subscribe to one custom calling feature (Caller ID), I have estimated Qwest would incur "other direct" costs of approximately ****Proprietary Proprietary**.** As shown on page 3 of Schedule 3, the analogous costs incurred in providing service to residential customer who uses a large amount of toll and subscribes to three ancillary services (Caller ID and Call Waiting and Call Forwarding) is ****Proprietary Proprietary**** per month.

By including these ancillary revenues and costs, along with the costs and revenues associated with basic local service, this third approach provides a fairly comprehensive picture of the various revenues and costs that a carrier can anticipate as it expands its network to include various groups of customers.

The column labeled "Contribution or Subsidy" shows the extent to which these residential customers can be expected to generate incremental revenues sufficient to cover their incremental costs, including all of the joint costs of the loops that connect them to the network, and an allowance of ****Proprietary Proprietary**** towards common costs. To the extent a positive figure is shown in the final column, the customer is generating an additional contribution towards the firm's other common costs. I have followed the same approach in

1 developing revenue-cost comparisons for residential customers in all exchange classifications on
2 each page of Schedule 3.

3 While the gap between revenues and costs varies depending upon toll usage and other
4 factors, Qwest generates revenues well in excess of its costs when serving most residential
5 customers. Consider a typical residence in UNE Zone 1 (the most densely populated areas)
6 that uses moderate amounts of long distance and purchases just one enhanced feature–Call
7 Waiting. As shown on page 2 of Schedule 3, at Qwest's current rates, this customer generates
8 an average of **Proprietary Proprietary** in revenues per month. In comparison,
9 the economic cost of serving this residence is just **Proprietary Proprietary** per
10 month. This includes the direct and shared costs of local exchange and all of the ancillary
11 services. Since the current rates generate revenues in excess of cost, there is no indication that
12 the typical residential customer is unprofitable to serve, nor is there any indication that the
13 typical residential customer is "subsidized" by any other category of customers.

14 To the contrary, the evidence suggests that most urban residence customers yield
15 revenues in excess of the costs of serving them (including 100% of the joint loop costs), as
16 shown below in Table 3. In today's telecommunications market, most customers use at least a
17 moderate amount of toll service, and the number of customers who do not subscribe to any
18 optional features is declining. Hence, the size of this group of relatively unprofitable customers is
19 probably diminishing over time. Increasingly, customers perceive features like call waiting and
20 Caller ID to be near-necessities. While there are still exceptions, the average or "typical"
21 Arizona customer places and receives toll calls, and subscribes to one or more ancillary
22 services. Thus, it is fair to say that at current rates, Qwest recovers all of its costs and generates

excess profits (it earns more than its cost of equity capital) when serving the vast majority of urban residential customers.

Table 3
Matrix of Revenue-cost Comparisons for
UNE Zone 1 Residential Mid-Toll Users
****Proprietary****

Feature Revenues	Total Revenue	Total Costs	Contribution (Subsidy)
Example 1: $ 0.00			
Example 2: $ 2.50			
Example 3: $ 5.00			
Example 4: $ 9.25			
Example 5: $12.05			

Q. Does the fact that most residential customers already generate excess profits suggest there is no reason to be concerned about rate increases if Qwest is given greater pricing freedom?

A. No. There is nothing inherent in the logic and incentives facing a profit maximizing firm that would provide a basis for assuming Qwest will limit its profits to current levels, if it were free given complete pricing flexibility. If competitive forces aren't strong enough, Qwest might choose to drastically increases residential rates. In fact, Qwest might conclude that its corporate interests are better served by achieving higher profit margins in the short term, even if this would cause it to suffer some loss of market share over the long term. Furthermore, profit margins are

not as strong in rural parts of the state. Hence, Qwest will likely push for substantial increases to its rural rates, if the pricing rules are sufficiently relaxed.

Q. Some of your data suggests current rates in rural areas are not fully recovering the high cost of serving these areas. Are there methods that could be used to deal with this problem, other than increasing rural rates?

A. Yes. Based upon experience gained in other states, I know that costs can be very high in areas where population density is low and distances from the wire center are long. The disparate loop costs in the FCC Model are evidence of this geographic pattern, suggesting that customers in rural areas are much more costly to serve than customers in Phoenix or Tucson.

Historically, regulators have not allowed extreme disparities between urban and rural rates, regardless of the extent to which costs vary. For example, the high cost of serving rural areas has been recovered in part by allowing carriers to charge higher for toll and access services than would otherwise be allowed. In both the federal and state jurisdictions, access rates have historically been regulated on a uniform average basis; the high costs incurred in rural areas is one of the reasons why policy makers have historically allowed Qwest to charge so much for ancillary services like switched access, custom calling and CallerID. Stated another way, high rural loop costs have translated into relatively high rates for switched access, long distance toll, and other ancillary services.

One can legitimately question whether this historic rate design practice should be phased out, in favor of more explicit forms of high cost support. However, there is no justification for completely abandoning the historic pattern of rate uniformity, nor is there any

justification for allowing extreme disparities between rural and urban rates.

In this regard, it is worth noting that other methods of providing high cost support have been implemented in some jurisdictions. For instance, the State of Kansas implemented a competitively neutral, explicit mechanism for high cost support. My firm was privileged to work with the Kansas Corporation Commission ("KCC") in carrying out this effort. The KCC initially established the Kansas Universal Service Fund as a "revenue neutral" mechanism which replaced a portion of the existing access revenues. It later replaced this system with a forward-looking cost-based mechanism. The KCC recognized that costs per line can vary widely with density and distance from the central office. Therefore, in order to take these factors into account, the KCC decided to target support on the highest cost (i.e., least dense, most distant) areas within each wire center. Wire centers and zones within these wire centers were not given support unless the relevant costs per line exceeded 125% of the statewide average costs per line.

If the Commission wants to ensure that rural areas (including many of the exchanges classified as UNE Zone 3) generate revenues which are sufficient to cover the relatively high cost of serving these areas, this should not be accomplished by giving Qwest the freedom to drastically increase rural rates. To the contrary, if the Commission is convinced that the existing system of implicit support is not sustainable or acceptable, it would be more appropriate to revamp the Arizona universal service fund that would provide an appropriate mechanism for dealing with these cost disparities.

Universal Service Mechanism

Q. Would you provide a brief description of the AUSF?

A. Yes. The Commission summarized the purpose of the AUSF and the entities that fund it in an order approving AUSF surcharges for 2004.

> The AUSF was established to maintain statewide average rates and the availability of basic telephone service to the greatest extent reasonably possible.
>
> One half of the AUSF funding requirement is collected through a surcharge paid by providers of basic local exchange service, wireless service, paging service, and other Commercial Mobile Radio Service providers that interconnect with the public switched network. These entities are known as Category One providers.
>
> The second half of the AUSF funding requirement is collected from providers of intrastate toll service. These entities are known as Category Two providers. [Decision No. 66651, Docket No. RT-00000H-97-0137, December 22, 2003, pp. 1-2]

Arizona Administrative Code section R14-2-1202 outlines how support paid to fund recipients is calculated.

> The amount of AUSF support to which a provider of basic local exchange telephone service is eligible for a given AUSF support area shall be based upon the difference between the benchmark rates for basic local exchange telephone service provided by the carrier, and the appropriate cost to provide basic local exchange telephone service as determined by the Commission, net of any universal service support from federal sources. ...

> For a large local exchange carrier, the AUSF support area shall be U.S. census block groups, and the appropriate cost of providing basic local exchange telephone service for purposes of determining AUSF support shall be the Total Service Long Run Incremental Cost. [A.A.C. R14-2-1202, Subparts A and D]

Q. What benchmark is used to calculate support under the AUSF?

A. "Benchmark Rates" are defined as:

> [R]ates approved by the Commission for that provider for basic local exchange telephone service, plus the Customer Access Line Charge approved by the Federal Communications Commission. [Id., R14-2-1201]

Q. Are there Arizona carriers that currently receive support from the AUSF?

A. Yes. According to the Commission order just cited, Citizens Telecommunications Company of the White Mountains, Inc. receives $769,620 per year from the fund and Midvale Telephone Exchange, Inc. receives $71,651 per year. [Decision No. 66651, Docket No. RT-00000H-97-0137, December 22, 2003, p. 2]

Q. How do Arizona's Category One and Two providers support this funding?

A. For 2004, Category One providers pay $0.0038 into the fund for each access line they service and $0.037998 for each interconnecting trunk line they service. Category Two providers pay 0.0998% of their intrastate toll revenues into the fund. [Id., p. 3]

Q. Are these surcharges sufficient to cover the amount that Qwest has proposed to draw from the AUSF?

A. No. These surcharges were established so as to generate sufficient funds to cover *current* AUSF distributions (those to Citizens and Midvale), and accounted for an October 31, 2003 fund balance of $754,196.59. [Id., p. 2] They are not adequate to compensate for the high costs of serving rural residential customers in Qwest's service territory.

Q. How much has Qwest proposed to draw from the AUSF?

A. Roughly $64 million. [Proprietary Million Exhibit TKM-02]

Q. In Decision No. 66651 that you cited earlier, the National Exchange Carriers Association is described as calculating the surcharge necessary for the AUSF to cover Citizens' and Midvale's funding needs. Has Qwest performed a similar calculation?

A. Yes. Mr. Teitzel includes a surcharge calculation in his direct testimony. He figures that Arizona wireline local service carriers would be charged an additional $0.46 per line served and Arizona wireless carriers would be charged an additional $4.58 per interconnection trunk served. Although he doesn't know the exact number of interconnection trunks required by wireless carriers to service Arizona customers, consistent with the calculations delineated in the Arizona Administrative Code, his calculations appear to provide a reasonable order of magnitude estimate of the size of the surcharges that would be required to support Qwest's proposal.

Q. Would you please summarize the Qwest AUSF proposal?

A. Yes. Mr. Ziegler provides a succinct description of the Company's proposal.

> Qwest proposes that the difference between the TSLRIC of basic residential local exchange service in UNE Zone 2 and the sum of the 1FR rate and FCC Customer Access Line Charge in Zone 2 be recovered from the AUSF. Similarly, Qwest proposes that the difference between the TSLRIC of basic residential and business exchange service and the 1FR or 1FB rate and the FCC Customer Access Line Charge in UNE Zone 3 be recovered from the AUSF. [Ziegler Direct, p. 12]

Q. How does Qwest support this proposal?

A. Mr. Shooshan describes a consumer benefit and competitive benefit resulting from the Company's AUSF proposal.

> Qwest's proposal to ... seek AUSF support to make up the difference between current and cost-based rates is beneficial to consumers in the higher costs areas as they will be relieved of covering the direct costs of providing service. Instead, those costs will be spread over all of those paying into the AUSF. Additionally, since AUSF support is portable, competitors will have greater incentive to offer alternative services to customers in these high-cost areas where competitors are currently deterred by the high costs. [Shooshan Direct, pp. 17-18]

Mr. Teitzel describes a change to Qwest's pricing structure resulting from the Company's AUSF proposal.

> Since residential line local exchange rates in UNE Cost Zone 2 and 3 wire centers are below cost, these rates are currently receiving an implicit subsidy, which is not sustainable in a competitive marketplace.

> Supporting residential rates in these wire centers with AUSF funds will make this subsidy explicit, will protect customers in these areas from dramatic rate increases and ensure continued affordable service in high cost areas, and is competitively neutral. ...
>
> As discussed in the testimony of Ms. Million, business local exchange recurring rates in UNE Zone 3 wire centers are below cost. [Teitzel Direct, pp. 89, 90]

Q. You stated earlier that Qwest links its proposal to draw funds from the AUSF to an analysis of the difference between the Company's TSLRIC costs and its revenues. Are these calculations consistent with your analysis of TSLRIC costs relative to revenues?

A. No. Despite using the TSLRIC label, Qwest includes joint costs in its analysis. Furthermore, it mismatches all of its joint costs with only a portion of the revenues it receives that provide support for those costs.

Q. Can you elaborate on the Company's analysis of revenues and costs?

A. Yes. Mr. Million explains the Company's reasoning:

> As I explained above, the total cost to provide a retail service includes the direct cost of the service, the costs that are shared among groups of services and a contribution to the common overheads of the corporation. If the AUSF support were calculated using an amount that recovered less than the total cost to provide the service, then the shared costs as well as the amount of contribution to common overheads from basic local exchange telephone service would be borne entirely by the lines located in Zone 1. Any necessary contribution not recovered from the Zone 1 lines would have to be recovered from

> Qwest's other retail services. This would result in an implicit subsidy of the Zone 2 and 3 business and residential basic exchange customers. The purpose of a universal service fund is to help maintain affordable rates in high cost areas and at the same time eliminate implicit subsidies for high cost service.1 In addition, it is important to note that Qwest's CLEC competitors in Zones 2 and 3 pay for unbundled network elements on the basis of TELRIC rates that include shared and common costs. As discussed in Mr. Teitzel's testimony, because AUSF support is portable to qualifying CLECs it is important that the AUSF surcharge calculation, based on the AUSF funding need, be sufficient to cover the costs of any qualified provider on a competitively neutral basis. Therefore, the appropriate cost to use in calculating the AUSF support amount is Qwest's fully allocated cost. [Million Direct, pp. 22-23]

I don't dispute some of these points. For instance, I agree that all of the costs incurred when a carrier serves rural customers are potentially relevant. However, I strongly dispute the notion that total costs should be compared to just a subset of the revenues that result from the decision to serve these customers. An appropriate matching of revenues and costs is crucial for meaningful results. If total costs (including joint costs) are to considered in the analysis, then total revenues should also be considered, including revenues from toll, access, and features.

Q. You mentioned the use of a benchmark to calculate the level of support provided by a universal service fund. Can you discuss the concept of a benchmark in more detail?

A. Yes. A benchmark is useful in identifying high cost areas, and determining the amount of support to be provided in these areas. It provides a numerical basis for evaluating the extent to which costs in a particular area are above the "norm," and thus needing support. Typically, the benchmark is based upon average revenues, or average cost, per line.

Q. When a revenue benchmark is used, exactly what revenues should be included?

A. In general, the revenues included in the benchmark should be consistent with the methods used in calculating the forward-looking economic costs of constructing and operating the network. If the cost methodology includes the entire cost of the loop and port, then the revenue benchmark should include revenues from all services that use the loop and port. These are joint or common costs, which are not, and should not be, borne entirely by any one service which relies upon them. In addition to revenues from basic local exchange service, these costs are related to, and supported by, numerous other revenue sources, including interstate switched access, intrastate switched access, intrastate toll, custom calling, Caller ID and directory publishing.

It is illogical to compare the entire amount of loop and port costs with the revenues from just one or two of the revenue sources that reimburse these costs, such as basic local exchange rates and the FCC's subscriber line charge. If the entire amount of loop and port costs is being considered in the analysis, other sources of revenues should also be considered, since these are available to help offset those costs. The loop and port are also required for the provision of these other services. If the full cost of the loop and port are included in the cost of universal service, it is appropriate to balance against this cost the revenues from the full range of services benefitting from them.

Q. Could you be more specific about which revenues to include, if the analysis includes 100% of the joint costs?

A. The benchmark should include local revenues, which consist of the basic local rate, the end user common line charge, touch tone, extended area service (EAS) and Outside Base Rate Area

revenues. The benchmark should also include revenues from discretionary services, including Custom Calling, as well as Caller ID and other CLASS revenues. A substantial portion of toll and switched access revenues should also be included. Specifically, the benchmark should include the amount of toll and switched access revenues attributable to use of the loop and port.

Q. Are there any other revenues that could be included?

A. Yes. The benchmark could also include a portion of ancillary revenues that are generated by LECs, as a result of their provisioning of local telephone service. Two prominent examples are revenues from directory publishing and inside wire maintenance service. Consider directory publishing revenues. The incumbent local exchange carriers earn very substantial revenues (and profits) from yellow page advertising. These rates vary directly with the number of subscribers included in (and receiving) the directory. As additional customers are added to the network, directory publishing revenues and profits expand. These revenues are particularly large in urban areas, where yellow page advertising generates enormous profits for incumbent LECs, but they are also available to incumbent carriers that serve rural areas. Similarly, many incumbent carriers generate substantial revenues and profits from inside wire maintenance. Carriers ability to generate these revenues is directly related to the fact that they provide the customers' access line.

Q. Let's discuss cost benchmarks. What are their advantages?

A. Cost benchmarks are consistent with the method the FCC has adopted for the federal USF. Moreover, cost benchmarks provide regulators with greater flexibility in balancing the interests

of urban and rural customers. The portion of the high cost burden which would be borne by all customers and the portion which will be borne by carriers and customers in high cost areas can be readily specified when using a cost benchmark.

Q. A cost benchmark reflects "average" costs. Could the benchmark differ from the average itself?

A. Yes. There are several ways a cost benchmark could be implemented. Potentially, the benchmark could equal to the average cost level, thereby funding all locations where costs exceed the statewide average. Another possibility is to establish a benchmark which exceeds the statewide average by some defined percentage. This is similar to the approach adopted at the federal level. In the October 21, 1999 Methodology Order, the FCC decided to set the cost benchmark at 135% of the national average. [¶ 10.]

The effect of varying this percentage figure is straightforward: with a higher benchmark, the fund would be smaller; with a lower benchmark the fund would be larger, holding everything else constant.

Q. What are the policy implications of applying a higher or lower percentage figure?

A. If the goal were to limit the support flowing from urban areas to rural areas and to ensure that support is narrowly targeted at the areas with the most extreme cost conditions, a relatively high percentage figure should be used. For example, if support were only provided to locations where costs exceed 150% of the statewide average, support can be focused more narrowly on those wire centers and customers facing truly extraordinary cost conditions, and thereby limit

the size of the universal service fund.

In contrast, if the goal is to ensure a much broader flow of support by expanding the number of recipients to include those facing less extreme cost conditions, a lower percentage figure should be used. For example, if 100% were used, it would ensure that every wire center with costs above the statewide average will receive support, even if the costs are only slightly above that average. While this might seem desirable, it requires a very large fund, which becomes unwieldy to administer, and is more likely to create market distortions.

Q. Let's talk geography. Does it matter what geographic unit of analysis is selected for administering a high cost fund?

A. Yes, this can have a very significant impact on the overall size of a fund, as well as the amount of funding received by specific carriers. Cost estimates that are developed for large geographic areas will tend to reflect average conditions throughout that entire area. High cost areas will be offset by low cost areas. Taken to the extreme, costs can be developed for an entire state, or a large statewide "study area" (e.g. the Qwest service territory in Arizona), as the FCC has done in implementing the federal USF. When this is done, cost conditions are broadly averaged, and carriers receive the same amount of support per line, regardless of whether a line is located in Phoenix or in a low density rural area.

A study which separately calculates cost for individual wire centers, or relatively homogeneous groups of wire centers highlights high cost patterns to a much greater degree. Even this approach, however, fails to disclose whether there are both low cost and high cost areas within individual wire centers. A finer-grain approach can further identify customers that

might need high-cost support, separating them from those which might not.

In general, the size of the universal service fund tends to be inversely related to the size of the geographic areas used in calculating the fund size. Very small areas (e.g., individual clusters or grid cells) translate into a large fund. At least in part this results directly from the impact of errors in the modeling process, which have an exaggerated effect as the unit of geography shrinks. This happens because the fund size is typically driven by differences between a given benchmark and the calculated cost; with extremely small geographic areas, errors in the modeling process, cost allocation procedures, and other phenomena cause the calculated costs to fluctuate widely above and below the benchmark. Since the fund size is determined by the magnitude of the discrepancies above the benchmark (without any offsetting reduction for discrepancies below the benchmark), these upward fluctuations tend to increase the size of the fund.

In attempting to model costs accurately, it is generally desirable to gather more detailed data, and to attempt to refine costs for relatively small geographic areas–smaller than a wire center. However, this does not imply that the fund itself should be administered at the same level of geographic detail. To the contrary, it would be preferable to use somewhat larger areas in administering the fund, relative to the size of the areas used in developing the costs.

Q. Does that mean that you disapprove of any unit of analysis smaller than a wire center?

A. No. Assuming the underlying model is strong enough to support this level of detail, one would ideally group the geographic areas within each wire center into two zones or categories. This would provide a highly manageable degree of granularity for reporting purposes, and would aid

in gaining a more detailed understanding of the cost characteristics of each wire center. This approach would also allow one to examine the cost of serving low and high cost areas within each wire center, without becoming lost in a sea of detail (e.g., costs for individual grid cells or CBGs). An excellent balance between granularity and manageability can be achieved by classifying each part of each wire center into one of two categories. One category (e.g., zone 1) would tend to include relatively low-cost areas. The other category (e.g., zone 2) would tend to include relatively high-cost areas.

Q. Can you summarize the rationale for distinguishing zones within the wire centers?

A. Yes. In many rural wire centers the customers in town are actually quite inexpensive to serve. The only reason these wire centers appear to have high costs is because customers outside of town are very costly to serve. If support is provided to all lines in these wire centers, CLECs will be encouraged to serve the wire center, but the support payments they receive won't necessarily relate to the extent to which they actually serve high cost customers. If a CLEC chose to install cable in town and resell the incumbent's services outside of town, it would not experience any high costs. Yet, it would potentially receive substantial payments from the IUSF as if it were a facilities-based provider in a high cost area.

Q. Can the extent of geographic averaging affect the size of the fund?

A. Yes. The zone concept can have a significant impact on the extent of support provided to specific customers, it can influence the amount of funding received by particular carriers (particularly competitive carriers) and it can even impact the overall size of the fund (depending

upon how the concept is implemented). Cost estimates that are developed for large geographic areas will tend to reflect average conditions throughout that entire area. High cost areas will be offset by low cost areas. Taken to the extreme, costs can be developed for an entire state, or a large statewide "study area" When this is done, cost conditions would be broadly averaged, and carriers would receive the same amount of support per line, regardless of where that line is located.

III. PRICE CAP AND TRADITIONAL REGULATION

Q. Please turn to the next section of your testimony. Can you begin by briefly discussing the origins of public utility regulation?

A. Yes. Historically, utility regulation reflects the well-founded perception that certain types of goods and services cannot be efficiently provided under competitive conditions. It generally has proven uneconomic, for example, to have competing water, sewer, electric, or gas distribution systems within a single community. During the late 19th and early 20th centuries, where two or three of these utilities tried to compete, normal competition did not seem to be sustainable.

Economists came to describe these types of markets as "natural monopolies." If competing companies do survive in a natural monopoly, they tend to incur excessive costs and needless duplication of facilities. Typically, a single strong company evolves, dominates the market with its unmatchable low costs, and drives all others from the field.

1 **Q. What concerned early regulators about natural monopolies?**

2 A. By the late 1800's and early 1900's, legislators and regulators became concerned that the
3 surviving firms in the public utility industries were raising prices to excessive levels and enjoying
4 substantial monopoly profits at consumers' expense, or would do so in the future. As the
5 realization grew that normal competitive forces could not be relied upon to protect customers
6 from monopoly power, regulatory agencies were created in state after state, and began to
7 exercise jurisdiction over the electric and telephone industries in an effort to advance the public
8 interest.

9

10 **Q. What goals were policy makers hoping to achieve by regulating these industries?**

11 A. The primary objective of regulation has always been to produce results in the utility sectors of
12 the economy that parallel those obtainable under conditions of effective competition. Although
13 economists recognize that full competition remains an unrealized ideal in our economy, the high
14 levels of efficiency and equity achieved under effective competition have long been a primary
15 justification of America's free enterprise or market-directed system.

16

17 **Q. What mechanism was used by regulators to achieve this goal?**

18 A. Consistent with this competitive standard, regulators attempted to set prices to provide a
19 well-managed utility with the opportunity to cover all of its necessary costs (where costs are
20 defined as including a fair return on the capital employed). Although the utility may recover
21 more or less than its full cost in the short run, its total cost should generally be equated with total
22 revenues over a longer period of time. When rates are controlled in this manner (regardless of

whether this is accomplished through traditional rate base regulation or through an alternative system), there will be an equitable and efficient balance between the interests of the utility and its investors on the one hand, and those of its customers on the other hand. Such a balance, which occurs naturally in markets controlled by effective competition, has been the goal for utility rate regulation in most jurisdictions.

Q. Were legal standards established for determining a fair rate of return?

A. Yes. The comparability standard for determining the fair rate of return for a utility, including the cost of equity capital, has been repeatedly upheld in Supreme Court decisions. In the landmark case, *Bluefield Water Works & Improvement Co. v. Public Service Commission*, 262 U.S. 679, 692-93 (1923), the Supreme Court set forth the criteria for determining a fair rate of return for a utility:

> A public utility is entitled to such rates as will permit it to earn a return... equal to that generally being made... on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economic management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties.

In *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944), guidelines were established to judge reasonableness of return. The Supreme Court held that:

> it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital. [*Hope*, p. 603 (citation omitted)]

The Supreme Court stressed that setting an appropriate rate of return and rates in general do not relate solely to protecting investors' interests. They also involve protecting the rights of consumers.

Q. Are there any problems associated with the traditional rate base form of price regulation?

A. Yes. Although the public interest has been well served by traditional regulation, there are several aspects of rate base regulation that have led observers to question whether it is still appropriate for the telecommunications industry, and to lead policy makers to search for alternatives. Most of this criticism has focused on one or more of the following issues: (1) the lack of strong incentives to operate efficiently and to minimize costs; (2) a potential failure of utilities to increase their productivity as rapidly as possible due to this lack of incentives; (3) the costs of regulation; and (4) the desire to rely partly on competition, rather than pure regulation, to advance the public interest, together with a corresponding concern that rate base regulation might not be fully compatible with this trend towards more increased competition.

Q. What alternatives to traditional regulation have been implemented in the United States?

A. Regulators have tried various forms of alternative regulation in an effort to increase or improve management incentives while protecting the interests of consumers. Typically, regulators used price caps, partial deregulation, profit-sharing, price freezes or some combination of the four.

Q. Has there been a trend towards any particular form of alternative regulation?

A. Yes. Prior to the divestiture of AT&T, all 50 states employed traditional rate base regulation. In the late 1980's, shortly after divestiture, several states adopted price freezes and rate case moratoria. [See Chumrong Ai and David Sappington, The Impact of State Incentive Regulation on the U.S. Telecommunications Industry, Table 1, June 2001, http://bear.cbo.ufl.edu/sappington/papers/txt4.pdf.] Price freezes were sometimes viewed as a transitional form of regulation, to be used while state commissions sorted out the effects of AT&T's divestiture and investigated other forms of alternative regulation. During the late 1980's and early 1990's, other states were beginning to test profit sharing as an alternative to traditional regulation. Meanwhile, the FCC and regulators in some other countries started to rely on price cap regulation. Some states began experimenting with price caps around 1990. The initial experience of the carriers was apparently favorable, since they began advocating price cap regulation to various regulatory commissions and legislative bodies. The transition to this new concept was remarkably swift; by 1996, operations of the regional BOCs (RBOCs) were more heavily regulated by price caps than by rate of return, overturning a tradition that had persisted for nearly a century.

Q. Were policy makers abandoning public interest goals when they moved to price caps?

A. Absolutely not. The specific goal of price cap regulation is to eliminate, or at least weaken, the linkage between cost and rates, but there is no evidence that policy makers have abandoned their focus on the broad public interest, or that they are no longer concerned about the traditional goals of public utility regulation. For example, in developing and refining its system of price cap regulation, the FCC apparently still viewed the results of effective competition as an appropriate benchmark for price cap regulation. For instance, it explained that competition

> encourages firms to improve their productivity and introduce improved products and services, in order to increase their profits. With prices set by marketplace forces, the more efficient firms will earn above-average profits, while less efficient firms will earn lower profits, or cease operating. Over time, the benefits of competition flow to customers and to society, in the form of prices that reflect costs, maximize social welfare, and efficiently allocate resources. [Price Cap Performance Review for Local Exchange Carriers, First Report and Order, CC Docket No. 94-1, 10 FCC Rcd 8961, 9002 (1995)]

In adopting this new system of regulation, the FCC believed that the results of price caps would correspond to the results of a competitive market more closely than had been possible under previous regulatory systems. Although the FCC was trying to encourage growth in productivity by permitting incumbent LECs that increase their productivity to earn higher profits, it was not abandoning its traditional focus on preventing monopolists from charging excessive rates or earning supra-normal profits.

Q. Can you clarify how a price cap formula differs from traditional cost-of-service regulation?

A. Yes. Perhaps the most significant difference is that price cap regulation generally focuses on industry-wide data, while traditional regulation focuses on carrier-specific data. However, the full impact of this difference is not felt initially. When a price cap system is initially instituted, it typically resembles traditional regulation, since the price cap is usually based upon the existing tariffs, which were derived from carrier-specific data. In some states, rates have been reduced below the existing level at the time a price cap plan is adopted, but I am not aware of any cases in which the starting rates were based upon national averages or other industry-wide data. Over time, the two systems will tend to diverge, since the price cap method of regulation normally focuses on industry-wide factors, while traditional regulation focuses on company-specific data (in a rate case).

The general formula for price cap regulation can be written as:

RateNew = RateOld times [1 + (I – X)],
where I = some measure of economy-wide inflation, and
X = a factor which reflects differences between costs experienced by this type of firm and those occurring in the economy generally.

By including a factor for inflation, the firm is allowed to increase its prices to keep pace with inflation. This makes sense, to the extent that a firm's costs can be expected to increase as a result of inflation. However, since costs do not increase by exactly the same amount

throughout the economy, due, for example, to industry-specific differences in productivity growth, the formula typically includes a factor (usually referred to as the "X" factor) which attempts to track industry-specific differences.

To the extent that the price cap formula does not adequately take into account industry-specific or carrier-specific circumstances, this discrepancy will translate into higher or lower than normal profits. For instance, if the firm benefits from circumstances that are more favorable than the nationwide norm, its profits will increase. Whether this increase in profits is an advantage or disadvantage of the price cap system depends on one's perspective, as well as the reasons underlying the discrepancy between the carrier-specific and nationwide data.

Q. You mentioned that one of the goals of price cap regulation is to sever the regulatory link between costs and rates. Do you have any evidence regarding the historical link between costs and rates?

A. Yes. We find that under conditions of effective competition, increases and decreases in costs eventually translate into similar increases and decreases in prices. Rate of return regulation historically achieved a similar pattern by requiring utilities to pass through to customers reductions in their costs. In some cases, as with fuel and purchased power costs incurred by electric utilities, this pass-through has been achieved very directly and quickly. In other cases, it has only occurred after a lengthy lag.

While prices and costs will sometimes diverge for individual firms (and for an entire industry over brief periods of time), both rate of return regulation and effective competition have historically been quite successful in forcing firms to provide customers with the benefits of cost

reductions and requiring customers to compensate firms for cost increases.

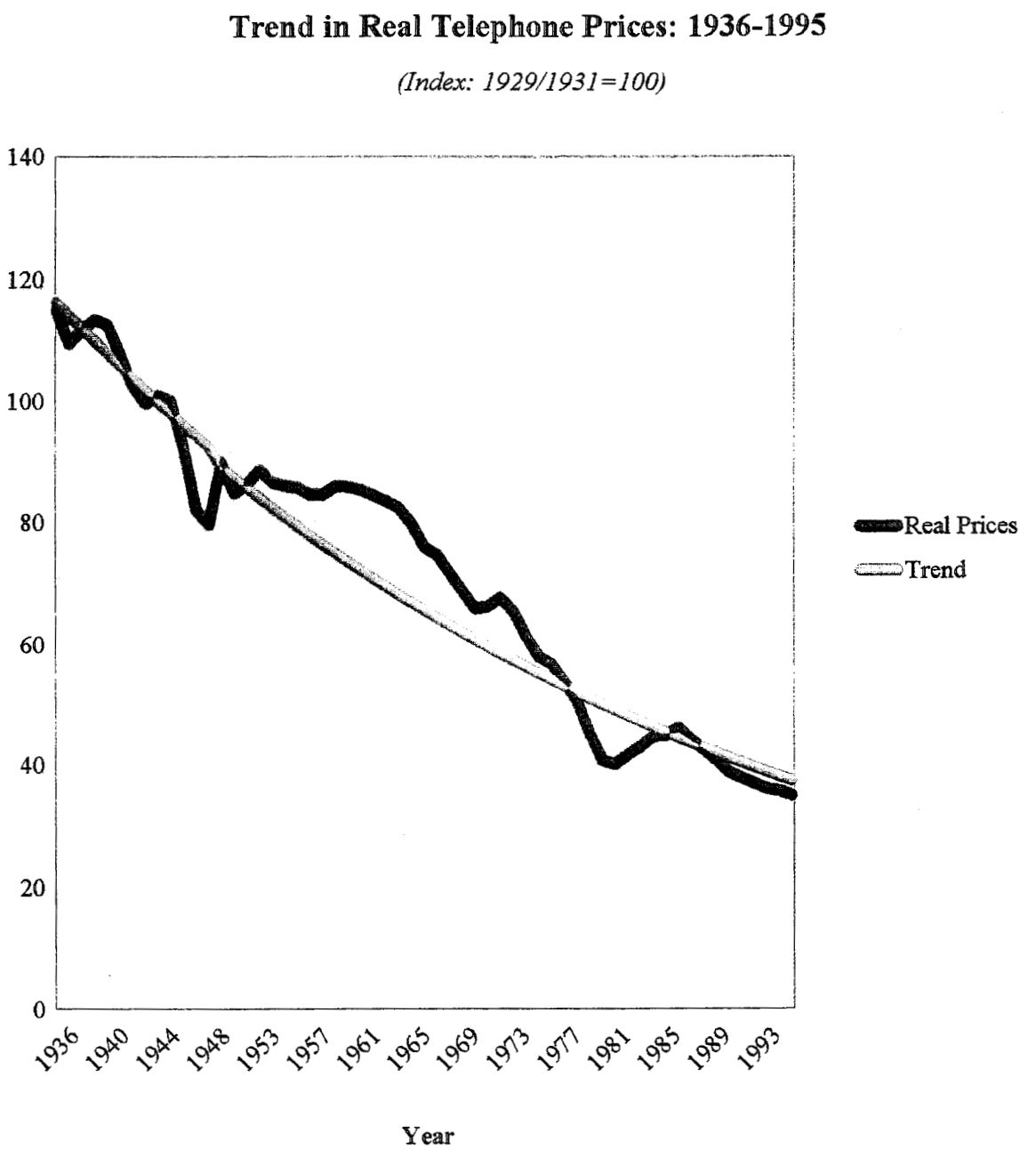
This general pattern–in which prices and costs are closely aligned and monopoly profits are largely precluded–has generally applied to the RBOCs. As shown in Graph 1, telecommunications prices experienced a strong downward trend in real terms over the 68-year period from 1936 to 2003. The data in this graph are based upon the retail prices charged for telephone services as collected by the United States Government for inclusion in the Consumer Price Index (CPI). To better appreciate this long-term downward trend, the effects of inflation have been removed from the data (using the GDP-Deflator). As shown in this graph, after removing the distorting effect of changes in the value of a dollar, it is clear that telephone companies have benefitted from a strong downward trend in their costs, and that the benefits of this downtrend have been shared with, or passed through to, customers in the form of lower real prices.

Despite the overall downward trend in prices during the 68-year period, there were some brief periods when prices for telephone services were increasing faster than the overall inflation rate. For example, "real" telephone prices briefly increased from 1937 to 1939, 1948 to 1950, and 1981 to 1987. However, these periods were exceptions to the overall pattern. The long-term trend in prices has been strongly downward for the entire period since the Great Depression.

Q. Why did telephone prices not increase as fast as inflation?

A. As I mentioned earlier, traditional regulation is similar to competition in requiring carriers to pass cost reductions through to their customers. Since prices have been declining in real terms, while

Graph 1


Trend in Real Telephone Prices: 1936-1995
(Index: 1929/1931=100)
140
120
100
80
60
40
20
0
1936
1940
1944
1948
1953
1957
1961
1965
1969
1973
1977
1981
1985
1989
1993
Year
Real Prices
Trend

the firms have maintained their financial integrity and generally earned adequate returns, it is self-evident that these firms' costs must have been declining. If costs had been trending up, eventually (after regulatory lag) prices would have been trending up.

This downward trend in real telephone prices is largely the result of increasing economies of scale and the underlying declining cost nature of this industry. Costs have been declining, and prices have followed this same downward trend. Moreover, input costs within the telecommunications industry do not necessarily follow the same inflation pattern experienced by the overall economy. For example, it is well known that electronic equipment is not increasing in cost as rapidly as the overall rate of inflation. In fact, digital electronic equipment, such as personal computers, has actually been declining in cost. LECs rely heavily on computers for engineering, accounting, billing, and general office purposes. Similarly, the net prices paid by LECs for other equipment, including central office switches and fiber multiplexers, have declined over time.

Q. What about the other, less specialized inputs used by the telecommunications industry?

A. While some items may have increased as rapidly as the overall inflation rate, others have actually decreased sharply in recent years. While nominal prices are dropping from year to year, when quality changes (e.g., improved speed, memory, storage and capacity) are considered, the effective price decline is even greater. Admittedly, most other items purchased by the LECs have not declined in cost as rapidly as computers. However, many of these costs have not increased as rapidly as the overall rate of inflation. Hence, prices for telephone

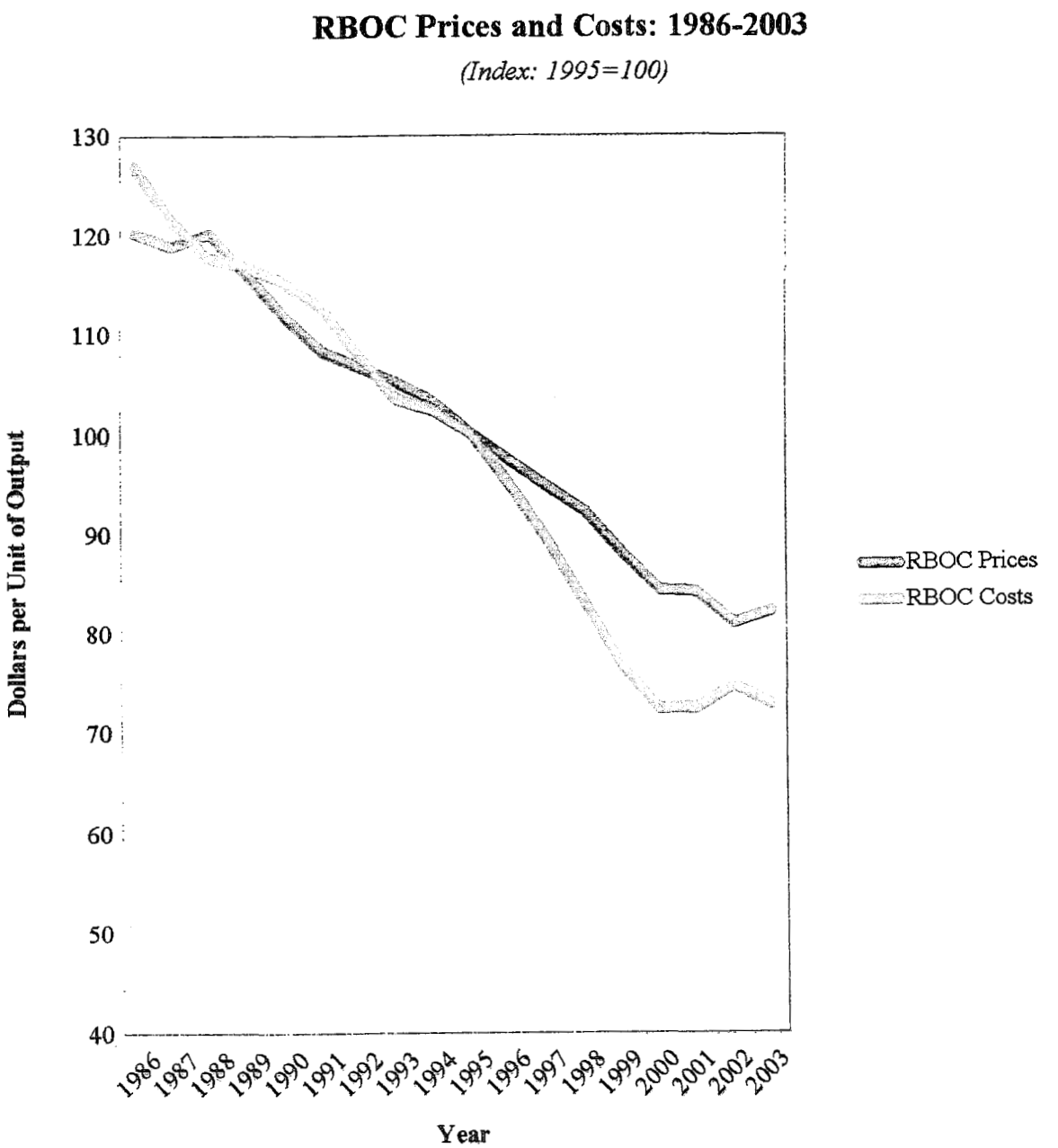
services have not increased as fast as inflation, which contributes to the downward slope shown on Graph 1.

Q. Do you have any data confirming that the decline in prices shown on Graph 1 was the result of declining costs per unit?

A. Yes. Graph 2 compares the trend in RBOC output prices to the trend in input costs during the period from 1986 to 2003. The blue line, which shows the RBOCs' prices, is conceptually similar to Graph 1, but it was developed in a somewhat different manner, and it covers a more limited time period. The trend in prices was derived from the RBOCs' revenue data, as reported to the FCC. To convert from revenues to prices, we divided by output (thereby deriving revenues per unit). The data are in nominal terms–that is, I have not adjusted the data for the effects of inflation. If I had restated the data in "real" terms, like Graph 1, the slope of the lines would be even more sharply downward.

In Graph 2, the green line shows the RBOCs' costs per unit. I developed this line by totaling all of the capital, labor and materials costs incurred by the RBOCs, and dividing by total output. Capital costs included an estimate of the cost of equity capital. To the extent that the RBOCs earned returns which were above or below their cost of equity in a particular year, their revenues per unit and total costs per unit are not the same. As shown, prices have not perfectly tracked costs from year to year, although both prices and costs were trending down at a similar rate up until approximately 1995.

Graph 2


RBOC Prices and Costs: 1986-2003
(Index: 1995=100)
130
120
110
100
90
80
70
60
50
40
Dollars per Unit of Output
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
Year
RBOC Prices
RBOC Costs

Q. Has traditional regulation been effective in reducing prices to reflect declining costs?

A. Yes, although the regulatory process is far from perfect. The 1986 to 1995 portion of Graph 2 confirms that overall, rate base regulation was quite effective in requiring firms to reduce prices by roughly as much as their unit costs. Accordingly, it is fair to say that traditional rate base regulation was effective in simulating the competitive process by requiring firms to pass through to customers most of the benefits of declining costs. Of course, the alignment of prices and costs has varied from time to time and state to state, at least in part due to the effects of regulatory lag.

Q. What does the graph show from 1996 forward?

A. Starting around 1996, costs began to decline at a more rapid pace, which was not immediately matched by corresponding acceleration in price reductions. As a result, a rapidly expanding gap emerged between these two sets of data, and it has not been closed. This indicates that RBOC prices are now well above the corresponding level of costs. The downtrend in costs flattened somewhat in 2001, resulting in a partial diminution of the gap between prices and costs. However, in 2003 prices turned slightly upward, while costs turned back downward. Hence, there are no indications that the substantial gap between prices and costs will disappear anytime soon.

Q. Is this discrepancy between prices and costs a significant one?

A. Yes. Graph 2 indicates that the RBOCs have not passed through to consumers a large portion of the cost reductions they have experienced since about 1995. It is also significant to note that

Graph 2 does not provide any indication that this gap between prices and costs is diminishing, or that sufficient forces are in place to push prices down to closer alignment with costs. If regulation were working as it should, or if competition were fully effective, we would expect prices and costs to remain in fairly close alignment –at least on an industry-wide basis over multi-year periods. In a fully competitive market, for example, if unit costs decline sharply, prices will normally also decline sharply. A familiar example is the computer industry, where manufacturing costs per unit are rapidly declining, and competitive pressures have forced these cost savings to be passed through in ever-lower retail prices. A close review of Graph 2 fails to show any sign that the current regulatory system or competitive pressures are forcing rates down to levels that are fully consistent with the declining level of costs incurred by the RBOCs.

Q. Let's discuss the inflation offset component of price cap regulation. What is Qwest's proposal regarding this component?

A. As witness Shooshan explains, Qwest proposes to replace the "automatic productivity and inflation adjustment mechanisms of Basic/Essential Basket 1 with an overall revenue cap." [Shooshan Direct, p. 3]

Q. What reasons does Mr. Shooshan give for this recommendation?

A. He argues the existing mechanism is appropriate because it required Qwest to reduce rates, contending that the proposed revenue cap "is an important improvement over the productivity/inflation index that resulted in overall revenue decreases for the past 3 years." [Shooshan Direct, p. 7]

Q. Does Mr. Shooshan agree that the productivity/inflation price cap mechanisms were necessary?

A. Yes. Mr. Shooshan concedes the validity of these mechanisms as a general matter, noting that they allow

> ILECs to increase their prices (in nominal terms) only to the extent that the rate of inflation exceeded an estimate of the firms' productivity. The productivity adjustment itself was based on the assumption that the ILECs, as they emerged from cost-plus pricing and were afforded efficiency incentives for the first time, would likely experience greater rates of productivity improvement than the economy as a whole. Certainly, it was reasonable for this Commission to embody a productivity offset in its initial price regulation plan [Shooshan Direct, p. 10].

Q. What is the current productivity offset?

A. The existing offset was negotiated between Qwest and the ACC staff as part of the terms of the Settlement Agreement of the prior rate case. More specifically, the current Plan provided

> that Basket 1 Services will be capped and subject to an "Inflation minus Productivity" indexing mechanism. Thus, when productivity exceeds inflation, rates will decrease. The Productivity Factor for the initial term of the Plan is 4.2 percent, which includes a 0.5 percent consumer dividend [Decision No. 63487, Docket No. T-01051B-99-0105, March 30, 2001, p. 5].

Q. So Qwest now wants to eliminate the Productivity or "X" factor which it negotiated just a few years ago. In your opinion, has Qwest adequately supported this proposed change?

A. No. Qwest provides no evidence that industry wide productivity has decreased, nor has it put forward any evidence that customers, or the public generally, will benefit from the proposed change. To the contrary, it merely argues (without evidentiary support) that continued revenue reductions (due to the "X" factor) are "clearly unsustainable over any long period of time." [Shooshan Direct, p. 7].

Q. Dr. Johnson, do you agree that revenue reductions are unsustainable, or that an "X" factor is no longer appropriate?

A. No. An offset continues to be appropriate, since it ensures that industry-wide increases in productivity and decreases in costs will be passed through to customers, as they would be under effective competition, as well as under traditional regulation. An offset is also appropriate because it ensures that ratepayers share in some of the benefits of technological improvements, increased economies of scale and other forces which have contributed to the long-term decline in telecommunications costs. These favorable industry-wide trends tend to translate into a pattern of declining costs over time; it is not inappropriate for these cost reductions to be passed through to consumers, even if it results in a net reduction in Qwest's revenues (e.g. where Qwest's market share is declining).

Mr. Shooshan doesn't necessarily dispute the fact that declining costs should be accompanied by declining prices. However, he contends that "competition can now serve as a

constraint on both prices and earnings, and as a means for distributing the gains from increased productivity." [Shooshan Direct, p. 9] This line of reasoning would be more persuasive if he were able to demonstrate that market forces alone are sufficient to continue the long term historic pattern of decreasing costs and prices. If competitive forces are, in fact, strong enough to force carriers to pass productivity gains through to consumers, thereby ensuring that prices decline as fast as costs, then the offset simply serves as a backup safety measure–one that protects consumers in the event competitive forces weaken. As well, the offset is helpful since it provides some protection for consumers if the market environment is not as Mr. Shooshan describes. In other words, the offset will only have an impact if productivity gains (whatever they are) would not be passed along to consumers, absent such a requirement.

Q. The "X" factor used in price regulation is supposed to be consistent with the observed level of "X" that is achieved on an industry-wide basis, thereby ensuring that a carrier's prices will decline when industry-wide costs decline. Has the achieved level of "X" during the past decade been consistent with the level used in the Companies' price cap Plan?

A. Generally, yes, although not on a year-by-year basis, since the data tends to be volatile. During some years the observed level of "X" has exceeded the negotiated level included in the current plan, and in other years it has been less than that level. Without digressing into a lengthy discussion of the most appropriate way to calculate an appropriate offset or "X" factor, I would simply point out that the recent data for "X" is not inconsistent with that observed in prior years, taking into account the inherent volatility of this data. While the most recent data is lower than in

prior years, there is no reason to believe the negotiated 4.2% offset is too large. To the contrary, most of the historic evidence points toward an "X"factor that is consistent with, or larger than, the current 4.2% "X" factor.

I have calculated "X" for the years 1986 through 2003, and summarize the results in Table 4 below.

Table 4
"X" Factor Moving Average: 1986 - 2003

Time Period	5-year Moving Average
1986-1990	5.00%
1987-1991	5.57%
1988-1992	5.30%
1989-1993	5.80%
1990-1994	5.24%
1991-1995	5.09%
1992-1996	5.04%
1993-1997	5.33%
1994-1998	5.25%
1995-1999	7.00%
1996-2000	7.46%
1997-2001	6.62%
1998-2002	4.29%
1999-2003	3.40%

It is well understood that productivity and input cost changes can (and do) fluctuate from year to year, sometimes drastically, and that it is difficult to accurately forecast the change that will occur in any given year. However, the fact that "X" fluctuates, or that it is hard to forecast, does not provide a logical basis for assuming a zero "X" factor, or for adopting changes to price cap regulation which would only make logical sense if one were confident that "X" will average out to zero in the future. To better appreciate the flaw in this logic, consider a simple analogy. It is unclear what interest rates will be in the future, but that does not provide a logical basis for assuming interest rates will drop to zero, or for asking someone to loan you money without charging any interest.

While the telephone industry productivity and input cost reductions fluctuate from year to year, they do not generally fluctuate in a range above and below zero, nor does "X" average out to zero. To the contrary, the achieved level of the "X"factor is normally well above zero, regardless of how one measures it, and on a multi-year basis it consistently averages far above zero, as demonstrated in Table 4 above.

Although there have been wide year-to-year fluctuations in "X" throughout the historic record, there is no reason to believe it will now disappear, or decline to zero. During the period from about 1996 through 2003 the industry experienced an unusually rapid decline in costs. This brief burst in productivity translated into higher than typical levels of "X" for a few years. Following this brief, sharp decline in costs, which was not fully passed through to consumers, the industry has been experiencing a few years in which costs are not declining as rapidly as the long term trend. In the subsequent few years, costs have declined more slowly than normal, and therefore "X" has been lower than the long term average, but there is every reason to

anticipate it will eventually return to its long-term average, and thus there is every reason to continue using the negotiated 4.2% "X" factor.

IV. COMPETITION

History of Competition in the Telephone Industry

Q. Would you please briefly explain the historical trend towards increased competition in telecommunications markets?

A. Yes. The local telephone business was competitive early in the last century, with some cities having two or even three rival telephone networks. Since these networks were not interconnected, it was necessary for a customer to have two or three different phones in his home or business, in order to communicate with the total population of the city. This situation was plainly inefficient, and there was increasing public demand for interconnection, especially between independent local companies and the long-distance lines of AT&T.

In late 1913, after the Justice Department filed an antitrust suit, AT&T agreed to interconnect. Although this "Kingsbury Commitment" appeared at the time to end AT&T's aspirations to have a national monopoly, in fact the natural monopoly characteristics of the industry prevailed, even though a few cities did somehow retain dual facilities for decades--Philadelphia until 1945. The technology in use at that time made dual local facilities redundant whether interconnected or not, and the carrier with the largest customer base achieved the lowest costs. These cost characteristics doomed the attempt at local competition. In the

absence of effective competition or regulation, each local phone company, whether owned by AT&T or not, could charge monopoly rates. By the 1930's, AT&T was thoroughly established as the dominant carrier in the telecommunication industry, and in most jurisdictions its rates were regulated to prevent monopoly prices and profits.

Starting in the 1950's, the telecom industry began slowly evolving away from a regulated monopoly structure towards a more competitive one. A series of court rulings and changes in government policy encouraged this trend, in an effort to achieve more rapidly the benefits of effective competition, including lower prices, higher service quality, and enhanced technological progress.

In 1954, Hush-A-Phone Corporation filed a complaint with the FCC requesting an order forbidding Bell companies from interfering with the distribution of a product it had been manufacturing and selling for over 20 years – a cup-like device that snapped on to phone handsets, allowing the user to carry on a more private phone conversation. As the device became more popular, the Bell companies used certain tariff provisions to pressure subscribers into removing the attachment. In 1956, a federal appeals court overturned an earlier FCC decision and found that "[t]he intervenors' tariffs, under the Commission's decision, are an unwarranted interference with the telephone subscriber's right reasonably to use his telephone in ways which are privately beneficial without being publicly detrimental."[*Hush-A-Phone Corporation v. United States of America and FCC*, 238 F. 2d 266 (1956)] This was the first decision to chip away at AT&T's absolute control over all telephone equipment. In 1968, the FCC, taking its cue from the court in *Hush-A-Phone*, held that Bell could not prevent the use of the Carterfone, a device which made possible two-way conversations between

telephones and mobile radios. [See *Kahn*, p. 143.] Today, the market for telephone instruments and other customer premises equipment (CPE) is highly competitive; no one firm has a dominant share of either the manufacturing or the distribution and marketing of CPE. Even AT&T, which once overwhelmingly dominated the industry, has just a small slice of the market.

The next major breakthrough came in 1969, when the FCC approved MCI's request to build a point-to-point communications link between St. Louis and Chicago. [*In re Applications of Microwave Communications, Inc.*, 18 F.C.C. 2d 953 (1969).] Although the FCC had earlier opened the door to private communications systems [*In the Matter of Allocation of Frequencies in the Bands Above 890*, Report and Order, 27 FCC 359 (1959)], the MCI decision was the beginning of competitive common carrier service.

Q. When did competition begin in the long distance industry?

A. In September of 1974, MCI filed with the FCC a tariff revision, establishing rates for a new service called "Execunet." An Execunet subscriber could place a long distance call to individuals in other cities in which MCI had facilities by dialing a local MCI number, entering an access code, and then entering the area code and number in the distant city. AT&T claimed that MCI was providing long distance services that were not authorized by its service licenses, and the FCC agreed. [See *MCI v. FCC*, 561 F. 2d 365, D.C. Cir. (1977)] Upon review, the D.C. Circuit Court of Appeals sided with MCI. The court opined that "there may be very good reasons for according AT&T de jure freedom from competition in certain fields; however, one such reason is not simply that AT&T got there first". [Id.] The MCI decision opened the long distance market to competition which gradually expanded in scope and intensity. By the end of

2002, AT&T's long distance market share had declined to approximately 38%. [FCC Statistics of the Long Distance Telecommunications Industry, May 2003, released May 2003]

Q. What was the next major milestone in the history of telecom competition?

A. The most significant subsequent milestone was the Modification of Final Judgment (MFJ) ending the seven-year antitrust suit filed by the Department of Justice against the Bell System. The divestiture by AT&T of the BOCs accelerated a trend towards increased competition in several markets, particularly long-distance toll and customer premises equipment. After years of litigation, on January 8, 1982, a settlement was announced; AT&T had agreed to break up its $137 billion empire.

The theory was simple: to separate the competitive aspects of AT&T's operations from its monopoly services. In the original settlement, the parties agreed to the following:

- AT&T would retain its long distance business, its equipment manufacturing company (Western Electric), its research subsidiary (Bell Labs) and its directory publishing businesses.

- AT&T would divest its 22 local operating companies, which would be grouped into seven RBOCs.

- The RBOCs would provide all long distance carriers with "equal access" to their local facilities (access equal to that provided AT&T).

- The RBOCs would not pursue any "non-monopoly" business, including the provision of long distance and information services, the marketing or manufacturing of CPE or the provision of directory advertising.

Q. Was the settlement accepted by Judge Greene?

A. Not entirely. Judge Greene made several changes to the restrictions placed on the RBOCs. For example, the RBOCs would retain control of the extremely profitable Yellow Pages. In this regard, it is important to recognize that Judge Greene specifically declined to move the Yellow Pages to AT&T, along with the more competitive services (e.g., inter-LATA toll and customer premises equipment), despite the fact that such a move would have increased the potential for encouraging a more competitive directory market structure. Apparently, Judge Greene felt it was more important to maintain a high level of contribution from the Yellow Pages to the RBOCs (and correspondingly lower prices for local exchange services) than it was to encourage a greater level of competition in the directory advertising market.

Q. Could you now discuss the emergence of competition in the local exchange markets?

A. Although progress was made in opening up the CPE and long distance markets, as well as a few other sectors of the telecommunications industry, progress in the local exchange market proved much slower, although there was considerable interest in attempting to encourage competition in this sector of the industry. In the 1996 Telecom Act, Congress mandated the removal of many barriers to competitive entry, resulting in an enormous shift in the structure, and regulation, of the local exchange market. The FCC explained:

> Historically, regulation of this industry has been premised on the belief that service could be provided at the lowest cost to the maximum number of consumers through a regulated monopoly network. State and federal regulators devoted their efforts over many decades to regulating the prices and practices of these monopolies and protecting them against competitive entry. The 1996 Act adopts precisely the opposite approach. Rather than shielding telephone companies from competition, the 1996 Act requires telephone companies to open their networks to competition. [*First Report and Order*, CC Docket No. 96-98, August 8, 1996, ¶1]

The 1996 Act established a national policy in favor of local competition, and it declares invalid all state rules that restrict entry or otherwise limit competition in telephone service. Section 253(a) of the Act provides:

> No state or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.

The Act also provides that the FCC may preempt any state or local requirements that violate this subsection. [Section 253(d).] While state laws and regulations blocking competition are no longer allowed, states retain considerable freedom to develop and implement policies concerning the telephone industry which are not inconsistent with the pro-competitive thrust of the 1996 Act. For example, the states may impose, on a competitively neutral basis, requirements necessary to preserve and advance universal service, protect the public safety and welfare, ensure the quality of telecommunications services, and safeguard the rights of consumers. [Id., Section 253(b).]

Among other things, the Act requires all local exchange carriers to interconnect with new entrants on reasonable terms, unbundle their networks and offer the unbundled components to competitors at reasonable rates, and allow resale of their services by competitors, in order to promote an effectively competitive local exchange market.

Q. Would you explain what kinds of competition the 1996 Telecom Act was designed to encourage?

A. Yes. The 1996 Act was designed to encourage telecommunications providers to engage in competition of three kinds:

> The Act contemplates three paths of entry into the local market – the construction of new networks, the use of unbundled elements of the incumbent's network, and resale. The 1996 Act requires us to implement rules that eliminate statutory and regulatory barriers and remove economic impediments to each. We anticipate that some new entrants will follow multiple paths of entry as market conditions and access to capital permit. Some may enter by relying at first entirely on resale of the incumbent's services and then gradually deploying their own facilities. ... Some competitors may use unbundled network elements in combination with their own facilities to serve densely populated sections of an incumbent LEC's service territory, while using resold services to reach customers in less densely populated areas. [*First Report and Order*, CC Docket No. 96-98, August 8, 1996, ¶12.]

The FCC's three-path approach recognizes that the public interest will best be served by encouraging competitive entry in as many ways as are feasible, thereby ensuring that a wide variety of different potential competitors are attracted to enter the market, including pure

resellers, mixed-mode carriers, and carriers that attempt to completely duplicate the ILEC's network. Even the latter firms will find it necessary to purchase unbundled loops and other network components from the ILEC during the start-up phase, while their networks are under construction.

Q. It has been more than eight years since the 1996 Telecom Act became law. Has it accomplished all that was intended?

A. By no means. Events of the past eight years have shown the enormity of the obstacles facing local exchange competitors. While CLECs have become increasingly successful in the past few years, as of December, 2003, competitive local exchange carriers (CLECs) still served less than 20% of the switched access lines in the U.S. [*Local Telephone Competition Report*, FCC, June, 2004, Table 1] Unquestionably, competition has been slow developing in most markets nationwide. Of course, the pattern is not entirely even, nor would one expect it to be. Some urban markets (e.g., New York City) have seen a significant amount of competitive activity, while customers in many rural markets will have to wait much longer before they are given many or any competitive choices.

Effective Competition and Market Power

Q. Can you elaborate on the concept of effective competition, and how this relates to the concept of market power?

A. Yes. The concepts of market power and effective competition are closely related. For the

public interest to be advanced, competition must be strong enough to drastically curtail or eliminate market power. It is not sufficient to remove legal barriers to entry, or to have more than one firm enter the market.

Where competition is effective, it can advance the public interest by increasing consumer choices, promoting technological and service innovations, and (potentially, but not necessarily) lowering prices below the level that would be allowed under rate base regulation. However, it is important to remember that the simple act of opening a market to new entrants by no means ensures that effective competition will instantly emerge. In an industry like telecommunications, where market power has existed for a century or more, reducing and eliminating that market power will likely be a slow and difficult process. Even if all entry barriers have been removed, there is likely to be an unstable and hazardous period of transition, indeterminate in duration, before monopoly gives way to truly competitive conditions.

Effective competition benefits consumers, not only because they will not be forced to pay unreasonably high prices to a monopolist, but also because they will be offered more options, will be free to choose amongst a wider variety of products and services, and will be able to change providers if they become dissatisfied with their current supplier. Furthermore, effective competition forces all firms in the industry to adapt their products and services to the demands of consumers, drives prices downward toward the actual cost of service, and promotes productive efficiency, to the benefit of society as a whole. Thus, effective competition not only prevents the exercise of market power, but it also advances the public interest generally.

Q. You emphasize the need for effective competition in order to achieve beneficial results. Could you explain this concept in greater detail, and explain its significance in this docket?

A. Yes. In order to understand the concept of effective competition, it is useful to consider first an even purer form of competition–where absolutely no market power exists. Economic theory defines a purely competitive market in very specific terms. First, numerous firms must participate, each acting independently and none controlling a share of the market large enough to significantly influence its prices. Second, the goods or services produced must be homogeneous (e.g., no product differentiation). Third, there must be no substantial barriers to entry or exit.

There are few real-world markets that conform to this strict theoretical definition of pure competition. Nevertheless, its characteristics provide a good benchmark for measuring the actual level of competition that is present in a particular situation and in understanding what I mean by the term "effective competition." By judging how closely a specific market approaches the benchmark of pure competition, one can better evaluate whether or not competition has become intense enough to replace regulation, or to justify less stringent regulation. A more relaxed form of regulation or a greater degree of deregulation may make sense once competition reaches the point where it is reasonably effective–where a relatively large number of firms are competing, no one firm is dominant, and prices are controlled by the market, rather than by the actions of the dominant firm or a few key firms. Once such conditions prevail, customers can receive most of the benefits ascribed to purely competitive markets, and the regulatory controls that have traditionally been imposed in a monopoly environment are no

longer needed–even if the market falls short of the purely competitive benchmark.

Effective competition is present when a market is free of substantial barriers to entry and exit and when no firm or consortium of firms has enough market power to set or strongly influence market prices. This implies that there are multiple firms operating in the market, selling essentially the same product for prices that are determined by market forces. Each such firm is largely unable to set its own prices; rather, it must take as a given the level of prices determined in the market place. (If the firm attempts to charge more than this market-determined price level, it will lose virtually all its customers.)

I am not suggesting that effective competition is the same thing as pure competition, nor am I suggesting that in order to justify further relaxation of regulatory controls a service must be subject to pure competition. In the case of pure competition, the supplying firm takes prices as totally given, but this condition is neither necessary nor achievable in the telephone industry. The classic example of pure competition is the market for wheat, where a farmer has absolutely no say in deciding what prices he will charge. Clearly, competition can be effective while falling short of this extreme case. For instance, the firm may have limited freedom to set prices within a narrow range, but if it attempts to charge substantially more than the normal (market-determined) rate, it will lose so much sales volume that it will not find this pricing strategy profitable.

Once competition becomes strong enough to force Qwest to charge the going market rate for its services in a particular market–and it is unable to significantly influence or increase that going market rate–then price cap regulation should be greatly loosened, particularly if Qwest is being forced by competition to set its rates below the price cap level, regardless of

how it is computed. Stated differently, once competitive pressures become strong enough to prevent the exercise of monopoly power, stringent regulation is no longer needed, and the price cap rules should be greatly relaxed.

Similarly, with regard to product homogeneity, an industry can be effectively competitive, even though each firm distinguishes its products in various ways. The key question is whether there are enough customers who are sufficiently indifferent to brand-specific differences that they willingly switch back and forth between brands. If every customer is totally committed to a single provider, and the product differences are so important that one brand is almost never substituted for another, competition will not be effective, and the situation may come close to fitting the definition of pure monopoly, despite the presence of multiple suppliers offering somewhat similar products.

I agree with the official position statement adopted by the National Association of Regulatory Utility Commissioners (NARUC), as set forth below:

> The framework for transitioning to industry-wide competition must be properly laid or we risk having unregulated monopolies, increasing telephone rates, decreasing subscription levels, diminishing quality of service, and infrastructure dis-investment for some areas. Because of the incentives and opportunities for dominant providers to frustrate competition, there must continue to be oversight of the transition.... The development of competition is a time-intensive, pro-active effort. Removing statutory and legal barriers to entry is the first step. However, the subsequent steps which will actually allow competition to develop will be where the hard work lies. [*NARUC Bulletin No. 48*, November 28, 1994, p. 5.]

If the Commission grants the Companies the pricing flexibility they seek prior to the existence of effective competition, consumers will not be able to reap the full benefits of competitive delivery of telephone service.

Q. You have been distinguishing between the mere presence of competitors and an effectively competitive market. Can you elaborate on this distinction?

A. Yes. It is sometimes argued or assumed that once legal barriers to entry have been removed and the market contains more than one firm, it can be described as "competitive." However, the mere presence or absence of multiple firms does not determine whether the public is receiving benefits of true competition. *Effective* competition must first be present–the market must be free of substantial barriers to entry and exit and no firm or consortium of firms can retain enough market power to set or strongly influence market prices. Both buyers and sellers must view prices as a given, rather than something they can determine based upon their preferences or profit goals. In other words, while the decisions of participants in the market may collectively influence the level of prices observed in the market, participants must behave as if prices are unaffected by their own decisions regarding how much they should purchase or produce.

If either buyers or sellers recognize that they can control or greatly influence the level of prices that prevail in the market, effective competition does not prevail. The greater the degree of control that can be exercised, the less competitive forces will prevail and the greater the degree of market power that is present. Usually, four conditions are considered sufficient to assure that sellers will behave as "price takers," or effectively compete with each other. If any one of these conditions is largely or entirely absent, the prospects for effective competition are

diminished or eliminated.

First, no one firm can have a dominant share of the market. If a firm engages in price leadership, dominant firm pricing, or price discrimination, its behavior is inconsistent with competitive behavior. This condition is violated in markets where a carrier's market share is substantially greater than that of all its competitors combined.

Second, the offerings of the supplying firms must be reasonably uniform or similar from the perspective of the buyers in the market. If consumers view a particular product or service as uniquely preferable to the alternatives offered by other firms, the supplying firm will not need to behave as a "price taker." A similar problem can arise if consumers are reluctant to change suppliers even in the face of substantial inducements (e.g., lower prices).

Third, the number of supplying firms must be large enough so that the total amount supplied to the market cannot be restricted. It always is in the interest of suppliers to limit the total amount supplied to the market, because by limiting supply, they can charge a higher rate and earn greater returns (economic profits) than under the conditions of competition.

Fourth, as noted in the criteria cited above, firms must be free to enter and exit the industry. If any firm decides to produce the service, no substantial legal, financial, or other barrier must stand in its way. Patents or trademarks (such as brand names) and other legal barriers can preclude effective entry even if other legal barriers do not exist. Similarly, substantial economic barriers may remain, even if legal barriers have been eliminated or greatly ameliorated. It is important to realize that barriers to exit are also very important, because they can discourage firms from entering the market in the first place (for fear of losing their investment) and because they can discourage competitors from aggressive actions to gain

market share from a dominant firm for fear of retribution by the dominant firm. Where barriers to exit are present, new firms may be cautious in their tactics, because they know they cannot escape the consequences of the dominant's firm's response through a quick, painless departure from the market.

Q. How do you determine whether effective competition has developed?

A. If any one of the conditions just discussed is largely or entirely absent, the prospects for effective competition are diminished or eliminated. Market dominance and the ability to exercise market power – not the mere presence of alternative suppliers – are the key issues in deciding whether or not effective competition has emerged or is emerging. Thus, a logical first step in evaluating the extent of competition is to evaluate relative market shares. If the incumbent continues to enjoy an overwhelmingly large market share relative to the new entrants, it would not be appropriate to adopt regulatory policies which assume that competition is effective. Unless and until the incumbent's market power is greatly eroded, the continued regulatory oversight provided by state commissions and the FCC provides valuable protection for consumers and the public interest generally.

Policy makers at both the state and federal level have taken steps to move telecommunications markets towards effective competition; however, that does not necessarily indicate that the transition to effective competition has yet been achieved in any particular case, or that the time is ripe to remove regulatory protections for consumers.

1 **Q. Did Congress eliminate all barriers to entry when it passed the 1996 Telecom Act?**

2 A. No. Legal barriers to entry have been largely, if not entirely, eliminated from Arizona
3 telecommunications markets as a result of passage of the 1996 Telecom Act. As a result of
4 these same laws and related decisions by this Commission and the FCC, it is also fair to say
5 that economic barriers to entry have been substantially "lowered." However, economic barriers
6 to entry have not been eliminated, nor is there any evidence that entry barriers have been
7 lowered sufficiently to create or sustain effective competition.

8 Market share data can provide an indication of the extent to which barriers to entry
9 remain significant. Even if legal barriers to entry have been eliminated, and even if economic and
10 technical barriers to entry have been reduced, this does not mean that all barriers to entry have
11 been completely eliminated. The evidence nationwide suggests the contrary conclusion: the
12 1996 Telecom Act is now more than eight years old, and yet the incumbent carriers in every
13 state continue to dominate most of their respective markets.

14

15 **Q. Is there evidence that substantial barriers to entry still exist?**

16 A. Yes. The 1996 Telecom Act removed legal barriers to entry and reduced economic barriers to
17 entry (e.g., through mandatory interconnection and network unbundling on regulated terms and
18 conditions). At the time, the hope and expectation of many policy makers and industry
19 observers was that the Act would encourage cable TV carriers to compete with the incumbent
20 telephone carriers, LECs to enter video markets, and both long distance and local exchange
21 carriers to enter each other's markets across the country in a "free for all" of intense
22 competitive activity. Needless to say, this has not happened. Perhaps the most striking and

most significant development has been the almost complete lack of competitive entry efforts by the large incumbent LECs. These experienced, well financed firms have almost completely refused to enter each other's service territories. Yet, if the 1996 Telecom Act had truly eliminated all entry barriers, one would logically expect most–if not all–of these carriers to push hard to expand in other parts of the nation. In the absence of entry barriers, competitive expansion of this sort would be the natural strategic path, both because it would provide an easy means to offset the adverse revenue and earnings impact of competitive pressures within each firm's own service territory, and because geographic expansion of this sort is a necessary first step towards establishing a nationwide, or international, market presence.

Today, more than eight years after passage of the 1996 Telecom Act, we find that none of the large RBOCs with the greatest expertise in local telephony have made any substantial effort to enter any of the local exchange markets dominated by other incumbents. This general nationwide pattern is certainly true in Arizona, where none of the largest United States local exchange carriers–including BellSouth and SBC–have attained more than a minuscule share of any of Qwest's local telecommunications markets. Like "the hound that didn't bark," this absence of significant market penetration is extremely significant, and it strongly suggests the continued presence of very substantial (albeit not highly visible) barriers to entry.

If competitive entry were truly effortless and profitable (or at least economically rational), then at least one or two of the largest, most experienced LECs in the nation would have long since entered some of the Companies' Arizona markets and would have already gained a substantial share of the market. With a century of experience in the industry and close familiarity (albeit from an incumbent's perspective) with the technical, managerial and marketing

hurdles facing new entrants into local telephone markets, these large LECs are strongly aware of the height of the economic, technical and marketing barriers to successful entry.

If only one large, highly qualified potential entrant had refused to take on the challenge of competing with the Companies on their home turf, this might be considered a mere idiosyncrasy. But the fact is that every single one of the largest, most highly qualified potential entrants has either completely refused to enter the competitive fray in Arizona, or has only obtained a very small share of the market outside of its own service territory. This consistent pattern of non-entry or non-success cannot plausibly be attributed to mere coincidence, or a lack of management interest in pursuing growth opportunities. The only reasonable conclusion is that substantial barriers to entry exist, which have discouraged these experienced participants from challenging the Companies where they have the home-field advantage.

Q. Aside from the difficulties and risks associated with confronting the dominant carrier, are there any other plausible explanations for the lack of competitive entry by the incumbent LECs outside of their own service areas?

Certainly, there are other factors that might be contributing to the reluctance of the largest carriers to enter each other's territories. Conceivably, some carriers might be staying home because they want to limit the scale and scope of their activities, or they are unwilling to tackle any major risks. But if these carriers truly believed that resale and UNE rental provided an easy path to growth and profits, as they sometimes claim, and if barriers to entry were truly minimal, then surely one or two of them would have pursued this opportunity. If carriers like Qwest, Verizon, and SBC truly believe that entry is easy and UNEs are grossly underpriced,

why are they not eagerly plunging into each others' territories–if for no other reason than to prove how easy it is, and to validate their claims that the FCC's current rules governing UNE rentals are too favorable to new entrants?

For that matter, if these carriers were primarily concerned about limiting their risks or avoiding the pitfalls of excessive scale and scope, one would expect to see a pattern of very extensive but selective entry–with firms concentrating on entering other service territories close to their home turf.

At a minimum, if entry barriers were truly low, one would expect to see very extensive and widespread expansion into new wireline markets by carriers like Sprint and Verizon, along with their expansion into more wireless markets. These carriers are renting storefronts, hiring regional management and sales personnel, and incurring other overhead costs in order to establish a nationwide market presence. They also have technicians, customer service representatives and other knowledgeable personnel deployed in numerous states throughout the nation. Yet these firms have made very little effort to expand their wireline operations beyond their traditional service territories. The fact that major carriers like Sprint and Verizon have stayed away from trying to challenge other incumbent LECs on their home turf is clear evidence that barriers to entry remain high, notwithstanding the 1996 Telecom Act.

It is also worth noting that the major carriers have not shown any reluctance to greatly expand the scale and scope of their operations in other ways, where entry barriers are lower. As I just mentioned, both Sprint and Verizon are expanding into wireless markets nationwide, Ameritech has expanded into the burglar alarm business, and BellSouth has expanded into telecommunications markets in 15 other countries. If barriers to entering wire line local

exchange markets were truly low or non-existent, it seems inconceivable that every one of the major ILECs would ignore the opportunity to aggressively expand beyond their traditional territory. Recent experience in the electric power generation business demonstrates that long-regulated firms can be eager to expand into other geographic areas, provided entry barriers are low enough.

Q. What do carriers have to do in order to overcome barriers to entry?

A. In the current environment, new entrants may have to take drastic measures (e.g., incurring very high sales costs, or offering substantially more attractive prices than those of the incumbent) in order to overcome customer inertia or customers' perception that the incumbent is the "safest" and most reliable choice. To this extent, CLECs' will have great difficulty increasing their market share–unless they are willing (or forced) to operate with very low, or negative, profit margins. In evaluating the extent to which barriers to entry have diminished, the telling evidence is the extent to which the new firms have gained market share, in conjunction with evidence concerning the extent to which these firms have been able to generate profits and positive cash flows during the growth process.

Even if a new carrier has experienced phenomenal growth, increasing market share from zero to 2% of the market in a few short years, this information alone does not necessarily indicate that entry barriers are minimal or non-existent, nor does it mean the new entrant will soon grow large enough to challenge the Arizona ILECs' dominant position in the market. To the contrary, the Commission should also consider the difficulties which may be encountered when the new entrant tries to expand beyond its current niche role (e.g., serving customers who

are the most strongly attracted to its initial offerings, or those who are the most willing to take a chance on a new carrier). As well, the Commission should consider the level of marketing and sales effort that has been required in order to achieve this level of growth. A new entrant might be incurring ruinously high marketing and sales costs in order to maintain a rapid rate of growth, and thus its entry efforts may not be profitable or sustainable over the long haul. In judging the extent to which barriers to entry have declined, market share of the competitors must be carefully evaluated, along with information concerning whether these firms are financially successful and viable. In this regard, it is important to realize that one cannot simply assume that the recent upward trend in CLECs' market shares will continue indefinitely. Without detailed information concerning the marketing and sales costs, profit levels and cash flows being experienced by the carriers that are attempting to enter new markets, one cannot be confident that recent trends will continue. Carriers may be pursuing business plans that generate rapidly increasing sales together with negative cash flows and very small or non-existent profits. Particularly in the current investment climate, there is no reason to assume this type of growth will be sustainable over the longer term.

Q. Have you found any evidence that would substantiate your concern regarding current competitive trends?

A. Yes. AT&T indicated recently that it is abandoning efforts to expand its operations in the residential telephone market.

> Facing plunging revenue and an unfriendly regulatory and legislative landscape, AT&T is abandoning the residential telephone market, though it says it will continue to serve existing customers.
>
> The company's board of directors made the decision. It wants AT&T to focus all of its efforts on selling phone and data services to corporations and governments. That division brought in 73% of revenues in the last quarter.
>
> AT&T's departure from the battlefield may be a major victory for Verizon, SBC and the other regional Bell operating companies, which own virtually all of the copper cable that delivers telephone service to homes. AT&T has had to rent access on the local companies' cable to service residential customers. [ConsumerAffairs.com, *AT&T Abandons Residential Market*, July 22, 2004]

An earlier report indicates that MCI may be considering similar action. [ConsumerAffairs.com, *AT&T Hangs Up*, June 23, 2004] Were these two large, national CLECs to abandon their operations in Arizona, the trend toward increased competition in the State would necessarily be adversely affected.

Q. You mentioned that the costs of changing carriers can represent a barrier to entry. Are these types of costs economically significant?

A. Yes. Whenever a customer switches carriers, transaction costs are incurred. Most of these costs closely relate to the process by which customers obtain or change their telephone service. While such costs are incurred by any customer who moves to a new location, or adds additional phone lines, they will fall most heavily on customers who change carriers or try another carrier's service offerings. In economic terms, these "move and change costs" are

classified as transaction costs, like brokerage fees and credit card processing fees. It is well established that high transaction costs reduce the efficiency of markets and make it more difficult to achieve effective competition. In general, high transaction costs discourage transactions, inhibit the exercise of consumer choice, and create market friction (i.e., slow down or halt competitive pressures by inhibiting customers from shopping around or slowing the movement of price signals). An important characteristic of purely competitive markets is that transaction costs are very low relative to the value of the goods and services being purchased. Where transaction costs are high, effective competition is less likely.

High transaction costs tend to discourage new carriers from entering the market. If the entrants try to pass the costs on to their customers, they will also tend to discourage customers from changing from one carrier to another. Regardless of whether these costs are absorbed by the new entrant or paid by the customer, they represent a significant economic barrier to entry, because they make it more difficult for carriers to sign up new customers. It is much more difficult and costly for customers to try a new local telephone carrier than it is to try most goods or services. A household can try a new cereal or a business can try a new brand of paper by picking up a free or discounted box of cereal or ream of paper. In markets where customers can easily try a new product or service out of curiosity, or to see how well they like it, entry barriers are lower and established firms will be subject to stronger competitive pressures.

Q. Mandatory resale and network unbundling were key elements of the 1996 Telecom Act, reducing barriers to entry. Have these policies been effective in reducing entry barriers?

A. Yes. Clearly, the 1996 Telecom Act's requirements for wholesale discounts and offering of UNE s are designed to reduce or mitigate economic barriers to entry; however, these provisions do not entirely eliminate the barriers in question. Economists' use of the term "barriers to entry" is not limited to an absolute prohibition against entering a market; rather, it encompasses any factors that make entry difficult, risky, or costly, thereby discouraging the free flow of firms into (or out of) a market. The presence of barriers to entry does not mean that entry is impossible, only that it is so hard, costly, risky, or time consuming, that potential entrants are discouraged from trying.

Mandatory resale of network elements and services is helpful in making it easier for competitors to enter the market. However, a fully competitive market can best be achieved if it also includes a reasonable degree of facilities-based entry, as well. Resellers and repackagers will always be limited in their ability to place competitive pressure on the incumbent carrier. Their prices are necessarily constrained by the incumbent's costs and wholesale prices; if the incumbents' costs are high, resellers' costs will also be high. Their product offerings are also constrained by various characteristics of the Companies' networks. Resale of services and UNEs allows customers to receive some of the benefits of competition immediately, and it allows CLECs to fill out their service territories or product offerings while their own networks are under development. Thus, these types of competition are beneficial, but they are not as rigorous or as intense as full facilities-based competition.

Q. Are there other entry barriers associated with resale and UNEs?

A. Yes. From a CLEC's perspective, if it relies on resale and UNE rentals, it remains at the mercy of the incumbents, the FCC and state regulators. Incumbents are not providing UNEs and wholesale discounts as part of some philanthropic endeavor. They provide them only to the extent laws and regulations require. A CLEC that relies on resale and UNEs is subject to the risk of changing state regulatory policies and decisions, especially with regard to UNE rates and wholesale discounts. From a CLEC's perspective, this is far from a purely hypothetical risk.

Q. Could you elaborate on this risk?

A. For years, Qwest and the other RBOCs have been actively lobbying to restrict the availability of UNEs and to make it more difficult, or impossible, for CLECs to rely exclusively on this form of entry. As explained by Co-Vice Chair Nelson of the NARUC Telecommunications Committee in a recent submission to Congress, the RBOCs have been campaigning on Capitol Hill, "urging the FCC to restrict the tools used by State Commissions to promote local telephone competition, especially the use of the Unbundled Network Element Platform (UNE-P.)" [See *NARUC Bulletin*, October 14, 2002] Mr. Nelson explains:

> [T]he RBOCs only chose to commence their assault on UNE-P after it began to erode their monopolistic profit levels and only after the U.S. Supreme Court upheld the pricing model underlying UNE-P. They were willing to live with the 1996 Act until it produced the result the[y] have sought to avoid since its passage - competition. [Id.]

The RBOCs' assault on UNEs is not limited to regulatory proceedings and Capitol Hill. They have also been engaged in lengthy legal battles over the FCC's orders and rules that govern the pricing and availability of UNEs. The RBOCs have attacked the FCC's rulings on many different grounds, but a common thread running through their appellate efforts is that they are seeking to greatly limit or eliminate the use of UNEs as a form of competitive entry.

Q. Is there any chance the RBOCs will succeed in this legal battle?

A. No one can predict the ultimate outcome, but a very real possibility exists that UNE rates will be increased, UNE availability will be reduced, and important UNE combinations will be eliminated. In fact, the RBOCs appear to have won the latest round of appeals. On May 24, 2002, the D.C. Court of Appeals vacated and remanded the FCC's Local Competition Order and Line Sharing Order. [*United States Telecommunications Association, et al. v. FCC*, Case Nos. 00-1012; 00-1015, May 24, 2002] In ruling that the FCC's unbundling requirements were too broad, the Court of Appeals was sharply critical of the FCC's stance in favor of UNE competition:

> In the end, then, the entire argument about expanding competition and investment boils down to the [FCC]'s expression of its belief that in this area more unbundling is better. But Congress did not authorize so open-ended a judgment. It made "impairment" the touchstone.
>
> ... But to the extent that the [FCC] orders access to UNEs in circumstances where there is little or no reason to think that its absence will genuinely impair competition that might otherwise occur, we believe it must point to something a bit more concrete than its belief in the beneficence of the widest unbundling possible. [Id., p. 17]

More recently, on March 2, 2004, the D.C. Circuit vacated and remanded the FCC's efforts to rectify this problem with respect to mass market switching, based upon the FCC's delegation of this issue to the states (USTA II decision). The FCC responded on August 20, 2004 by issuing an Order and Notice of Proposed Rulemaking announcing its intention to rewrite its unbundling rules by the end of the year. [Order and Notice of Proposed Rulemaking, CC Docket No. 01-338, August 20, 2004, ¶1]

Q. What is the effect of these rulings?

A. The full impact is not yet clear. The court is clearly telling the FCC that its existing list of mandatory UNEs and its rules regarding where these UNEs must be provided are far too broad. In the short term, these decisions cast a pall over the CLEC industry, making it more difficult for these firms to make investment and marketing decisions. In the long term, since the United States Supreme Court denied cert. on the USTA II decision regarding the TRO order on Oct. 12, 2004, we may see a drastic reduction in UNE-based competition. CLECs that have developed an entry strategy which relies heavily on rental of UNEs may go out of business, or they may be forced to greatly curtail and modify their operations. The trade press has reported that the FCC expects to issue revised rules by the end of the year. Depending upon the content of these revised rules, much of the competitive activity that is currently observed, based upon rental of UNEs, may disappear. While this may result in more facilities-based competition, the latter form of competition is clearly more difficult and time consuming to achieve; thus the overall level of CLEC market penetration may decline below current levels, and it may remain at relatively low levels for many years into the future.

Q. What could happen if CLECs can no longer rely on UNE-P, provided at cost-based, regulated prices?

A. One executive of a major CLEC predicts that competition

> would quickly atrophy, and in some areas would largely disappear. As I stated earlier, Sage, and many other competitive carriers choose to use UNE-P to provide service because UNE-P provides levels of service that are at parity with ILEC retail services and since it is not cost effective, economically justifiable, nor practical for a new competitive carrier to replicate the network built by a regulated monopoly. [Direct Testimony of Robert McCausland, MPSC Case No. U-13796, December 19, 2003, p. 23]

Mr. McCausland goes on to say:

> Many CLECs clearly do not have available, and would not be able to readily secure, the financial and technical resources necessary to purchase and install their own switches. Without switches, and without ULS provided under existing rules, such CLECs would be unable to offer widescale basic local exchange service in Michigan and would likely be forced to abandon markets and customers within those markets. And, of course, any forced migration off of UNEs provided under existing rules would impact, and likely harm, existing CLEC customers. [Id., p. 23-24]

While there is no way to know if these predictions will come true, the Commission should at least be aware of the fact that the picture of competition it is currently seeing in the state may shift significantly in the near future. In particular, there is no assurance that competition will be sustained at current levels in markets where a large fraction of the existing competition relies on UNE-P and resale.

Q. What about facilities-based competition? Are there additional barriers to this type of entry?

A. Absolutely. In fact, the high barriers to facilities-based entry were the primary motivation for requiring rental of UNEs. In the case of pure facilities-based carriers, the most prominent barriers to entry are the enormous cost of installing new facilities and the fact that these costs are largely irrevocable. In other words, once dollars have been sunk into network facilities, a carrier cannot readily move its investment to another market if it encounters difficulty attracting customers, or its initial business plan does not prove to be financially viable. In contrast, investments in manufacturing facilities are often fungible, so that upon exiting a particular market, the firm can often redeploy its capital in another market by reconfiguring its factory to produce an entirely different product.

For this reason, as well as the existence of an entrenched ILEC with a ubiquitous system and deep pockets, knowledgeable firms are rarely willing to undertake the enormous cost of building a competing network. The high cost of installing new facilities is compounded by the fact that new carriers face considerable uncertainty about how quickly they will be able to obtain customers, whether they will be able to obtain a substantial share of the market, and whether they will ever achieve adequate economies of scale. Hence, the adventuresome firms that have attempted pure facilities-based entry have typically started off by installing facilities that are limited in scope and largely confined to serving customers in a concentrated geographic area. This reduces the scale of their investment and allows a more focused business plan. However, it also increases risks, since the carrier will be dependent upon a less predictable income stream than if it were serving hundreds of thousands of smaller customers. Moreover, a

carrier following this entry strategy will face a higher level of marketing and sales costs, or it will be forced to rely upon the incumbent (through UNEs or resale) in order to serve the remainder of the metropolitan area.

Q. To the extent that facilities-based CLECs do not currently have enough capacity to be entirely self-sufficient, is there reason to be optimistic they will be able to install enough capacity to serve an ever-growing share of the market in the future?

A. No. To the contrary, there is reason to be concerned that recent growth trends will not be sustainable. In recent years, investors have sunk billions of dollars into competitive carriers attempting to enter both the local and long distance segments of the industry. Carriers used these funds to build thousands of miles of fiber optic networks. This excess capacity will undoubtedly serve to reduce the market power of long distance industry participants, but relatively little of this capacity has been installed directly to individual end user homes and offices. Hence, in the context of this proceeding the main relevance of this excess fiber capacity will be its chilling effect on further investments. Investors will be discouraged from installing more fiber in local markets for fear of again making the mistake of building too much capacity and not being able to generate enough revenue to justify their investment.

The International Herald Tribune recently ran an article regarding Global Crossing's bankruptcy, which provides some insight into this problem. The author states:

> Caught in the industry's downward spiral, Global Crossing creditors and executives are finding that the longer they delay making a deal, the lower the bids get. ... A flagging industry, in even worse shape after the

> bankruptcy filing last month of WorldCom, Inc., has put too many assets on the market. Troubled businesses, originally hurt by too much capacity and too little demand, now are faced with selling their portions of that glut at fire-sale prices. [*2 Ex-Suitors Return as Top Contenders for Global Crossing*, International Herald Tribune, August 7, 2002]

Others write:

> From the mid-1990s until early 2000, the financial markets handed capital to seemingly anyone with a telecommunications plan. The excitement bloomed from technological advances as well as the federal government's efforts to loosen regulation and invite new players into the markets. A dozen networks were built to carry long-distance telephone and Internet data from city to city. Cable companies began upgrading their wires to carry phone and high-speed Internet links. Six national mobile phone companies were launched and dozens more were set up to serve niche markets.
>
> The relentless construction of networks would have been enough to fell much of the industry by itself. Then people in lab coats mastered new ways of getting even more calls and more Internet data to travel down one strand of fiber-optics cable. The engineering was breathtaking. From an investment standpoint, it was disastrous. There were already too many pipes. Now, the pipes were widening exponentially. Prices for service fell through the floor.
>
> From October 1998 to February of this year, the transmission capacity across the Atlantic expanded by a factor of 19. Meanwhile, the price of a leased transmission line dropped to $10,000 a year from $125,000, said Eli Noam, a professor of finance at Columbia University Business School. [*Telecommunications Sector May Find Past is its Future*, Washington Post, July 8, 2002]

1 Depending upon whether the new entrants are able to generate positive cash flows and profits,
2 the trend towards increased competition may slow, or even be reversed, in the not too-distant
3 future–particularly if firms run low on cash and they have difficulty in obtaining fresh cash
4 infusions from Wall Street.
5
6 **Q. Some CLECs have already installed substantial amounts of capacity. Does this fact**
7 **alone ensure that Qwest's Arizona market share will continue to decline?**
8 A. No, it does not. As carriers such as Qwest and Global Crossing have learned, fiber capacity
9 alone is not enough to assure continued revenue growth. Often, the most daunting task is to
10 attract paying customers in order to fill their newly-built networks with profitable, revenue-
11 generating traffic. Dominant carriers have a huge advantage in this regard. Even the largest of
12 the competitive carriers (e.g., WorldCom) have struggled to gain enough traffic to fill their
13 networks. When enormous network infrastructure investments are juxtaposed against relatively
14 small market shares and limited revenue streams, the question of long term financial viability
15 becomes critically important.
16 Contrary to the standard definition of a "contestable market," new carriers cannot
17 readily exit most telecommunications markets without incurring enormous financial losses.
18 Economic theory demonstrates that to the extent there are barriers to exiting an industry which
19 are known in advance of entry, these barriers are effectively also a barrier to entry. In other
20 words, the fear of losing their capital investment may prevent firms from investing in the first
21 place. Because facilities-based carriers face enormous sunk costs, they are confronting very
22 substantial barriers to entry. Once fiber is placed in the ground, it can only be used to provide

service along that particular route. If the carrier cannot generate enough revenues to recoup its investment, the CLEC cannot simply rip it up and move it to another location.

The recent Global Crossing experience has vividly demonstrated the near-impossibility of freely exiting a network-based industry. The Global Crossings situation, and other telecommunications bankruptcies in which brand new, state of the art assets were sold for cents on the dollar, vividly demonstrates the enormity of these capital-related barriers to entry. Building an alternative local network has always been a risky proposition for potential entrants, and after the recent problems, few investors are going to be willing to take on these risks.

In the current regulatory environment, the risks associated with a retail-only or UNE-P configuration are relatively modest. The required investments are smaller, and fewer costs are sunk. At least some of the investment is fungible or reusable in other markets, including investments in computers, desks, chairs, and the like. However, as I explained earlier, regulatory changes at the federal level may cause UNE entry to be more difficult and more risky. Even in the absence of adverse regulatory developments, UNE competitors are constrained by the technical characteristics of the incumbent's network, they face ongoing uncertainty concerning their cost structure and profit margins, and they cannot easily differentiate their offerings from those of either the incumbent or other competitors that rely upon the same facilities.

Q. You have identified multiple barriers to entry. You are not suggesting these constitute an absolute prohibition against competitive entry, are you?

A. No. The Commission needs to keep in mind the important distinction between absolute and

partial barriers to entry. Partial barriers are not as extreme as absolute barriers, but they can still be effective in protecting a dominant firm's ability to charge rates that are well above its costs, and in slowing the erosion of its market power.

A dominant firm can enjoy many advantages that enable it to charge higher prices and earn much higher profits than its competitors. Other firms may be attracted to the market, and some may successfully enter, but that does not mean they will place much downward pressure on the incumbent's prices. Because they lack the advantages enjoyed by the dominant firm, their earnings may be much lower, and they may not benefit from economies of scale and scope to the same extent as the dominant firm. The larger firm may continue to enjoy a substantial degree of market power, because it benefits from a more favorable cost structure due to greater economies of scale and scope. While smaller competitors may survive, they may not grow beyond a certain point, and they may not be capable of exerting much competitive pressure on the dominant firm.

Q. Could you explain why, after so many decades of monopoly regulation, the industry is shifting towards competition?

A. A common goal among all efforts to open telecommunication markets has been to solve the problems inherent in traditional regulation. As I discussed in section two of my testimony, these problems include a lack of incentives for cost minimization and efficiency; incentives to increase rate base through "gold plating", and the costs of regulation. In an attempt to overcome these problems, policy makers have increasingly relied on a mixture of competition and regulation.

Q. So, policy makers are not simply choosing between two options: regulation on the one hand, or free markets on the other?

A. Absolutely not. For instance, while Congress attempted to break down barriers to competitive entry, it simultaneously expanded the role of both state and federal regulators. Similarly, state legislators and regulators have been experimenting with alternative forms of regulation. These experiments have been partly a response to the trend towards increased competition, partly an effort to stimulate more effective competition, and partly an effort to solve inherent weaknesses and problems with traditional rate of return regulation.

Qwest Position and Support

Q. What is Qwest's position regarding the move towards competition in Arizona?

A. Qwest witness Teitzel notes that the Commission has established a mechanism to be used in responding to Competition in Arizona.

> Section R14-2-1108 of the Commission Rules specifies the procedures to be followed if a telecommunications company or the Commission believes a service should be classified as competitive. Petitioning parties are required to submit documentation in support of their contention that the service should be classified as competitive, including the number of alternative providers of the service, identification of the alternative providers, information on the ability of alternative providers to furnish substitutable services at competitive rates, terms, and conditions, and other indicators of market power. If the Commission finds that a service is competitive, the rules provide for streamlined regulation of that service. [Teitzel Direct, p. 70]

However, he then says that

> the existing service-specific approach to pricing flexibility, while helpful in the past, is inconsistent with today's competitive environment. A reasonable solution is to establish competitive zones which will provide Qwest pricing flexibility in specific markets to enable it to compete on a more equal basis with competitors operating within those same limited geographic areas. I also recommend that the Commission classify new services as "competitive" upon introduction and allow Qwest to promote its products and services with as much flexibility as its competitors enjoy [Id., p. 72-73].

Q. Can you summarize Qwest's Competitive Zones proposal?

A. Yes. Qwest is proposing that the Commission,

> in recognition of the increasingly competitive telecommunications environment, classify specific wire centers, and geographic subsets within wire centers when appropriate, as "competitive zones."... [Id., p. 73]

Mr. Teitzel goes on to define a competitive zone as

> any wire center or geographic area in which customers receive communications services from at least one other provider that provisions service through the use of unbundled network elements, resale, or a provider's own facilities, including cable telephony [Id., p. 74].

Q. How many wire centers is Qwest proposing be classified as "Competitive zones"?

A. Qwest is proposing that each of the wire centers in the Phoenix and Tucson MSAs be classified as competitive zones. There are 63 Qwest wire centers in the Phoenix MSA and 19 in the

Tucson MSA for a total of 82 wire centers. In justification for these sweeping proposals, Mr. Teitzel provides an Exhibit [DLT-17] which demonstrates that

> in each of the proposed competitive zones, at least one competitor provisions service through the use of Qwest wholesale services including unbundled network elements, resale, unbundled loops, and Local Interconnection Service ("LIS") trunks used to provide service over a provider's own facilities, such as in the case of cable telephony [Id., p. 78-79].

Q. Finally, what does Qwest say about the areas outside of Phoenix and Tucson?

A. Qwest admits that

> at the present, local competition is generally not as significant in other areas of the state; therefore, existing contracting capability affords Qwest the flexibility it needs to respond with unique, customer-specific pricing proposals in these other areas, at least with respect to larger business customers. However, as competition develops in other areas of the state, establishment of additional competitive zones will be appropriate. In fact, the availability of Arizona Universal Service fund support to any Eligible Telecommunications Carrier (ETC), as discussed in Section II of my testimony, will likely encourage competitive service providers to enter areas that are typically more costly to serve than the metropolitan areas of the state. [Id., p. 79]

Q. What else does Qwest propose in light of this new competitive era?

A. Qwest is also proposing

> that a streamlined process be adopted whereby all new services will automatically be classified as "competitive" upon introduction. Maximum rates will be established at that time [Id., p. 80].

Q. What evidence has Qwest provided quantifying the extent to which it is facing increased competition?

A. Reductions in market share are the primary quantitative method used by economists to judge the extent to which competition has increased in a particular market. Qwest has not provided any evidence concerning the extent to which it has lost market share in any Arizona markets.

In his direct testimony, Mr. Teitzel focuses on Qwest line losses instead arguing that

> in February 2004, 35% of Qwest residential line losses within the 14-state Qwest region were in Arizona. The Phoenix and Tucson MSAs rank #1 and #3 in terms of competitive consumer line losses in the 14-state Qwest region....Forty-six of the top 50 wire centers in the Qwest region ranked by competitive loss fall within Arizona [Teitzel Direct, p. 3].

Teitzel then points out that the number of interconnection agreements has almost doubled since the adoption of the Price Cap Plan.

> In December, 2000, 65 interconnection agreements were in effect between Qwest and Arizona CLECs. As of February 2004, the Commission had approved 118 interconnection agreements, and another five were awaiting approval [Teitzel Direct, p. 4].

Mr. Teitzel also provides wholesale provisioning data which purports to show that CLECs are

> repositioning away from simple resale of Qwest's retail products toward a strong focus on Unbundled Network Element (UNE)-based competition and a significantly greater reliance on serving local customers via CLEC-owned switches and unbundled loops to deliver competitive local exchange services [Teitzel Direct, p. 4-5].

Mr. Teitzel also cites specific line losses of over 19% of total retail lines, more than 16% of primary residential lines, and 33% of additional residential lines [Teitzel Direct, p. 5-6].

Q. Has Qwest provided any additional information that sheds light on the status of competition in Arizona?

A. Yes. Mr. Teitzel mentions specific competitors such as Cox, AT&T, and MCI which are now

> providing service to both residential and business customers in Phoenix and Tucson over their own facilities or through the purchase of unbundled network elements from Qwest. Competitors are bundling local and long distance services into single packaged offerings [Teitzel Direct, p. 7].

Moreover, Teitzel regards Cox as

> clearly one of Qwest's most significant competitors in the Arizona local exchange market. According to Cox, 200,000 Tucson and Green Valley households will be able to obtain Cable, Internet, Local Phone Service and Long Distance Service combined on one bill. Three years ago, Cox was just entering the Phoenix telecommunications market and was serving primarily business customers. [Teitzel Direct, p. 7-8].

Q. How are competitors targeting customers in Arizona?

A. According to Mr. Teitzel, Qwest is facing

> significant competitive pressure in Arizona from facilities-based providers who target densely concentrated, high revenue residence and business customers. Facilities-based competitors such as Cox are

> targeting large housing developments, offering packages of services, including cable telephony, features, high speed Internet, and video as an alternative to Qwest wireline service...In addition to competitive providers utilizing their own switches and loop facilities to deliver local exchange services, Qwest is also facing significant competition from competitors who purchase local wholesale connections from Qwest to deliver service with an emphasis on selling bundles rather than only basic local service. Resale, wireless, and new technologies such as VoIP are other forms of competition now being used to provide consumers with alternatives to Qwest's local exchange service [Teitzel Direct, p. 9].

Q. Qwest argues that wireless carriers provide consumers with "a clear alternative to Qwest wireline service for residential customers and smaller businesses." Do you consider wireless to be a direct substitute for Qwest wireline service?

A. No. Because of important functional differences, the vast majority of consumers do <u>not</u> substitute wireless for wireline service or vice versa. For many customers, these services more closely meet the definition of complementary goods, rather than substitutes. Most people purchase both services, using their mobile phone in situations where it will function best and their conventional phone where it will function best. The very fact that so many people keep both phones (even if it requires them to double their expenditure on phone service) tends to prove that these services should not primarily be viewed as competitive alternatives. While some people can afford, and are willing to pay for, both a pickup truck and a car, very few people own two cars that are functionally identical. When someone owns two different vehicles, they tend to be functionally different (e.g., a family sedan and a convertible sports car, or a car and a pickup truck).

Q. Has Qwest provided any evidence of substitutability of wireless for wireline service?

A. No. Qwest only provides evidence that the number of wireless subscribers in Arizona exceeds the number of Qwest retail lines in the state

> According to the FCC's Trends in Telephone Service report, released May 6, 2004, there were 2,643,952 wireless subscribers in Arizona as of June 2003, a 10% increase from June 2002. To put this in perspective, Qwest had 2,554,856 retail access lines in service in Arizona as of June 2003 [Teitzel Direct, p. 58].

Qwest provides no quantitative evidence that significant numbers of wireless customers disconnect their wireline service upon subscription to a wireless service. Unlike satellite and cable television services, the available evidence concerning consumer substitution patterns strongly suggests that wireless and wireline services are <u>not</u> close substitutes. From this evidence, it is reasonable to infer that wireless and wireline services are <u>not</u> close competitive substitutes, because they are <u>not</u> functionally equivalent from the perspective of most consumers. If the two services were functionally equivalent, they would tend to be redundant and thus most people would decide it is a waste of money to pay for both at the same time.

While a limited degree of substitution occurs in practice, these services are primarily complementary to each other. Some consumers stop purchasing Qwest's service when they obtain a mobile phone, but even these consumers do not necessarily consider these services to be "close substitutes." In the more typical situation, consumers will continue to use their wireline telephone after they get a mobile phone. In fact, their total volume of calling may increase, and there will be calls from their wireline phone to their mobile phone and vice versa. For instance,

they may start calling their spouse at home during their afternoon commute–calls that did not occur before they obtained wireless service. When shopping for groceries they can call home to find out whether they need to buy more of a certain item (or to obtain their spouse's opinion concerning which brand to buy). Rather than reducing the benefit of having a wireline phone at home, their mobile phone will serve a complementary function, increasing the value of that phone.

RUCO Position and Support

Q. The Company claims that dozens of carriers are now competing with Qwest in Arizona. How substantial is the competition?

A. If one judges by the number of announced *competitors*, it may seem substantial. However, if one judges by the extent to which these firms have actually entered the market and are actually persuading customers to try new carriers, the situation looks far different.

The sheer number of announced competitors by itself reveals very little at this early juncture. A lone whale doesn't get much competition from a school of minnows. Depending upon how many actual *customers* these firms have obtained, the level of revenues they are generating, and the extent to which these customers are profitable to serve (and thus the competitors are likely to remain viable) one can reach vastly different conclusions about the actual status of a market.

Consider, for example, how the situation would differ if new entrants are forced to sell their services below cost in order to overcome customer inertia, or to overcome customers'

perception that Qwest's offerings are the "safest" and most reliable choice. Under these circumstances, the economic barriers to entry may remain quite high, despite the nominal presence of a large number of entrants. The telling detail would be the extent to which the new firms have gained market share, and are likely to soon grow large enough to truly challenge Qwest's dominant position in the market.

In judging the extent to which barriers to entry have declined, the market share of the combined competitors – and the distribution of that market share in various geographic submarkets – can reveal much about the true state of the market.

Q. What is Qwest's current market share in Arizona?

A. Nowhere in its prefiled case does the Company supply any evidence concerning this vital indicator of competitive conditions. However, internal data supplied by the Company in response to discovery confirm the obvious–the Company continues to enjoy quasi-monopoly status in most markets. The most recent data I have seen indicates that, as of May 2004, the Company's overall statewide market share was *****Proprietary Proprietary***** This provides an indication of the overall extent of competition in the state. This percentage was developed using a definition of "competition" which excludes wireless carriers since many customers consider wireless service to be complementary to traditional wireline service, rather than considering it to be a substitute or competitive alternative. To the extent some customers exclusively rely on a wireless phone in lieu of a wireline phone, these calculations arguably understate the intensity of competition. By including resale competition in this estimate, there is a tendency to overstate the intensity of competition. Resale competitors continue to provide

substantial wholesale revenues to Qwest, and they are limited in the extent to which they can place downward pricing pressures on the Company (since their costs are a direct function of Qwest's retail prices).

Q. Qwest wants to initially classify as competitive 82 wire centers in the Phoenix and Tucson MSAs. Has the Company provided its market share in these particular locations?

A. No. Qwest apparently does not separately track market share for each wire center, nor has the Company provided any estimates of its overall market share in the group of wire centers it wants to classify as "competitive." While the Company has provided some limited information about competitive activity in these locations, the information provided isn't necessarily sufficient to conclude that competitive pressures are significantly greater in these wire centers than in other parts of the state, much less that competitive pressures have increased to the point where increased pricing flexibility is justified.

For instance, discovery responses provided by Qwest in this proceeding indicate that the Company has ***Proprietary Proprietary*** residence access lines in the 82 wire centers that the Company proposes to immediately classify as competitive. This represents approximately ***Proprietary Proprietary*** of Qwest's total residential access lines. In contrast, competitive resellers are using ***Proprietary Proprietary*** of the Company's residential lines in these 82 wire centers, as of May 31, 2004. This represents approximately ***Proprietary Proprietary*** of the ***Proprietary Proprietary*** such lines being resold statewide. While the level of resale competition is

slightly higher in these wire centers, it certainly couldn't be considered significantly more intense than the level of resale competition in other parts of the state.

Q. Have you attempted to develop an estimate of Qwest's current residential market share in the wire centers it wishes to immediately declare to be "competition zones"?

A. Yes. I have used information provided by Qwest through the discovery process, to estimate the Company's market share in the wire centers it wants to immediately convert to competitive zones. After considering these statistics, I estimate that competitors were providing service to perhaps ***Proprietary Proprietary*** residential lines in these 82 wire centers, as of May 2004. The data suggests that more than eight years after passage of the 1996 Telecom Act, the trend towards increased competition is still in its infancy. These estimates suggest that Qwest continues to overwhelmingly dominate the picture, with a residential market share of ***Proprietary Proprietary*** in the wire centers where it claims competitive pressures are the most intense.

Q. Have you reviewed any other data that can be useful in providing an overview of market conditions in Qwest's service territory?

A. Yes. I have reviewed the FCC's latest Local Competition Report (LCR) and later in my testimony I will revisit the market share data obtained through discovery.

Q. What does the FCC LCR indicate concerning the overall level of competition in Arizona?

A. According to the FCC LCR, the overall CLEC market share in Arizona was 21.8% as of December 2003. [Table 6, FCC LCR] This is more than quadruple the CLEC market share of 5% reported by the FCC in 1999 [Table 7, FCC LCR]. This recent surge in CLEC market presence is consistent with the recent trend nationally; the nationwide CLEC market share also quadrupled from 1999 to 2003 (from 4% to 16%).

Q. Why do the FCC LCR figures differ from Qwest's estimates?

A. One reason for the discrepancy (***Proprietary Proprietary*** Qwest data vs. 21.8% from the FCC LCR) is that the FCC figures are statewide averages and not confined to a single ILEC's territory. Since most CLECs have expanded into RBOC markets more aggressively than into areas served by other incumbents, one would expect the statewide FCC LCR market data to differ from the corresponding data for these other carriers (e.g., areas historically served by RBOCs like Qwest). Another reason for the difference is the FCC data captures market shares as of December 2003, while the Qwest estimates reflect more recent conditions (i.e., May, 2004). As well, the FCC's estimates only include carriers with at least 10,000 lines in a state. [See FCC LCR Table 6 footnote.] While this has the potential for understating both ILEC and CLEC data, the discrepancy would be largest when comparing with data for a large ILEC like Qwest.

> Total numbers reported by incumbent local exchange carriers (ILECs) filing FCC Form 477 may be slightly understated because smaller carriers are not required to report data. However, as the reporting ILECs account for about 98% of all ILEC lines, the understatement should not be large. (All ILECs, whether or not they normally report to the FCC, provide data on the number of telephone lines served to the National Exchange Carrier Association for use in conjunction with the Commission's universal service mechanism.) We are less certain about the extent to which comparable lines as reported by CLECs are understated as a result of the state-specific reporting threshold, but we expect such understatement to be larger, on a percentage basis, than for ILECs. [FCC LCR, p. 1, footnote 3]

Needless to say, Arizona is not unique in this regard–small carrier data are excluded from all states in the FCC LCR. Table 1 below shows how Arizona compares to the other Qwest states and the nationwide totals, as of December 2003. These data suggest that competition in Arizona is somewhat more intense than, competition in other Qwest states.

Table 5
End-User Switched Access Lines
in States Served by Qwest
(As of December 31, 2003 per FCC LCR)

State	ILECs	CLECs	Total	CLEC Share
Arizona	**2,541,931**	**707,477**	**3,249,408**	**22%**
Colorado	2,496,330	505,777	3,002,107	17%
Idaho	678,088	46,859	724,947	6%
Iowa	1,285,764	188,647	1,474,411	13%
Minnesota	2,453,860	581,239	3,035,099	19%
Montana	490,505	18,616	509,121	4%
Nebraska	736,105	199,498	935,603	21%
New Mexico	919,450	n/a	n/a	
North Dakota	275,457	25,039	300,496	8%
Oregon	1,813,627	249,701	2,063,328	12%
South Dakota	297,540	64,784	362,324	18%
Utah	993,796	241,454	1,235,250	20%
Washington	3,375,160	433,977	3,809,137	11%
Wyoming	238,045	n/a	n/a	
Total Qwest	18,595,658	3,263,068	20,701,231	16%
Total Qwest w/o AZ	15,815,682	2,555,591	17,451,823	15%
Nationwide	151,837,752	29,565,509	181,403,261	16%

Q. Does the FCC LCR provide any clues concerning the composition of the roughly 22% of statewide lines the CLECs are serving in Arizona?

A. Yes. Table 10 of the FCC LCR shows that 50% of the CLEC lines in Arizona are purely facilities-based (using loops that are self-provided) and 33% are UNE-based (including both UNE-P and UNE-L). The remaining 17% of CLEC lines are provided through resale of the ILEC's retail services; as noted earlier, this portion is relatively insignificant to the issues in this proceeding, since these CLECs are not in a position to place downward pricing pressure on Qwest. If the Commission allows the Company to increase its retail rates, this will automatically increase the wholesale costs incurred by these carriers, and therefore these firms will most likely increase their prices as well.

Q. How does this competitive mix compare to other states?

A. Table 6 below provides this comparison. With respect to facilities-based competition, Arizona represents over 30% of facilities based lines in Qwest's 14 state territory.

Table 6
CLEC-Reported End-User Switched Access Lines By State
(As of December 31, 2003 per FCC LCR)

State	CLEC-Owned (%)	UNEs (%)	Resold Lines (%)
Arizona	**50**	**33**	**17**
Colorado	32	44	24
Idaho	7	n/a	n/a
Iowa	20	72	8
Minnesota	29	50	21
Mississippi	4	68	28
Montana	77	n/a	n/a
Nebraska	65	21	14
North Dakota	26	69	5
Oregon	15	66	19
South Dakota	54	45	1
Utah	30	40	29
Washington	33	42	25
Wyoming	n/a	n/a	n/a
Total Qwest	35	44	20
Total w/o AZ	31	47	20
Nationwide	23	61	16

Q. Based on this data can you summarize the overall status of competition in Arizona?

A. Yes. The available empirical evidence indicates that Qwest continues to enjoy dominant

positions in many local markets, which are at least partially protected by substantial barriers to entry. Although competition has been increasing–particularly in business markets–Qwest continues to enjoy a very large share of the market (see Table 7 below).

Data provided during discovery shows that Qwest is experiencing substantial market share losses in Phoenix and Tucson, but it continues to dominate most Arizona local exchange markets. In some markets competitors have been quite successful in winning customers; in other cases, relatively few competitors have been attracted into the market, or they have not been very successful in winning a share of the market. Effective competition might already be present for some services in some Arizona wire centers, and it may be realized in other markets in the relatively near-term future. However, the prospects for intense competition in other areas seem to be little more than a possibility on the distant horizon.

Successful competitive entry is not easy anywhere; but in some locations entry barriers are higher than in other areas–and potential entrants have not made much of an effort to hurdle those daunting barriers.

Table 7
CLEC Market Share as of December 31, 2003
per Qwest data
*****Proprietary*****

	Total	**Business**	**Residential**
CLEC market share in Qwest's Area			

Q. You have indicated that varying levels of competition exist across Qwest's serving territory. Can you elaborate on this point?

A. Yes. Most large ILEC service territories cover a very large geographic area which encompasses a range of different market conditions. Even within the same local calling area or local exchange there can be extreme differences between the operating and engineering characteristics of wire centers in the downtown urban core and the characteristics of the outlying wire centers. In turn, these differences can translate into substantial differences in the costs and difficulties involved in serving customers in different wire centers.

The most obvious example of these differences concerns the unbundled UNE loop rates; lower rates tend to apply to urban wire centers while higher rates apply to rural wire centers. But differences in UNE loop rates are just the tip of the iceberg. There may be even more dramatic percentage differences in non-loop costs when comparing the cost per line of serving customers using a CLEC switch in urban and rural wire centers (e.g., due to differences in available economies of scale with respect to inter-office transport facilities and collocation facilities).

Similarly, the mix of high revenue customers and low revenue customers may differ throughout a service territory. Hence, CLECs may confront entirely different conditions in considering the potential for using their own switch to serve mass market customers in different parts of a service territory. For instance, revenues from some services (e.g., custom calling) may be lower in some small towns relative to some urban areas, due to differences in demand characteristics and/or income levels. As well, marketing and sales costs can sometimes be higher in small towns and rural areas. For instance, marketing options may be relatively limited,

and entrants may be forced to expend precious advertising dollars on television and media coverage areas that are far wider than the intended target market.

As a result of differences in the underlying characteristics of each geographic area and differences in the mix of customers that are present in each area, competitive pressures will vary widely within a single ILEC's service territory. In general, one would expect to see lower barriers to entry and more intense competitive pressures in downtown urban areas, with higher barriers to entry and weaker competitive activity in rural areas. Similarly, it is reasonable to anticipate that competitive carriers will focus, at least initially, on concentrations of customers that use large volumes of telecommunications services (sometimes referred to as "enterprise" customers).

Q. You have testified that CLECs tend to disproportionately focus on serving enterprise customers. Do you have any data that show *more specifically* where the enterprise customers are located within the Qwest service territory?

A. Yes. Publicly available access line count data demonstrate that a higher proportion of enterprise lines exists in the higher density wire centers. Although it is somewhat dated, public information concerning geo-specific line counts and line densities is available within the FCC's Synthesis or Hybrid Cost Proxy Model (HCPM), which the FCC uses to administer the federal Universal Service Fund (USF). This information can be downloaded from the FCC's website at http://www.fcc.gov/wcb/tapd/hcpm/. I used data from this model to estimate the extent to which enterprise customers are present in each of Qwest's wire centers in Arizona. For ease of use, I analyzed the data in the following manner: Single-line business lines were subtracted

from total business lines to develop an estimate of multiline business lines. Voice grade equivalent special access lines were then added to the latter number in order to develop an estimate of the total number of enterprise lines in each area. This estimate was divided by total lines (including voice grade equivalent special access lines), to develop the "enterprise ratio" or the relative proportion of enterprise lines present in each wire center. Table 8 shows the results of these calculations in summary format. As shown, enterprise lines tend to be most prevalent in wire centers that serve the more urbanized, higher density parts of the state.

Table 8
Ratio of Enterprise Lines by Varying Density

Wire Center Density (lines per square mile)		Enterprise Ratio
0	25	0.14
26	50	0.26
51	100	0.26
101	200	0.32
201	400	0.41
401	800	0.28
801	1600	0.39
1601	3200	0.42
Greater than	3200	0.60
Overall		0.44

Q. Are there other publicly available data that can also be used to demonstrate the existence of heterogeneity within Qwest's Arizona service territory?

A. Yes. Table 9 demonstrates the existence of substantial differences in monthly per line costs by wire center. Just as I used data from the FCC's universal service cost model to estimate the extent to which enterprise customers are present in each of Qwest's wire centers in Arizona, I used data from the same model to provide an indication of the potential for variation in the average monthly costs incurred by Qwest in serving customers in different wire centers.

While there are many different factors that can lead to cost differences, I have sorted FCC cost model data in accordance with line density, since this is one of the more obvious factors that contributes to these cost differences. While the cost figures do not capture all of the relevant costs incurred by CLECs that vary geographically, they do provide some confirmation of the potential for widely varying cost conditions within the state.

Table 9
FCC Model Monthly Per Line Costs
by Varying Density

Wire Center Density (lines per square mile)		Monthly Costs
0	25	$86.09
26	50	$46.63
51	100	$35.22
101	200	$27.70
201	400	$22.92
401	800	$21.69
801	1600	$19.31
1601	3200	$18.30
Greater than	3200	$16.44
Overall		$20.16

While I do not have specific data to offer regarding the internal costs incurred by CLECs, it is important to remember that there can be even more substantial differences in the per-line costs incurred by facilities-based CLECs, due to the impact of spreading the fixed cost of collocation and transport facilities over widely varying numbers of lines. Collocation costs that represent a small amount per line in a large urban wire center might represent a very large amount per line in a rural wire center. In general, in smaller wire centers, for a CLEC serving a small percentage of the market, the fixed costs of collocation and transport facilities can be too high for facilities-based entry to be a viable option.

Q. How do these cost differences relate to different levels of competition?

A. In general, one would expect that areas with low density and high per-line costs will see less competitive entry than areas with high density and low per-line costs. In the absence of a state USF which adequately alleviates the high costs of serving rural customers, there is relatively little potential for competition in the lower density, higher cost parts of the state.

In general, it is reasonable to anticipate that Qwest will continue to face the greatest competitive pressures in areas with the highest line density.

Q. Have you prepared any other analyses showing the extent to which local exchange markets in Arizona have moved away from monopoly towards effective competition?

A. Yes. For this purpose I relied upon two statistics – the four-firm concentration ratio and the Herfindahl-Hirschmann Index (HHI). In general, a market that exhibits a high four-firm concentration ratio will be more monopolized, and less competitive, compared to a market that exhibits a low ratio. If the top four firms control more than 70% of the market, it is unlikely that competition will be fully effective. Rather, the largest one or two firms will often dominate the industry, while smaller firms follow the leader(s). The extent to which market performance falls short of the competitive ideal will depend upon specific circumstances, including the presence or absence of barriers to entry and the distribution of market shares (which is not fully indicated by the four-firm concentration ratio).

The HHI also provides useful insight into market structure and market power. Economists use this statistic because it reflects the well-established fact that where industry sales are highly concentrated in a small number of firms, the largest firms tend to have market

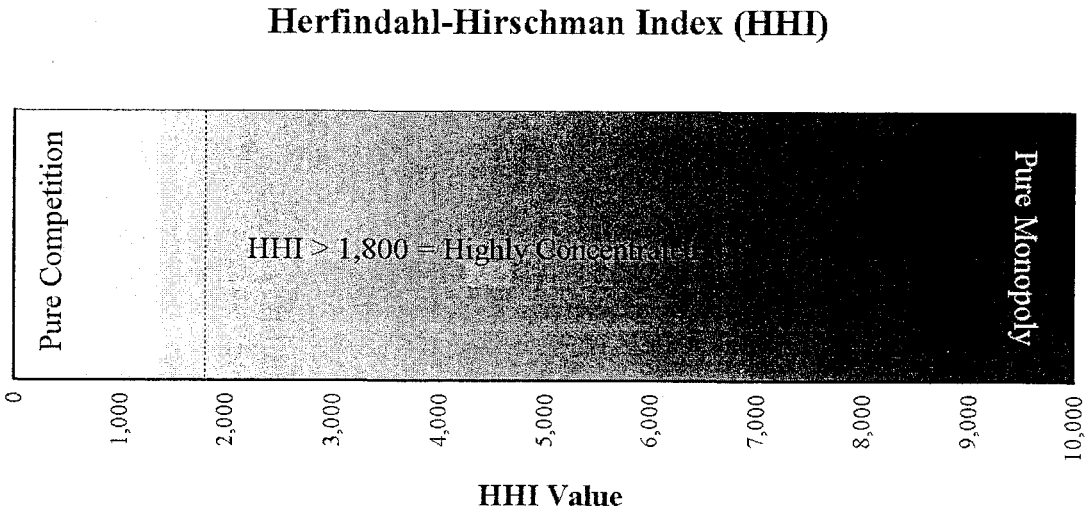
power, and market results tend to deviate greatly from the purely competitive benchmark.

Q. Can you elaborate on the rationale behind the HHI analysis?

A. Yes. The HHI has long been used by the Department of Justice (DOJ), the Federal Trade Commission (FTC), and others involved in analyzing antitrust and other market structure issues from a public policy perspective. For example, the Merger Guidelines adopted by DOJ specify that: 1) HHIs below 1,000 indicate that the market is "unconcentrated"; 2) HHIs between 1,000 and 1,800 indicate that the market is "moderately concentrated"; and 3) HHIs above 1,800 indicate the market is "highly concentrated," as indicated on illustrative Graph 3. [1997 Horizontal Merger Guidelines, §1.51] Where a high HHI is present, or a merger would significantly increase the HHI, DOJ is less likely to approve a proposed merger or acquisition.

To compute the HHI, the market share (expressed in percentage points) of each firm in the relevant market is squared and then totaled. Thus, if a single firm controls 100% of the market, the HHI is equal to 100 times 100, or 10,000. If 10 firms each have a market share of 10%, the HHI is 1,000. If the market contains thousands of very small firms, each with a minuscule market share, the HHI can potentially approach zero. Accordingly, potential HHI values range from 0 to 10,000, with a value near zero indicating pure competition and a value near 10,000 indicating a pure monopoly. While these values represent the extreme points, the HHI is best interpreted as a continuum, with varying levels of concentration being indicated by different numerical values along this continuum. Not only does the HHI provide a sound basis of judging where a market stands on the continuum from pure competition to pure monopoly, it is particularly useful because it captures in a single number the extent to which sales are

Graph 3



Graph 4

(See Exhibit 2)

concentrated in a small number of firms as well as the distribution of market shares across multiple firms.

Q. Have you prepared detailed market share and HHI calculations?

A. Yes. I have prepared a variety of different calculations, including estimated Total, Business, and Residential market shares, 4-firm concentration ratios, and HHIs for each Qwest Arizona wire center. The results are depicted on Schedules 4 and 5 attached to this testimony.

Q. What is the four-firm concentration ratio for Qwest's Arizona service territory?

A. Using data acquired through the discovery process, I estimate that the four-firm concentration ratio for Qwest's Arizona service territory as a whole exceeds 87%. As I stated earlier, a four-firm concentration ratio in excess of 70% suggests a market that, in all likelihood, falls well short of effective competition. Clearly, the Qwest service territory as a whole is not effectively competitive.

Q. Are any of the CLECs using their own facilities to compete with Qwest?

A. Yes. Table 7 above shows the overall CLEC market share is approximately ***Proprietary Proprietary***. As shown in Table 10 below, a majority of this competitive activity is from facilities-based carriers.

Table 10
Competitive Activity in
Qwest's Service Area
*****Proprietary*****

	CLEC Total Market Share	UNE-L/EEL	UNE-P	Resale	Facilities-Based
Entire Qwest Area					
Qwest Competitive Zones					

Q. Can you describe the process you used to estimate HHIs?

A. Yes. For the Total HHI I first calculated Qwest's retail switched access lines by wire center as of June 30, 2004 using data obtained through discovery (RUCO 02-027S1 HIGHLY CONFIDENTIAL ATTACHMENT A.xls column F).

Q. Did you make any adjustments to the Qwest data?

A. Yes. While reviewing RUCO 02-029S1 CONFIDENTIAL ATTACHMENT A.xls I learned that the switched access line counts include resold lines. I removed these lines to avoid double counting and to more accurately represent Qwest's market share in any given wire center.

Q. What data did you use to estimate CLEC lines in each wire center?

A. I asked Qwest to provide an estimate of competitive switched access lines by CLEC by Qwest

wire center. In response, Qwest provided Resale data as of May 31, 2004 by CLEC by wire center (Highly Conf AZ RUCO 02-035 Att A.xls). Qwest also provided UNE-L and EEL lines as of May 31, 2004 (Highly Conf AZ RUCO 02-033 Att A.xls), UNE-P lines as of May 31, 2004 (Highly Conf AZ RUCO 02-033 Att A.xls), and an estimate of Facilities Based lines as of December, 2003 (RUCO 02-38 Highly Confidential Attachment A.xls) by CLEC and by wire center.

Q. How did you use this data?

A. The Resale, UNE, and Facilities Based line count data were combined and analyzed for each Qwest wire center. The line counts for Qwest and the individual CLECs were summed across each wire center to arrive at an estimate of total retail lines available to end users in each Qwest wire center.

Q. You mention the facilities based lines provided by Qwest were estimated. Can you please elaborate?

A. Yes. The facilities based line counts I have included in this analysis were estimated by Qwest. As Qwest explains in their discovery response

> only the CLECs, not Qwest, know precisely the number of local exchange access lines being served via CLEC-owned loop facilities... However, Qwest can estimate the number of CLEC-owned loop facilities based on Local Interconnection Service (LIS) trunk quantities identified in Confidential Exhibit DLT-17 to Mr. Teitzel's direct testimony. [Qwest Supplemental Response 07/30/04, RUCO 02-038S1].

Qwest assumes that each LIS trunk supports approximately 2.75 local access lines and further explains the estimating procedure by noting that

> LIS trunks are utilized by CLECs to exchange end user calling traffic between CLEC switches and ILEC switches. The end users in this instance may be served either by CLECs using CLEC-owned loops or by CLECs using UNE loops purchased from the ILEC. To estimate the number of CLEC owned in each Qwest Arizona wire center, the number of LIS trunks is multiplied by 2.75, then the number of UNE loops being used by CLECs in those wire centers can be subtracted from that number. The remainder can be used as an estimate of CLEC owned loops [Qwest Supplemental Response 07/30/04, RUCO 02-038S1].

Q. What is the HHI for Qwest's local exchange market in Arizona?

A. Based upon the Qwest market share data, I estimate that the overall HHI in the area served by Qwest in Arizona is ***Proprietary Proprietary***. Graph 4 shows where this estimated HHI level falls along the overall continuum from pure competition to pure monopoly. As shown, the HHI in the average Qwest exchange remains relatively close to near-monopoly levels, suggesting these markets are still highly concentrated. While the overall picture remains relatively close to quasi-monopoly conditions, the picture is not the same throughout the state, nor is it the same in residential and business markets.

Q. Did you estimate residential and business specific HHIs for each Qwest wire center?

A. Yes. I used Qwest residential and business listing data to estimate CLEC residential and business lines in each Qwest wire center. Qwest provided these data in HIGHLY CONF AZ

STF 3.20 ATT B.xls. Specifically, I calculated the Qwest ratio of residential lines per residential listing and business lines per business listing. This allowed me to estimate CLEC residential and business facilities based lines by CLEC by wire center from the CLEC listing data.

Differences exist between the business and residential markets, although both remain highly concentrated. For the average exchange in Qwest's Arizona service territory, based upon public data, I estimate that the Business HHI is ***Proprietary Proprietary*** while the Residential HHI is ***Proprietary Proprietary***.

Q. What do these analyses demonstrate?

A. Since I relied on Qwest's estimates concerning facilities based carriers, it is impossible to be perfectly precise in these calculations. Still, they are sufficient to provide a sense of current market conditions, and the degree to which competition is more heavily concentrated in certain markets. While conditions have dropped below pure-monopoly levels, most wire centers remain well above the 1,800 benchmark which the DOJ and FTC use as a guideline in evaluating highly concentrated markets.

If a similar analysis had been performed 8 years ago, the calculated local exchange HHI would have been close to 10,000 for both residential and business. Competitive pressures have clearly increased since adoption of the 1996 Telecom Act, but the increase has not been as rapid, or as substantial, as many observers were anticipating at that time, given the sweeping changes portended by the 1996 Telecom Act. The data suggest that nearly 9 years after adoption of the 1996 Telecom Act, relatively low levels of competitive penetration have

occurred in many markets. Within some rural areas Qwest continues to enjoy near-monopoly levels of market dominance, whereas in some urban business markets the HHI is approaching the 1,800 benchmark used by the DOJ and FTC. In fact, the estimated business HHI in the Phoenix Main wire center is below 1,800.

The relatively slow rate of decline in concentration, combined with the striking lack of entry efforts by most of the strongest, best qualified firms (e.g., the failure of other ILECs like BellSouth or SBC to aggressively enter Qwest's territory) strongly suggests the continued existence of substantial barriers to entry, particularly in the less urbanized parts of the state. These barriers are discouraging entry and delaying the transition to effective competition. There is still reason to be optimistic that the trend towards more intense competition will continue, and perhaps accelerate. If so, competition will eventually become a more complete and effective alternative to regulation. However, it is too early to predict when this will occur or to reach any definitive conclusions about whether competitive carriers will ever be able to exert enough downward pricing pressure to eliminate the need for strong, effective regulation in some markets.

Q. Can you again place these HHI statistics in context with the Merger Guidelines?

A. Recall that an HHI near zero indicates a market that is purely competitive and an HHI near 10,000 indicates a market that is purely monopolistic. Qwest's competitors face substantial barriers to entry and exit, and they cannot serve additional customers without incurring substantial additional costs. Thus, there is no basis for assuming they can stop Qwest from exercising its market power.

To the contrary, there is good reason to assume that the Company still has considerable market power within most of its Arizona service territory, as indicated by the fact that the Company still serves more than ***Proprietary Proprietary*** of the market in its service area.

Q. Would you please briefly state your conclusions regarding the Company's competition arguments?

A. In evaluating the extent to which barriers to entry have diminished in the Arizona market and whether that market has moved toward effective competition, the telling evidence is the extent to which the new firms have actually attempted to enter various markets, and have been successful in gaining a substantial share of the market. I have presented a host of data that demonstrate that CLECs nationally, and in Arizona, have had only limited success in gaining market share from the respective incumbent provider. Overall CLEC market share in Arizona remains relatively low in many areas. The HHI in most Qwest exchanges in Arizona is far above the 1,800 standard that traditionally defines a market that is "highly concentrated." And none of the RBOCs have made any substantial effort to enter into any Arizona local exchange markets.

Q. What is your overall impression of the status of competition in Arizona local exchange markets?

A. The 82 wire centers identified by the Company have seen more competitive activity than some other parts of the state, but even in these areas, the trend towards increased competition is at a

very early stage. I expect competitors will continue to refine their business plans, and will increasingly gain credibility with customers. Over time, they can be expected to provide an increasingly more significant competitive challenge to Qwest. However, even the most generous interpretation of the market data suggests that competitive entry is not an easy process, and it will be quite a while before Qwest no longer dominates the market in most parts of the state.

If the existing system of regulation were truly hamstringing Qwest's ability to respond to competitive pressures, if barriers to entry had truly declined by as much as the Company implies, and if asymmetrical regulation were truly placing the company at a severe disadvantage (e.g., because the Company can't cut prices in response to competitors), the competitors' market share would be much larger, and the Company's share of the market would be declining much more rapidly than it actually has. Further, in such an environment, I would not expect that Qwest would pursue policies that would result in increased rates and, as a result, even greater market share losses. Such policies would exacerbate the Company's competitive disadvantage in the market. Instead, I would expect the Company to enact rate reductions in order to respond to increasing competitive pressures, rather than pursue pricing flexibility that it could then use to increase rates. Aside from TSLRIC price floors, nothing about the existing system of regulation prevents Qwest from pursing policies that would result in lower rates for consumers and a more effectively competitive Company.

While the data supplied by the Company has limitations and ambiguities which make it difficult to fully evaluate market conditions, it is more than sufficient to confirm the obvious: it is not yet time to being thinking about deregulating the Company, or providing it with the type of

extreme pricing flexibility that it seeks in this proceeding. Qwest continues to enjoy a dominant share of most Arizona telecommunications market, and its competitors are far too small to provide an adequate substitute for continued regulatory oversight by the Commission.

Q. Would you please elaborate upon why the current market share data argues against giving Qwest all of the pricing flexibility it seeks?

A. Yes. An effectively competitive market cannot emerge until barriers to entry have been lowered and customers perceive the competitive offerings as adequate substitutes for the services provided by the dominant carrier. The extent to which barriers to entry persist, and the extent to which customers accept the competitive offerings as viable substitutes for those of Qwest is shown by, *inter alia*, by the way they behave in the marketplace. Until customers actually change carriers, and are satisfied with the service provided by the new entrants, there is no empirical basis for assuming that the market has successfully completed the transition from monopoly conditions to effective competition.

Legal barriers to entry were largely eliminated with passage of the 1996 Federal Act, and many economic and technical barriers to entry are being reduced over time. However, this does not mean that the remaining barriers to entry are insignificant. To the contrary: the 1996 Federal Act is now more than eight years old, yet the transition to effective competition is still at a relatively early stage. This is confirmed by many indicators, including the fact that very few customers have ever seriously contemplated changing their local carrier, and the fact that the total number of competitive local exchange carriers operating in Arizona is much lower than the analogous number of competitive long distance providers.

Even more tellingly, local competitors have not yet enjoyed much success in actually penetrating the local exchange market, developing a market presence, gaining customers, or building revenues. Despite all the rhetoric and impressive sounding announcements, the actual level of market penetration is very modest, as indicated by the Company's market share.

The mere fact that a certain number of "warm bodies" have shown up and announced their intention to offer local telephone service is not indicative of the extent to which meaningful "entry" is actually occurring or the extent to which customers are willing to accept these firms' offerings as viable substitutes for those of their existing carrier. It is one thing to claim that a market is potentially "contestable"; it is another (and far more significant) thing to show that barriers to entry have largely or entirely been eliminated, or to show that the market is in fact being successfully contested.

Government price regulation has historically been imposed on firms like Qwest as a substitute for effective competition. In fact, one of the key economic principles underlying traditional rate of return regulation was the premise that regulation should attempt to simulate the results of effective competition. The mere presence of new entrants is not sufficient to justify eliminating the protections afforded by regulation. Regulation should be relaxed, or withdrawn, as competitive conditions intensify to the point where customers no longer need the protections it affords. Stated differently, as market conditions evolve, providing customers with more and more of the benefits of effective competition, (including protection from price gouging), the role of regulation should evolve and diminish. But, regulatory protections should not be removed prematurely.

V. Response to Qwest Proposals and Recommendations for Action

A. Baskets and Competition

Q. In section one of your testimony, you outlined how services are assigned to baskets under the current Plan and how they would be assigned to baskets under Qwest's proposed Plan. What is RUCO recommending with respect to baskets?

A. RUCO recommends adopting a series of changes to Qwest's current Plan, including a few aspects of its proposed Plan, as well as some new concepts.

Under the current Plan, services are assigned to one of three baskets based upon their individual characteristics. For example, the Wholesale Services basket contains just what the name implies – wholesale services including

> Intrastate Carrier Switched Access, Discounted Wholesale Offerings, Unbundled Network Element (UNE) Offerings, Wholesale services such as PAL lines, and all other wholesale offerings unless specifically listed in Attachments C and E as included in either Basket 1 or 3. [Current Plan, 3.a.]

Under the proposed Plan, services would continue to be assigned to the same three baskets, but the flexibility afforded the Company in pricing the services within those baskets is altered significantly. Mr. Shooshan states that the approach used in the proposed Plan "will provide it [Qwest] with a reasonable opportunity to compete more effectively in the very competitive market in Arizona." [Shooshan Direct, p. 4]

RUCO agrees with Qwest that competitive conditions in the state have intensified since the Commission approved the current Plan, but we believe a more appropriate response is to modify the basket structure, in order to better align services with similar competitive characteristics. More specifically, RUCO recommends establishing three baskets: Moderate Pricing Flexibility Services; High Pricing Flexibility Services; and Total Pricing Flexibility Services.

Services should be assigned to these three baskets primarily on the basis of the intensity of the competitive pressures currently being faced by Qwest. The assignment of services would not necessarily be accomplished on a statewide basis. To the extent competitive conditions vary for some services across the state, those services would be split into multiple baskets, consistent with the competitive conditions applicable to each geographic area. In determining the most appropriate assignment of each service, the Commission could also consider other relevant factors, including public safety or other public interest concerns, evidence that competition is likely to intensify or diminish in the future, and evidence that viable substitutes are available for those customers who would be unwilling or unable to use a competitive offering, if the price of the service in question were to be increased substantially.

Q. Can you explain why you believe RUCO's recommended approach is an improvement over the current Plan?

A. Yes. By aligning the degree of pricing flexibility with the degree of competitive intensity, the Commission can further the goals of the 1996 Telecom Act while also protecting customers from Qwest's remaining market power.

The 1996 Telecom Act is designed to encourage greater competition, and it declared invalid all state rules that restricted entry or otherwise limited competition in telephone service. Since the development of competition for telephone services was one of the primary goals of the 1996 Telecom Act, and since competition for some services has grown considerably in recent years, it is reasonable to use competitive conditions as the primary basis for assigning services to baskets.

By including three baskets, it is feasible to provide greater protection to consumers while also giving the Company greater pricing flexibility. The High Pricing Flexibility Services basket provides the Company with substantial pricing freedom, while placing reasonable limitations on that flexibility, appropriate to the transitional period when Qwest may continue to enjoy a significant degree of monopoly power. The rules applicable to this basket can limit the abuse of this power, to the extent competitive forces alone are not strong enough to fully protect customers.

Q. How do you propose to determine which services should go into each basket?

A. Each service, and each geographic area, should be analyzed based on available evidence concerning their competitive characteristics. Services can be distinguished based on their technical characteristics, the location of customers, the type of customers that typically purchase each service, the number of carriers providing the service in each area, the extent to which these carriers rely upon their own facilities, the extent to which competing carriers rely on Qwest's facilities in providing the service, market share data, and other relevant evidence.

This analysis should be performed on a fairly granular basis. For example, there are

differences in the competitive status of residential and business basic exchange service. Although residential and business customers sometimes purchase very similar products, their competitive status can differ greatly. From an economic perspective, it is appropriate to recognize that residential and business customers often purchase services in distinct product markets (or sub-markets). Hence, residential and business local exchange services may appropriately be placed in different baskets, even though the same facilities are sometimes used in providing these services, since the underlying market conditions, including typical rate structures, rate levels and gross profit margins, are so different.

In the course of this analysis, the heterogeneity of competitive conditions and other service characteristics should be considered in their totality. For example, a particular service purchased by a business customer in a metropolitan center may or may not have similar competitive characteristics to the same service being offered in a rural area, depending upon the actual extent to which other carriers are successfully competing in providing this type of service in each respective area. By allowing for the possibility that geographic heterogeneity exists, the competitive nature of individual services can properly be evaluated, and the Commission can avoid unduly limiting Qwest's pricing freedom in the most competitive parts of its service territory (or unduly subjecting customers to abuses of monopoly power in the least competitive parts of its service territory).

Q. Can you please elaborate on how competitive conditions can be evaluated and services assigned to specific baskets?

A. Yes. Before granting increased pricing flexibility, I recommend the Commission evaluate

competitive conditions on three levels. First, it should conduct a broad examination of the status of competition in general, to provide a sound foundation for other, more detailed analyses. In the course of this broad examination, the Commission should look at data for Qwest relative to other carriers (operating in Arizona and elsewhere). Second, the Commission should evaluate data concerning general business and residence market conditions on a geographically specific basis–preferably examining data for individual wire centers. Third, the Commission should evaluate data concerning specific services. To the extent feasible, this examination can also be conducted on a geographically specific basis; however, to the extent this is not feasible, the Commission can apply sound judgment in evaluating the joint implications of its service-specific and wire center-specific analyses.

Q. Is this approach similar to the "competitive zones" in Qwest's proposed Plan?

A. Yes. The approach to assigning services to baskets that I have outlined in this section is similar to Qwest's competitive zones insofar as both are meant to account for the geographic heterogeneity of competitive conditions. RUCO's approach is somewhat more complex and is considerably less sweeping in its likely impact, however. Because an evaluation of actual market conditions is required before increased pricing flexibility is granted, there is much less risk that excessive pricing flexibility will be granted in markets where Qwest still enjoys substantial market power.

Q. What types of data can be used to perform the competitive analysis you have described?

A. Earlier in my testimony I provided some examples of the types of public data that are available. In addition, a variety of different types of proprietary or confidential data can be relied upon. In general, the first priority is to estimate the market shares held by the incumbent carrier and competitive carriers. In evaluating the extent to which competition for a particular service is substantial, the most telling evidence is the extent to which competing carriers have already been successful in obtaining a substantial market share. For any given service, if the incumbent continues to enjoy an overwhelmingly large market share relative to the new entrants, it would generally not be appropriate to remove pricing controls on that service.

One simple and useful way of interpreting market share data is to focus on the four-firm concentration ratio, which I mentioned earlier in my testimony. If the largest four firms collectively serve nearly 100% of a market, the Commission needs to be concerned about the potential for a cooperative oligopoly market structure, where the smaller firms all follow the leader's pricing decisions, increasing their prices whenever the leader increases its prices. Needless to say, if the four-firm concentration ratio is very high, it would not be prudent to immediately place a service in the Total Pricing Flexibility Services basket. Instead, it would be more appropriate to grant a degree of increased pricing flexibility, then observe what happens. If competitive conditions continue to intensify, and the smaller firms are not simply following the dominant firm's lead, a further relaxation of the pricing restrictions may eventually be warranted.

Another useful tool is the HHI, which I also mentioned earlier in my testimony. Economists use this statistic because it reflects the well-established fact that where industry

sales are highly concentrated in a small number of firms, the largest firms tend to have market power, and market results tend to deviate greatly from the purely competitive benchmark. If the HHI for a service is high, it is a strong indication that competition has not developed significantly, and thus it would not be prudent to place the service in the Total Pricing Flexibility Services basket.

Another useful set of data concerns the number of competitors, the degree to which carriers are relying on their own facilities in providing service, and the number of carriers that have installed collocation facilities in each wire center. These statistics provide an independent indication of the degree to which a service is competitive. While valuable, the Commission should only consider these numbers in conjunction with the HHI or the four-firm concentration ratio. If one only judged by the number of announced competitors, or the number of competitors with collocation arrangements, a misleading impression could be given concerning the level of competition. However, if the Commission also evaluates the extent to which these firms have actually entered the market and are succeeding in persuading customers to use their services, then a reasonably accurate picture of each market will emerge.

Q. Can you offer the Commission some guidelines for the appropriate application of these tools?

A. Yes. As a starting point, the Commission should look closely at the incumbent's market share, the four-firm concentration ratio, and the HHI applicable to each market or submarket.

If the incumbent carrier controls roughly two-thirds of the market and the remaining third is largely accounted for by a small number of firms, the market is unlikely to be subject to

effective competition. Such a market will probably have a four-firm concentration ratio in excess of 90%, and an HHI in excess of 4,000. Regardless of how many smaller firms may be present in the market, the result of granting Total Pricing Flexibility in that situation is likely to be similar to the result of deregulating a monopolist. The dominant firm's stockholders will benefit from the increased freedom to charge monopoly prices, but the public interest is unlikely to be advanced. Of course, the Commission should also take into account other relevant evidence, including information concerning the extent of barriers to entry and exit, and the extent to which customers fluidly move between suppliers or tend to stay with a single supplier.

At the other end of the continuum, if the incumbent carrier controls just a third of the market, and the remaining two-thirds is spread over a reasonably large number of competing firms, including several facilities-based carriers, the market is much more likely to be subject to effective competition. In such a market, the four-firm concentration ratio will probably be less than 75%, and the HHI will probably be less than 1,800. Hence, there is little likelihood that granting Total Pricing Flexibility will adversely affect the public interest. Needless to say, a variety of other evidence should also be considered before reaching a final conclusion, including information concerning barriers to entry and exit. In most cases, however, if the market has reached this stage in the transition towards effective competition, there is relatively little risk that the incumbent carrier will be able to impose unwarranted price increases on the market, or take advantage of increased pricing freedom by extracting monopoly profits from the market.

Q. Can you provide the Commission with a few examples of how these guidelines can be used to assign services to baskets?

A. Yes. To illustrate the approach RUCO is recommending, I analyzed data for several markets. The first example I considered was residential basic local exchange (1FR) service. I computed residential HHI values for each Qwest wire center. Since residential competition has generally been slower to develop than business competition, I expected to find relatively high HHIs in most wire centers (indicative of a low degree of competitive penetration). For the most part, that is what I found. However, two wire centers – Phoenix-Main and Tucson-Main exhibited significantly lower HHIs – below the 4,000 benchmark mentioned earlier. Consequently, it would be reasonable for the Commission to put 1FR service provided in the Phoenix-Main and Tucson-Main wire centers into the High Pricing Flexibility basket, while keeping 1FR service in all other wire centers in the Moderate Pricing Flexibility basket.

The second example I considered was business basic local exchange service. There are most likely differences in the intensity of competition for various business services, including 1FB, PBX trunks, and Centrex. In general, I would anticipate greater competitive penetration for PBX trunk service than for 1FB service, and greater competition for Centrex than for PBX trunk service. However, due to data limitations I was not able to compute separate HHIs for each of these services.

On an overall basis, I found one wire center (Phoenix-Main) where the HHI for business local exchange service fell below the 1,800 threshold, and three others where the HHI fell within the range of 1,800 to 4,000 (Phoenix-Pecos, Tucson-Southwest, and Phoenix-Foothills). This data suggests that, with the exception of these four wire centers, it would be

reasonable for the Commission to keep 1FB service in the Moderate Pricing Flexibility basket. However, it appears that competition in these four wire centers has advanced sufficiently to justify providing Qwest with additional 1FB pricing flexibility in these particular wire centers. For instance, it would be reasonable to place 1FB service in the Phoenix-Pecos, Tucson-Southwest, and Phoenix-Foothills wire centers in the High Pricing Flexibility basket. As well, it would not be unreasonable to place this service in the Phoenix-Main wire center in the Total Pricing Flexibility basket, considering the highly advanced state of business competition in the geographic area served by this wire center.

Q. Are there other factors the Commission could also consider before reaching a final decision concerning the competitive status of each service?

A. Yes. For instance, a more granular approach may be feasible if additional data can be obtained concerning the competitive status of specific business services. For instance, depending upon the available evidence, it may be feasible to move enterprise-class PBX trunk service into the High Pricing Flexibility basket (or the Total Pricing Flexibility basket) within additional wire centers.

Similarly, the Commission can also consider the presence of other services which are close substitutes for the service in question. This is important when these other firms' offerings are not exact substitutes, but they are reasonably comparable to, and are reasonably close substitutes for, the incumbent's services. In that case, the market for these substitutes may have the effect of reducing the incumbent's market power. If enough customers are willing to discontinue using the incumbent's services and replace them with one of these substitute

services, this will increase the price elasticity of demand for the incumbent's services, and reduce the incumbent's ability to generate monopoly profits. The combined impact of less-than-fully effective competition and the availability of reasonably close substitutes may constrain the incumbent's market power sufficiently to justify a further relaxing of regulatory price controls.

The concept of product substitution pertains directly to one of the key criteria underlying effective competition-the reasonable uniformity of competing products. Two products may not be identical, or nearly uniform, yet consumers may nevertheless perceive them to have very similar attributes. If consumers consider two services or products to be close substitutes, and they are priced at comparable levels, the availability of these non-uniform alternatives may enhance the prospects for effective competition.

Q. Have Mr. Shooshan and Mr. Teitzel presented examples of alleged substitutes that are available in Qwest's serving area?

A. Yes. Mr. Shooshan and Mr. Teitzel contend that wireless service, internet telephony (VoIP) and cable telephony are all significant competitive alternatives to Qwest's wireline service. As I explained in the previous section, wireless service is primarily a complement to wireline service, rather than a competitive alternative. While I am not suggesting this service should be completely ignored, I recommend giving little weight to this particular substitute, since its technical characteristics are so different, and since wireless prices tend to be higher than wireline prices.

While I will readily concede that wireless service has grown enormously, and that some

customers may react to an increase in Qwest's wireline prices by abandoning their traditional phone, for most customers this is not a viable option, because wireless service is functionally different, and it is primarily used for different purposes. As a result, the vast majority of consumers who purchase wireless service also continue to purchase wireline service. I have identified the following nine key attributes of wireline services that distinguish them from wireless services:

1. There are ergonomic differences between conventional and mobile phones.
2. Wireline services typically provide higher quality, more reliable communication than wireless services.
3. Wireline services provide the ability to have multiple (extension) phones share the same line and the same phone number.
4. Wireline services allow multiple family members or employees to share the same line.
5. Wireline services allow consumers to reliably and conveniently access the internet, and transmit large volumes of data at minimal cost.
6. Wireline services allow consumers to conveniently and reliably transmit and receive faxes.
7. Wireline services currently provide better access to emergency services, particularly E911 services.
8. Wireline service subscribers automatically have their phone number listed in the telephone directory for free.
9. There are safety concerns (real or perceived) associated with wireless services that do

not apply to wireline services.

I am well aware that a growing number of consumers are replacing their land line with a wireless phone, but in the typical market just 6.0% of all consumers have made this switch. [FCC, Telephone Subscribership in the United States (Data through March 2004), August 2004, footnote 2] On balance, it is reasonable to be cognizant of the availability of wireless services, but these services should not be classified with wireline services in evaluating market conditions (e.g. calculating HHIs). Wireless services do not constrain Qwest's ability to exploit its monopoly power in traditional wireline markets.

Q. What about cable telephony and VoIP?

A. Both VoIP and cable telephony are potentially much more direct substitutes for traditional telephony. Both of these technologies are in their infancy, and thus for many customers these offerings may still be seen as too risky to be considered viable alternatives to Qwest's traditional wireline services. As these technologies mature, however, they will need to be given increasing emphasis during an evaluation of the extent to which Qwest's services are subject to effective competition. In fact, in developing the HHI statistics discussed earlier, I included an estimate of lines served by Cox Cable, regardless of whether these lines were provided using cable telephony or a more traditional technology.

Q. Earlier, you mentioned the possibility that the trend towards competition may slow, or even reverse. Should the Commission have the flexibility to address this possibility, if it were to occur?

A. Yes. RUCO recommends modifying the current Plan to specify that services can be moved from one basket to another as competitive conditions intensify or weaken. The current Plan does not contain any provisions that explicitly deal with reclassifying services from one category to another. Although RUCO is not recommending adoption of Qwest's competitive zone approach, one of the positive aspects of this proposal is that it anticipates the possibility that services might be classified differently in different parts of the state, depending on actual market conditions. To effectuate this concept appropriately, RUCO and other parties should be allowed to oppose such a reclassification request if it is not warranted by the facts, or to recommend that a service be assigned to a different basket than the Company has proposed. Furthermore, RUCO, the Commission Staff, and other interested parties should be allowed to initiate requests for reclassification of services in response to changing market conditions. If the competitive trend were to reverse, and Qwest were to regain its quasi-monopoly status with respect to particular services or geographic areas, it would be unlikely to request reclassification to a basket that provides a lower degree of pricing flexibility. Hence, RUCO should be allowed to petition the Commission for modifying the service classifications to be consistent with changing competitive conditions.

1 ***B. Rate Element Caps and Rebalancing***

2

3 **Q. In addition to a different basket configuration, are there other aspects of the**
4 **Company's current Plan you would like to discuss?**

5 A. Yes. RUCO has developed recommendations for changes to a number of different aspects of
6 the current Plan. The most substantial of these changes relates to the structure of the price caps
7 that constrain Qwest's ability to increase rates. Under the current Plan, Qwest has been
8 restricted by hard caps that preclude rate increases for some services, and by other attributes of
9 the current Plan which have the effect of constraining its ability to exploit its remaining monopoly
10 power. Qwest has proposed to greatly modify or eliminate these restrictions, enabling it to
11 more fully exploit its remaining market power. These changes are not consistent with the public
12 interest, and thus the proposed Plan should be rejected. RUCO does agree, however, that a
13 further loosening of the current pricing constraints would be reasonable at this time, provided
14 the modifications are appropriately linked to actual market conditions. The Company should be
15 provided with some additional flexibility to respond to competitive pressures in markets where
16 competition has become relatively intense, without prematurely removing regulatory protections
17 from monopoly power in markets where competition remains relatively weak.

18

19 **Q. What types of caps are in the Company's current Plan?**

20 A. There are two basic types of caps in the Company's current Plan – basket-wide price caps,
21 and caps on individual rate elements. The details vary, depending on the specific basket.

22

Q. Would you please discuss the caps that apply to the most restrictive basket?

A. Yes. Under the current Plan, the Company has the least amount of flexibility concerning prices in the Basic/Essential Non-competitive Services basket. Under the proposed Plan, the least flexibility is given to the Limited Pricing Flexibility Services basket. In the current Plan, prices of some services cannot increase (they are subject to a hard cap) and the overall level of prices in the Basic Services basket cannot increase year-over-year by more than the annual change in the GDP-PI minus 4.2%. Thus, if GDP-PI increases by 4.5%, under the current Plan, the overall level of rates in the Basic Services basket cannot increase by more than .3%. Under the proposed plan, the hard cap is eliminated, and Qwest will be given unlimited freedom to increase individual prices year-over-year, subject only to "a basket-level revenue cap." This "revenue cap" is not well defined, but it is clearly less binding than the existing constraints. To the extent Qwest's revenues from certain services are declining due to the loss of market share or otherwise, Qwest might be free to recoup its lost revenues through price increases imposed on other services or other geographic areas, where its market position is stronger.

Under the proposed Plan, there are no limitations placed on rate increases for rate elements, or entire services. It appears that the Company would only need to make sure that the increase in revenues that results from Basket 1 price increases is offset by reductions in other revenues in Basket 1. While the proposed language is rather vague, this may include both revenue reductions due to reductions in rates for other services, as well as revenue reductions due to market share erosion. Furthermore, it appears that the Company can even request rate increases that do not meet this "revenue neutrality" test, provided it receives Commission approval. In contrast, under the current Plan many rates have been subject to a hard cap, and

rate increases must be offset by rate decreases of a similar or greater magnitude (depending upon the rate of inflation relative to the 4.2% offset). Moreover, individual rate elements cannot be raised year-over-year by more than 25%. The latter provision also has the effect of limiting rate increases for any specific service to no more than 25% (assuming every rate element within that service is increased to the maximum permissible extent).

Q. Before you outline RUCO's recommendations for price constraints applicable to the Moderate Pricing Flexibility Services basket, would you please clarify the subtle distinction between service-level caps and rate element caps?

A. Yes. Earlier, in my testimony, I outlined the ways in which the "rate element" caps in the current Plan differ from the "service" caps in the proposed Plan. While the Qwest witnesses do not explain this change, it would give the Company greater freedom to increase rates toward "whatever the market will bear." The Company will be able to increase rates for those service elements where it enjoys the highest degree of monopoly power, while reducing or holding constant rates for those service elements which are subject to intense competitive pressures. This is a significant increase in pricing freedom–an increase that has not been adequately justified.

Q. What restrictions does RUCO propose for its recommended Moderate Pricing Flexibility Services basket?

A. I propose including both a basket-wide revenue cap and a rate element cap in the Moderate Pricing Flexibility Services basket. The basket-wide cap is essentially identical to the cap

applied to the Basic Services basket in the current Plan – the change in GDP-PI minus the same 4.2% offset that is currently in effect. This cap provides Qwest the same pricing freedom it is afforded under the current Plan, and provides more protection for customers than the ambiguous "basket-level revenue cap" in Qwest's proposed Plan. For the reasons I discussed earlier, I also feel that it is important to impose a 25% rate element cap for the services that will be included in the Moderate Pricing Flexibility Services basket.

Q. Why do you believe it is appropriate to retain the productivity offset component of the basket-wide revenue cap?

A. An offset continues to be appropriate, since it ensures that industry-wide increases in ILEC productivity and decreases in ILEC costs will be passed through to customers, as they would be under effective competition, as well as under traditional regulation. An offset also ensures that ratepayers share in some of the benefits of technological improvements, increased economies of scale and other forces which have contributed to the long-term decline in telecommunications costs.

Mr. Shooshan contends that productivity offsets, in a number of jurisdictions, "are no longer used. There is a growing recognition that competition can now serve as a constraint on both prices and earnings, and as a means for distributing the gains from increased productivity." [Shooshan Direct, pp. 8-9] This line of reasoning would be more persuasive if elimination of the offset were limited to situations where Qwest is able to prove that market forces alone are strong enough to ensure continuation of the long term historic pattern of decreasing costs and prices. If competitive forces are, in fact, strong enough to force carriers to pass productivity

gains through to consumers, thereby ensuring that prices decline as fast as costs, then the offset simply serves as a backup safety measure–one that protects consumers in the event competitive forces weaken. As well, the offset is helpful since it provides some protection for consumers if the market environment is not as Mr. Shooshan describes. In other words, the offset will only have an impact if productivity gains would not be passed along to consumers, absent such a requirement.

Mr. Shooshan offers an additional argument in favor of eliminating the offset. He claims that

> given the inroads being made by competitors, Qwest faces the real risk in many geographic areas of excess capacity and/or stranded plant—both of which reduce productivity. The revenue cap proposed by Qwest here requires Qwest to increase productivity more rapidly than the economy as a whole by the rate of inflation in order to maintain a level of profitability. In today's environment, that plan poses a sufficiently difficult challenge to Qwest. [Id., p. 10]

Without digressing into a lengthy discussion of the most appropriate way to calculate an appropriate offset or "X" factor, I would simply point out that recent fluctuations in "X" have not been unexpected, nor is there any reason to believe a 4% or 5% offset is too large. To the contrary, in all but one of the overlapping five year periods commencing with 1986, the level of "X" that was achieved by the industry was equal to or greater than 4.2% as shown in Table 11 below.

Table 11
"X" Factor Moving Average: *1986 - 2003*

Time Period	5-year Moving Average
1986-1990	5.00%
1987-1991	5.57%
1988-1992	5.30%
1989-1993	5.80%
1990-1994	5.24%
1991-1995	5.09%
1992-1996	5.04%
1993-1997	5.33%
1994-1998	5.25%
1995-1999	7.00%
1996-2000	7.46%
1997-2001	6.62%
1998-2002	4.29%
1999-2003	3.40%

It is well understood that productivity and input cost changes can (and do) fluctuate from year to year, sometimes drastically, and that it is difficult to accurately forecast the change that will occur in any given year. However, the fact that "X" fluctuates, or that it is hard to forecast, does not provide a logical basis for assuming a zero "X" factor, or for adopting changes to price cap regulation which would only make logical sense if one were confident that "X" will average out to zero in the future. To better appreciate the flaw in this logic, consider a

simple analogy. It is unclear what interest rates will be in the future, but that does not provide a logical basis for assuming interest rates will drop to zero, or for asking someone to loan you money without charging any interest.

While telephone industry productivity and input cost reductions fluctuate from year to year, they do not generally fluctuate in a range above and below zero, nor is there any evidence that "X" will average out to zero in the future. To the contrary, the achieved level of the "X" factor is normally well above zero, regardless of how one measures it, and on a multi-year basis it has consistently averaged far above zero, as demonstrated in Table 11 above.

Although there have been wide year-to-year fluctuations in "X" throughout the historic record, there is no reason to believe it will now disappear, or decline to zero. During the period from about 1996 through 2001 the industry experienced an unusually rapid decline in costs. This brief burst in productivity translated into higher than typical levels of "X" for a few years. Following this brief, sharp decline in costs, which was not fully passed through to consumers, the industry has been experiencing a few years in which costs are not declining as rapidly as the long term trend. In the subsequent few years, costs have declined more slowly than normal, and therefore "X" has been lower than the long term average, but there is every reason to anticipate it will eventually return to its long-term average.

Q. Would you please discuss the price caps applicable to baskets that offer somewhat greater pricing flexibility?

A. Yes. Under the current and proposed Plans, the Company has either more limited pricing flexibility in the Basic/Essential Non-competitive basket, or near complete pricing freedom in

1 the Flexibly-priced Retail Competitive basket. There is not a basket in either Plan that affords
2 the Company an "in between" measure of pricing flexibility. The Wholesale Services basket,
3 while "in between" in that it is Basket 2, does not afford the Company a significant amount of
4 pricing flexibility, because most services in that basket are "governed by their own specific
5 pricing rules and will continue to be governed by such rules." [Proposed Plan, 3.b.] In
6 RUCO's recommended approach, however, the High Pricing Flexibility Services basket
7 provides an "in between" degree of flexibility.

8 This basket would contain services for which the Company is experiencing a substantial
9 amount of competition, but the competition is currently not intensive enough, or not robust
10 enough, to justify total reliance on competitive forces, and a total absence of regulatory
11 protection. Consistent with this concept, we recommend providing the Company with
12 complete freedom to reduce prices in the High Pricing Flexibility Services basket, and a very
13 substantial amount of freedom to increase prices of these services. However, there would be
14 reasonable limits on the upward pricing freedom, to provide at least a limited amount of
15 protection from potential abuse of any remaining monopoly power the Company may still enjoy
16 in these markets.

17 More specifically, we recommend using a basket-wide revenue cap of two times the
18 yearly change in the GDP-PI, as well as a rate element cap of 25% per year. Thus, Qwest is
19 precluded from rapidly increasing the overall level of rates for these services, but it is free to
20 engage in extensive rate rebalancing within this category.

21 Under RUCO's recommended Plan, services in the High Pricing Flexibility basket
22 would be subject to more rapid rebalancing, since it would be allowed to increase overall rate

levels within this basket by as much as twice the inflation rate, and increases of up to 25% per year are allowed, provided they are offset by decreases in other rates within this basket. If, as RUCO recommends, services are only placed in this basket if they are subject to a substantial level of competition, the Company would be unlikely to fully exercise this upward pricing freedom.

Q. Would you please discuss the rules applying to the Total Pricing Flexibility Services basket?

A. Yes. In the current and proposed Plans the Flexibly-priced Retail Competitive Services basket affords the Company the maximum amount of pricing freedom. The most comparable basket in RUCO's recommended Plan is the Total Pricing Flexibility basket.

In the current Plan, there is a basket-wide cap on rates or revenues for the services in the Flexibly-priced Competitive basket equal to the "weighted average price level of all the services in the Basket as calculated by the formula set forth in subpart (c)." [Current Plan, 4.b.] In the Company's proposed Plan, however, there is no basket-wide cap on rates or revenues in the Flexibly-priced Retail Competitive Services basket. As well, there are no limitations on the magnitude of rate increases which can be imposed on individual services, once they are placed in the Flexibly-priced Retail Competitive basket. In effect, the Company will be free to charge whatever the market will bear. This type of pricing flexibility only makes sense if these services are, in fact, subject to effective competition, as Qwest alleges.

Q. Do you propose any basket-wide or rate element caps for the Total Pricing Flexibility basket?

A. Yes. I propose that rates for services in the Total Pricing Flexibility basket be capped according to the maximum rate provisions of existing Commission rules A.A.C. R14-2-1109 and A.A.C. R14-2-1110. In this regard, RUCO's recommendation is similar to Qwest's proposal. The premise underlying this recommendation is that it will only include services where multiple providers are successfully competing with Qwest, and the Company does not enjoy any significant residual monopoly power in the specified markets. Assuming that competition is sufficiently strong, any attempt by Qwest to impose unjustified rate increases will fail–the net effect will be a further erosion of the Company's market share, and a reduction in its profits, rather than an increase in those profits. And, customers will easily be able to avoid paying the increase rates, by simply switching to a competitor's service. Consistent with this reasoning, there is no logical reason to excessively limit the Company's pricing freedom, assuming market forces are (in fact) strong enough to serve as an adequate substitute for regulation (just as regulation has traditionally been used as a substitute for competition in monopoly markets).

Needless to say, given the lack of any significant constraint on prices, it is imperative for the Commission to closely examine the evidence concerning the actual (not just assumed) competitive status of the services that are placed in this basket.

Q. Has Qwest proposed a specific program of rate rebalancing as part of its proposed Plan?

A. No. The Company has simply indicated that it intends to make "revenue neutral filings for

services within Basket 1." *There are no provisions in* the proposed Plan which set forth specific reductions in access revenues, or increases in other rates.

Q. Has Qwest closed the door on access rate decreases, local rate increases, or other forms of rate rebalancing?

A. No. Mr. Ziegler states:

> For the reasons discussed in Mr. McIntyre's testimony, Qwest is not proposing any further changes to switched access charges at this time. The FCC is presently investigating the entire topic of intercarrier compensation. Several parties are submitting proposals for comprehensive plans for the complete revamping of intercarrier compensation. Since this all-encompassing restructure of intercarrier compensation is imminent, it seems appropriate to wait for that restructure to address access charges.
>
> To the extent that the Commission chooses to order additional reductions in intrastate access charges at this time, such changes must be revenue neutral. As Qwest proposed in its prefiled testimony filed in the Access Docket and in Mr. McIntyre's testimony in this case, if Qwest's intrastate access charges are reduced in this docket, the Commission should implement a subscriber line charge or other end-user charge in an amount sufficient to offset the access reduction. Mr. McIntyre explains the amount of subscriber line charge that would be required to offset a reduction in Qwest's intrastate access rates to the current interstate levels. For each $5 Million reduction in Intrastate access, Qwest would need to receive 20¢ per line in a subscriber line charge. [Ziegler Direct, pp. 14-15]

Q. Qwest and other parties have sometimes advocated increasing local rates in order to reduce switched access rates. Do you agree this type of rebalancing is imperative?

A. No. There is no pressing need to greatly reduce switched access rates, or to dramatically

increase local exchange rates. The claim that basic local residential rates are below cost, and that switched access rates are above cost, is hardly a new argument, nor is a crisis looming if access rates are not reduced. This dispute has a long and controversial history. I have personally been involved in hundreds of regulatory proceedings in which this issue has been vigorously debated, stretching back more than 25 years, and the argument predates that time period. Given the controversial nature of these claims, it is not surprising that Congress included some provisions in the 1996 Telecommunications Act that directly relate to this issue. The Act adds an entirely new section to federal law dealing with Universal Service – Section 254. Within this context, a portion of § 254(k) reads:

> [T]he States, with respect to intrastate services, shall establish any necessary cost allocation rules, accounting safeguards, and guidelines to ensure that services included in the definition of universal service bear no more than a reasonable share of the joint and common costs of facilities used to provide those services. [47 U.S.C. § 254(k) (1996).]

Congress clearly realized the existence of a continuing controversy over whether or not basic local exchange service is provided "below cost" and recognized that the heart of this controversy is the appropriate treatment of joint and common costs. In most cases, claims that basic service is priced below cost (as well as the corresponding claim that switched access is priced above cost) rest upon cost analyses which allocate little or no joint costs to switched access service, and which allocate a disproportionate share (or all) of the joint costs to basic service. The remaining parts of § 254(k) make it clear that the purpose behind these rules, safeguards, and guidelines is to prevent any excess cost burden being placed on basic local

service (as well as any other services that are included within the "universal service" category).

In my experience, virtually every time someone in a regulatory proceeding claims that basic exchange rates are below cost (or that intrastate switched access rates are above cost) these claims are based upon assumptions or cost studies that place more than a reasonable share of the joint and common costs onto basic service. Most typically, they place 100% of the joint loop costs onto basic service; most often, correcting this one error alone is sufficient to demolish the claim that basic service is subsidized, or priced below cost.

In any event, I am somewhat puzzled why Qwest would be anxious to rapidly increase its local exchange rates while making offsetting reductions in its access rates. Qwest claims that its local exchange services are undergoing increased competitive pressures, yet it is asking for greater freedom to increase the prices it charges for these services. Needless to say, competitive pressure–when it actually exists–is almost always in the downward direction. I have trouble visualizing a situation where a firm would be forced to *increase* its prices in order to respond to increasing competitive pressures. In competitive markets firms typically increase their prices in response to cost increases, while they *decrease* rates in response to competitive pressures.

To the extent that Qwest wants greater freedom to raise its basic local exchange prices, this strongly suggests that it continues to enjoy a substantial degree of market power, and that it sees an opportunity to increase rates that are currently below the monopoly profit-maximizing level. By removing the rate element constraints, reducing and reorganizing baskets, and making other changes to its current Plan, Qwest is seeking the opportunity to more fully exploit its market power, and to generate profits that come closer to the levels it could potentially achieve

as a completely unregulated monopolist.

While I question the logic or merits of proposals to greatly reduce switched access rates and increase basic exchange rates, under RUCO's recommended Plan the Company will be allowed to gradually rebalance these rates if it so chooses. RUCO's recommended Plan does not include any constraint on annual reductions in switched access rates, so regardless of where these rates are placed within the recommended Plan, Qwest can reduce these rates as rapidly as it chooses. The extent to which it can offset these reductions with increases in other rates will depend the degree of competition facing switched access services, and thus which basket it is placed into. For instance, nothing in the recommended Plan would prevent the Company from reducing its intrastate switched access rates to levels comparable to those charged in the federal jurisdiction, if for some reason it felt this was desirable (although this would result in reduced profits, if the reduction were to be implemented very rapidly, and there aren't sufficient opportunities to recoup the lost revenues with increases in other rates within the same basket).

C. Rate Design

Q. What are the Company's rate design proposals?

A. In addition to the USF proposals described in section two of my testimony, Qwest proposes the following rate revisions:

1. Elimination of residential and business zone increment charges
2. Elimination or limitation of "older" packages
3. Elimination of the free call allowance for directory assistance (DA) service
4. Increase in the rates for some private line services
5. Changes in the rates for 800 Database Access Service (800 DB)
6. Deregulation of third party Billing and Collection (B&C)

Q. Can you be more specific about the magnitude of these rate changes, as reflected in the Company's revised filing?

A. Yes. Qwest only quantifies the impact of items four and five in the above list. The Company's private line proposals will result in a revenue increase of "just under $748,000 annually." [McIntyre Direct, p. 4] The 800 DB changes will result in a revenue increase of "almost $46,000." [Id., p. 16]

Q. How does Qwest support its rate design proposals?

A. Mr. Teitzel states that the elimination of zone increment charges "will streamline Qwest's local exchange pricing structure." [Teitzel Direct, p. 84] Mr. Ziegler believes this change "will simplify billing and minimize customer confusion." [Ziegler Direct, p. 12] Recall that Qwest has proposed to replace these zone increment charges with draws from the AUSF. I addressed the Company's support for this proposal earlier in my testimony.

Mr. Teitzel also speaks to items two and three in the above list. He believes that eliminating a number of "older" packages "will result in a narrowed package set that is better

focused on the range of features customers desire and will position Qwest's packages more favorably in the competitive market." [Teitzel Direct, p. 100] Mr. Teitzel proposes eliminating the free call allowance for directory assistance service "to alleviate customer confusion resulting from multiple Directory Assistance products and to streamline Qwest's Directory Assistance product line." [Id., p. 94]

Mr. McIntyre provides the Company's reasoning for changing private line and 800 DB rates, as well as the regulatory framework for third part B&C. Regarding private line services, he states

> The demand for these services is declining, relative to other private line services, and they are outdated. Many new services have been introduced that provide the same or better functionality. These services are also costly for Qwest to maintain. In some cases they utilize outdated technology or equipment. The proposed price changes will gain consistency in the rates across all rate elements. [McIntyre Direct, p. 8]

He goes on to explain why he believes the private line market is highly competitive [Id., pp. 11-12]

Mr. McIntyre favors revising 800 DB rates in an effort to "mirror Qwest rates effective in the federal jurisdiction." [Id., p. 16] And he favors deregulation of the Company's B&C service because the market for that service is "robustly competitive." [Id., p. 17]

Q. Does RUCO object to the Company's rate design proposals?

A. For the most part, no, particularly if these rate changes are implemented by Qwest while

working within the price constraints recommended by RUCO. In some cases this may require Qwest to phase-in its rate proposals (e.g. to ensure that rates do not increase by more than 25% per year), but that is not an unreasonable restriction, since it provides customers with additional time to modify their service configuration, or find a competitive alternative.

With regard to the zone increment charges, the existing charges are not sufficient to fully compensate for the higher cost of serving low density, rural areas. That is not to say that I agree with Mr. Teitzel when he states

> Since residential line local exchange rates in UNE Cost Zone 2 and 3 wire centers are below cost, these rates are currently receiving an implicit subsidy, which is not sustainable in a competitive marketplace. Supporting residential rates in these wire centers with AUSF funds will make this subsidy explicit, will protect customers in these areas from dramatic rate increases and ensure continued affordable service in high cost areas, and is competitively neutral. [Teitzel Direct, p. 89]

In section two, I demonstrated that Zone 2 and 3 local exchange rates are not receiving an "implicit subsidy" from any other service. This line of argument, then, is not a proper justification for the Company's Arizona USF proposals, or the corresponding proposals regard zone increments. By the same token, however, profit margins are not as high in rural areas, and in some low density areas the total level of revenues is less than the total cost of providing service to customers in that area. Needless to say, it would not be consistent with the public interest to dramatically increase rates in these low density areas, in an effort to recoup the relatively high cost of serving these areas.

Instead, it would be more appropriate to modify the Arizona USF to allow both the

Company and CLECs to draw from this fund, to the extent they serve customers in these extraordinarily high cost outlying areas. More specifically, RUCO recommends adopting a USF approach similar to the one used in Kansas, as I briefly described in an earlier portion of my testimony.

As for some of Qwest's other rate design proposals, I do not have a problem with the Company's attempt to obsolete, or increase rates for some of its "older" service packages, provided customers are given adequate notice of these changes. I do not believe that customers of those packages will be excessively burdened if they must subscribe "to another Qwest package that meets their individual needs or ... purchase the specific features desired on an ala carte basis." [Id., p. 100]

Similarly, RUCO does not object to Qwest's proposals for revamping its rates for private line services and 800 DB service, provided these changes are accommodated within the framework of RUCO's recommended price cap system. Of course, if it is true that "Qwest's share of the Private Line market in Arizona has experienced steady erosion" [McIntyre Direct, p. 13] I would question the wisdom of greatly increasing these rates. To the extent this is a "highly competitive"market, as Qwest alleges, it should be looking for ways to slash its costs and reduce its rates, rather than increasing them. Nevertheless, it is not unreasonable to allow Qwest the freedom to experiment with various price changes, while working within the various pricing constraints recommended by RUCO.

Q. Can you explain Qwest's directory assistance proposal?

A. Yes. Mr. Teitzel argues that removal of the free call allowance for "traditional Directory

Assistance" will (1) alleviate customer confusion, (2) improve DA administrative efficiency, and (3) enhance the competitive positioning of Qwest's DA product line. [Teitzel Direct, p. 94]

Mr. Teitzel tells us that DA customers are charged the same rate for intraLATA and interLATA DA ($1.15 per call). The only difference in the pricing structure for the two services is that intraLATA DA customers are allowed one free DA call per month. He goes on to argue that "customers typically do not understand distinction between LATAs and the relationship between LATA boundaries and rate structures."

Mr. Teitzel also contends that Qwest's DA customers have an increasing array of alternatives, including use of their wireless service and the Internet to obtain directory listings. Of course, the higher rate will also apply to customers who don't have wireless and internet alternatives. Still, this type of rate change is permissible within the price cap structure recommended by RUCO in this proceeding. In other words, it is not unreasonable to provide management with the discretion of eliminating the free call allowance, provided the revenues generated by this rate change are properly accounted for within the framework of the overall revenue requirement and price constraints that are adopted in this proceeding.

Q. Has Qwest proposed any specific changes to its intrastate switched access rates?

A. Not at this time. Mr. Ziegler states

> Qwest is not proposing any further changes to switched access charges at this time. The FCC is presently investigating the entire topic of intercarrier compensation. Several parties are submitting proposals for comprehensive plans for the complete revamping of intercarrier compensation. Since this all-encompassing restructure of intercarrier

> compensation is imminent, it seems appropriate to wait for that restructure to address access charges. [Ziegler Direct, p. 14]

Qwest has offered a couple contingency plans regarding access, however. First, it states that:

> If the Commission reverses the access charge reduction ordered in Decision No. 66772, Qwest would propose intrastate access charges be reduced by $5 million in this case. Assuming that the proposals Qwest has made for revisions to the Plan are adopted, Qwest would not request any specific rate increase to offset this rate reduction. [Id.]

Second, it discusses a more drastic possibility:

> **Q. WHAT IF THE ARIZONA COMMISSION WISHES TO PROCEED WITH SWITCHED ACCESS REFORM EVEN THOUGH THE FCC MAY MOVE AHEAD WITH A COMPREHENSIVE RESTRUCTURE?**
>
> A. In that case, Qwest will ask the Commission to provide a plan on how to recover the revenue currently provided by Switched Access. If, for example, intrastate Switched Access rates are reduced to interstate levels and the revenue recovery is shifted to residential rate payers, the impact will be a rate increase of about $1.00 per month per residential access line. [McIntyre Direct, p. 15]

To the extent the Company wants to restructure intrastate access rates to be more closely aligned with the corresponding interstate rates, it can takes steps in that direction, while working within the confines of the pricing freedom offered by RUCO's recommended price cap plan. The general trend in telecommunications costs and rates is downward, and it is not unreasonable for the interexchange carriers and their customers to share in the benefits of this

downward trend (e.g. by reducing switched access rates without necessarily increasing other rates by the same dollar amount).

If the Commission wants to go farther, and it wants to greatly reduce or eliminate intrastate switched access rates, I recommend this be accomplished as part of a comprehensive expansion of the Arizona Universal Service Fund, similar to the manner in which intrastate access rates were reduced or eliminated in Kansas. In that state, the state's Universal Service Fund has largely replaced intrastate switched access charges, and this change was accomplished in a manner that encourages more effective competition in rural areas.

Q. Does this conclude your direct testimony which was prefiled on November 18, 2004?

A. Yes, it does.

Appendix A

Qualifications

Present Occupation

Q. What is your present occupation?

A. I am a consulting economist and President of Ben Johnson Associates, Inc.®, a firm of economic and analytic consultants specializing in the area of public utility regulation.

Educational Background

Q. What is your educational background?

A. I graduated with honors from the University of South Florida with a Bachelor of Arts degree in Economics in March 1974. I earned a Master of Science degree in Economics at Florida State University in September 1977. The title of my Master's Thesis is a "A Critique of Economic Theory as Applied to the Regulated Firm." Finally, I graduated from Florida State University in April 1982 with the Ph.D. degree in Economics. The title of my doctoral dissertation is "Executive Compensation, Size, Profit, and Cost in the Electric Utility Industry."

Clients

Q. What types of clients employ your firm?

A Much of our work is performed on behalf of public agencies at every level of government involved in utility regulation. These agencies include state regulatory commissions, public counsels, attorneys general, and local governments, among

others. We are also employed by various private organizations and firms, both regulated and unregulated. The diversity of our clientele is illustrated below.

Regulatory Commissions

Alabama Public Service Commission—Public Staff for Utility Consumer Protection
Alaska Public Utilities Commission
Arizona Corporation Commission
Arkansas Public Service Commission
Connecticut Department of Public Utility Control
District of Columbia Public Service Commission
Idaho Public Utilities Commission
Idaho State Tax Commission
Iowa Department of Revenue and Finance
Kansas State Corporation Commission
Maine Public Utilities Commission
Minnesota Department of Public Service
Missouri Public Service Commission
National Association of State Utility Consumer Advocates
Nevada Public Service Commission
New Hampshire Public Utilities Commission
North Carolina Utilities Commission—Public Staff
Oklahoma Corporation Commission
Ontario Ministry of Culture and Communications
Staff of the Delaware Public Service Commission
Staff of the Georgia Public Service Commission
Texas Public Utilities Commission
Virginia State Corporation Commission
Washington Utilities and Transportation Commission
West Virginia Public Service Commission—Division of Consumer Advocate
Wisconsin Public Service Commission
Wyoming Public Service Commission

Public Counsels

Arizona Residential Utility Consumers Office
Colorado Office of Consumer Counsel
Colorado Office of Consumer Services
Connecticut Consumer Counsel
District of Columbia Office of People's Counsel
Florida Public Counsel
Georgia Consumers' Utility Counsel
Hawaii Division of Consumer Advocacy
Illinois Small Business Utility Advocate Office
Indiana Office of the Utility Consumer Counselor
Iowa Consumer Advocate
Maryland Office of People's Counsel
Minnesota Office of Consumer Services
Missouri Public Counsel
New Hampshire Consumer Counsel
Ohio Consumer Counsel
Pennsylvania Office of Consumer Advocate
Utah Department of Business Regulation—Committee of Consumer Services

Attorneys General

Arkansas Attorney General
Florida Attorney General—Antitrust Division
Idaho Attorney General
Kentucky Attorney General
Michigan Attorney General
Minnesota Attorney General
Nevada Attorney General's Office of Advocate for Customers of Public Utilities
South Carolina Attorney General

Utah Attorney General
Virginia Attorney General
Washington Attorney General

Local Govemments

City of Austin, TX
City of Corpus Christi, TX
City of Dallas, TX
City of El Paso, TX
City of Galveston, TX
City of Norfolk, VA
City of Phoenix, AZ
City of Richmond, VA
City of San Antonio, TX
City of Tucson, AZ
County of Augusta, VA
County of Henrico, VA
County of York, VA
Town of Ashland, VA

Town of Blacksburg, VA
Town of Pecos City, TX

Other Government Agencies

Canada—Department of Communications
Hillsborough County Property Appraiser
Provincial Governments of Canada
Sarasota County Property Appraiser
State of Florida—Department of General Services
United States Department of Justice—Antitrust Division

Utah State Tax Commission

Regulated Firms

Alabama Power Company
Americall LDC, Inc.
BC Rail
CommuniGroup
Florida Association of Concerned Telephone Companies, Inc.
LDDS Communications, Inc.
Louisiana/Mississippi Resellers Association
Madison County Telephone Company
Montana Power Company
Mountain View Telephone Company
Nevada Power Company
Network I, Inc.
North Carolina Long Distance Association
Northern Lights Public Utility
Otter Tail Power Company
Pan-Alberta Gas, Ltd.
Resort Village Utility, Inc.
South Carolina Long Distance Association
Stanton Telephone
Teleconnect Company
Tennessee Resellers' Association
Westel Telecommunications
Yelcot Telephone Company, Inc.

Other Private Organizations

Arizona Center for Law in the Public Interest
Black United Fund of New Jersey
Casco Bank and Trust
Coalition of Boise Water Customers
Colorado Energy Advocacy Office
East Maine Medical Center
Georgia Legal Services Program
Harris Corporation
Helca Mining Company
Idaho Small Timber Companies
Independent Energy Producers of Idaho
Interstate Securities Corporation
J.R. Simplot Company
Merrill Trust Company
MICRON Semiconductor, Inc.
Native American Rights Fund
PenBay Memorial Hospital
Rosebud Enterprises, Inc.
Skokomish Indian Tribe
State Farm Insurance Company
Twin Falls Canal Company
World Center for Birds of Prey

Prior Experience

Q. Before becoming a consultant, what was your employment experience?

A. From August 1975 to September 1977, I held the position of Senior Utility Analyst with Office of Public Counsel in Florida. From September 1974 until August 1975, I held the position of Economic Analyst with the same office. Prior

to that time, I was employed by the law firm of Holland and Knight as a corporate legal assistant.

Q. In how many formal utility regulatory proceedings have you been involved?

A. As a result of my experience with the Florida Public Counsel and my work as a consulting economist, I have been actively involved in approximately 400 different formal regulatory proceedings concerning electric, telephone, natural gas, railroad, and water and sewer utilities.

Q. Have you done any independent research and analysis in the field of regulatory economics?

A. Yes, I have undertaken extensive research and analysis of various aspects of utility regulation. Many of the resulting reports were prepared for the internal use of the Florida Public Counsel. Others were prepared for use by the staff of the Florida Legislature and for submission to the Arizona Corporation Commission, the Florida Public Service Commission, the Canadian Department of Communications, and the Provincial Governments of Canada, among others. In addition, as I already mentioned, my Master's thesis concerned the theory of the regulated firm.

Q. Have you testified previously as an expert witness in the area of public utility regulation?

A. Yes. I have provided expert testimony on more than 250 occasions in proceedings before state courts, federal courts, and regulatory commissions throughout the United States and in Canada. I have presented or have pending expert testimony before 35 state commissions, the Interstate Commerce Commission, the Federal Communications Commission, the District of Columbia Public Service

Commission, the Alberta, Canada Public Utilities Board, and the Ontario Ministry of Culture and Communication.

Q. What types of companies have you analyzed?

A. My work has involved more than 425 different telephone companies, covering the entire spectrum from AT&T Communications to Stanton Telephone, and more than 55 different electric utilities ranging in size from Texas Utilities Company to Savannah Electric and Power Company. I have also analyzed more than 30 other regulated firms, including water, sewer, natural gas, and railroad companies.

Teaching and Publications

Q. Have you ever lectured on the subject of regulatory economics?

A. Yes, I have lectured to undergraduate classes in economics at Florida State University on various subjects related to public utility regulation and economic theory. I have also addressed conferences and seminars sponsored by such institutions as the National Association of Regulatory Utility Commissioners (NARUC), the Marquette University College of Business Administration, the Utah Division of Public Utilities and the University of Utah, the Competitive Telecommunications Association (COMPTEL), the International Association of Assessing Officers (IAAO), the Michigan State University Institute of Public Utilities, the National Association of State Utility Consumer Advocates (NASUCA), the Rural Electrification Administration (REA), North Carolina State University, and the National Society of Rate of Return Analysts.

Q. Have you published any articles concerning public utility regulation?

A. Yes, I have authored or co-authored the following articles and comments:

"Attrition: A Problem for Public Utilities—Comment." *Public Utilities Fortnightly,* March 2, 1978, pp. 32-33.

"The Attrition Problem: Underlying Causes and Regulatory Solutions." *Public Utilities Fortnightly,* March 2, 1978, pp. 17-20.

"The Dilemma in Mixing Competition with Regulation." *Public Utilities Fortnightly,* February 15, 1979, pp. 15-19.

"Cost Allocations: Limits, Problems, and Alternatives." *Public Utilities Fortnightly,* December 4, 1980, pp. 33-36.

"AT&T is Wrong." *The New York Times,* February 13, 1982, p. 19.

"Deregulation and Divestiture in a Changing Telecommunications Industry," with Sharon D. Thomas. *Public Utilities Fortnightly*, October 14, 1982, pp. 17-22.

"Is the Debt-Equity Spread Always Positive?" *Public Utilities Fortnightly,* November 25, 1982, pp. 7-8.

"Working Capital: An Evaluation of Alternative Approaches." *Electric Rate-Making,* December 1982/January 1983, pp. 36-39.

"The Staggers Rail Act of 1980: Deregulation Gone Awry," with Sharon D. Thomas. *West Virginia Law Review,* Coal Issue 1983, pp. 725-738.

"Bypassing the FCC: An Alternative Approach to Access Charges." *Public Utilities Fortnightly*, March 7, 1985, pp. 18-23.

"On the Results of the Telephone Network's Demise—Comment," with Sharon D. Thomas. *Public Utilities Fortnightly*, May 1, 1986, pp. 6-7.

"Universal Local Access Service Tariffs: An Alternative Approach to Access Charges." In *Public Utility Regulation in an Environment of Change,* edited by Patrick C. Mann and Harry M. Trebing, pp. 63-75. Proceedings of the Institute of Public Utilities Seventeenth Annual Conference. East Lansing, Michigan: Michigan State University Public Utilities Institute, 1987.

With E. Ray Canterbery. Review of *The Economics of Telecommunications: Theory and Policy* by John T. Wenders. *Southern Economic Journal* 54.2 (October 1987).

"The Marginal Costs of Subscriber Loops," A Paper Published in the Proceedings of the Symposia on Marginal Cost Techniques for Telephone Services. The National Regulatory Research Institute, July 15-19, 1990 and August 12-16, 1990.

With E. Ray Canterbery and Don Reading. "Cost Savings from Nuclear Regulatory Reform: An Econometric Model." *Southern Economic Journal,* January 1996.

1 ***Professional Memberships***

2

3 **Q. Do you belong to any professional societies?**

4 A. Yes. I am a member of the American Economic Association.

5

PROPRIETARY EXHIBIT 1

for the

TESTIMONY

OF BEN JOHNSON, PH.D.

On Behalf of

THE STATE OF ARIZONA

RESIDENTIAL UTILITY CONSUMER OFFICE

Before the

ARIZONA CORPORATION COMMISSION

Docket No. T-01051B-03-0454

Docket No. T-00000D-00-0672

Note 1: Multiple proprietary notes on the same line are noted by a, b, c, etc.

Note 2: Proprietary tables in their entirety will follow this list.

Page	Line(s)	Proprietary Information

Page	Line(s)	Proprietary Information

Table 1
Pure TSLRIC Approach
****Proprietary****

Customer Category	Local Direct Revenues	Local Direct Costs	Contribution	Contribution Percent
Residential				
Zone 1				
Zone 2				
Zone 3				
Statewide				
Business				
Zone 1				
Zone 2				
Zone 3				
Statewide				

Table 3
Matrix of Revenue-cost Comparisons for
UNE Zone 1 Residential Mid-Toll Users
****Proprietary****

Feature Revenues	Total Revenue	Total Costs	Contribution (Subsidy)
Example 1: $ 0.00			
Example 2: $ 2.50			
Example 3: $ 5.00			
Example 4: $ 9.25			
Example 5: $12.05			

Table 7
CLEC Market Share as of December 31, 2003
per Qwest data
*****Proprietary*****

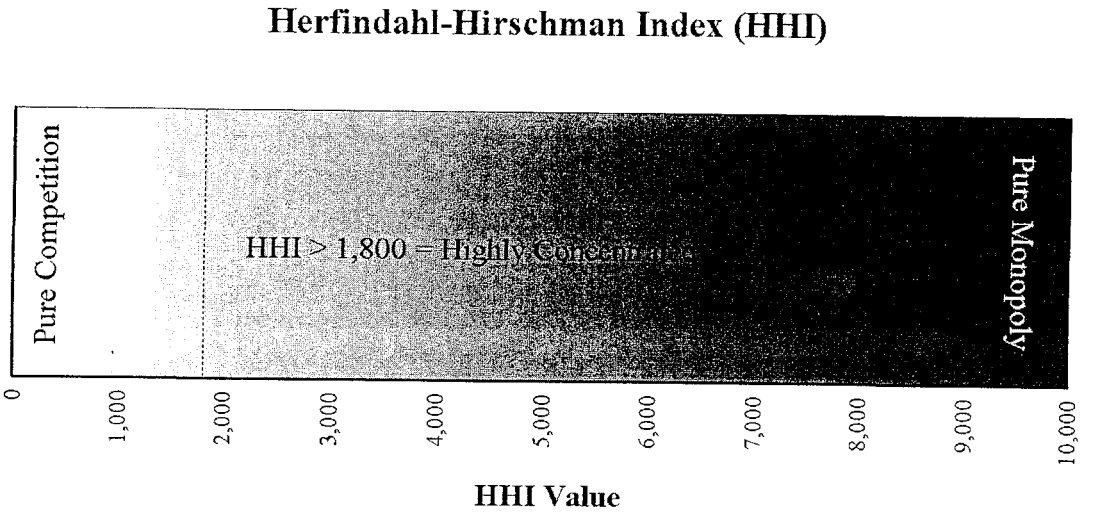
	Total	**Business**	**Residential**
CLEC market share in Qwest's Area			

Table 10
Competitive Activity in
Qwest's Service Area
*****Proprietary*****

	CLEC Total Market Share	**UNE-L/EEL**	**UNE-P**	**Resale**	**Facilities-Based**
Entire Qwest Area					
Qwest Competitive Zones					

EXHIBIT 2

Graph 3



Graph 4

Pure TSLRIC Subsidy Analysis

Qwest - 2003 Revenues

Description	Revenues	Costs		
	Local	Local Direct	Common @ 10.4%	Contribution (Subsidy)
Residential Service				
Zone 1				
Zone 2				
Zone 3				
Statewide Average				
Business Service				
Zone 1				
Zone 2				
Zone 3				
Statewide Average				

Subsidy Analysis with Allocations

Qwest - 2003 Revenues

Description	Revenues Local	Costs Local Direct	Joint @ 50.0%	Common @ 0.104	Contribution (Subsidy)
Residential Service					
Zone 1					
Zone 2					
Zone 3					
Statewide Average					
Business Service					
Zone 1					
Zone 2					
Zone 3					
Statewide Average					

Subsidy Analysis with Multiple Services

Low Toll Users

Description	Revenues: Local	Revenues: Other	Costs: Local Direct	Costs: Other Direct	Costs: Joint @ 100.0%	Costs: Common @ 10.4%	Contribution (Subsidy)
Residential Service							
Zone 1							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Zone 2							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Zone 3							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Statewide Average							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							

Subsidy Analysis with Multiple Services

Mid Toll Users

	------Revenues------		----------Costs----------				
Description	Local	Other	Local Direct	Other Direct	Joint @ 100.0%	Common @ 10.4%	Contribution (Subsidy)
Residential Service							
Zone 1							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Zone 2							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Zone 3							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Statewide Average							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							

Subsidy Analysis with Multiple Services

High Toll Users

	------Revenues------		----------Costs----------				
Description	Local	Other	Local Direct	Other Direct	Joint @ 100.0%	Common @ 10.4%	Contribution (Subsidy)
Residential Service							
Zone 1							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Zone 2							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Zone 3							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							
Statewide Average							
Feature Revenues							
$0.00							
$2.50							
$5.00							
$9.25							
$12.05							

Residential Local Exchange Service Competition in Qwest Wire Centers

Sorted by Qwest Market Share

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
PHNXAZMA	PHOENIX-MAIN			
TCSNAZMA	TUCSON-MAIN			
PHNXAZBW	PHOENIX-BETHANY WEST			
PHNXAZSE	PHOENIX-SOUTHEAST			
PHNXAZ81	PHOENIX-FOOTHILLS			
AGFIAZSR	SUNRISE			
TCSNAZFW	FLOWING-WELLS			
TCSNAZSE	TUCSON SE			
CSGRAZMA	CASA GRANDE			
PHNXAZPP	PHOENIX-PECOS			
GDYRAZCW	COLDWATER			
PHNXAZNO	PHOENIX-NORTH			
SCDLAZSH	SHEA			
TEMPAZMC	TEMPE-MCCLINTOCK			
PHNXAZMY	PHOENIX-MARYVALE			
MESAAZGI	GILBERT			
PHNXAZMR	PHOENIX-MID RIVERS			
PHNXAZPR	PHOENIX-PEORIA			
CHNDAZWE	CHANDLER-WEST			
PHNXAZEA	PHOENIX-EAST			
YUMAAZMA	YUMA-MAIN			
TCSNAZCR	CRAYCROFT			
YUMAAZSE	YUMA-SOUTHEAST			
TCSNAZRN	RINCON			
SPRSAZWE	SUPERSTITION-WEST			
CHNDAZMA	CHANDLER-MAIN			
LTPKAZMA	LITCHFIELD PARK			
BRDSAZMA	BEARDSLEY			
PHNXAZNW	PHOENIX-NORTHWEST			
GLDLAZMA	GLENDALE-MAIN			
CHNDAZSO	CHANDLER-SOUTH			
TCSNAZNO	TUCSON-NORTH			
SCDLAZMA	SCOTTSDALE			
PHNXAZWE	PHOENIX-WEST			
PHNXAZCA	PHOENIX-CACTUS			
TEMPAZMA	TEMPE-MAIN			
SPRSAZMA	SUPERSTITION-MAIN			
MESAAZMA	MESA-MAIN			
PHNXAZGR	PHOENIX-GREENWAY			
TCSNAZCO	CORTARO			
TCSNAZSO	TUCSON-SOUTH			

Residential Local Exchange Service Competition in Qwest Wire Centers

Sorted by Qwest Market Share

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
TCSNAZCA	CATALINA			
TCSNAZEA	TUCSON-EAST			
DRVYAZNO	DEER VALLEY NORTH			
PHNXAZSO	PHOENIX-SOUTH			
PAGEAZMA	PAGE			
PRSCAZMA	PRESCOTT MAIN			
CRNDAZMA	CORONADO			
FLGSAZEA	FLAGSTAFF EAST			
PRVYAZPP	PINNACLE PEAK			
SCDLAZTH	THUNDERBIRD			
PHNXAZNE	PHOENIX-NORTHEAST			
TLSNAZMA	TOLLESON			
TCSNAZTV	TANQUE VERDE			
PHNXAZSY	PHOENIX-SUNNYSLOPE			
GLOBAZMA	GLOBE			
FLGSAZMA	FLAGSTAFF MAIN			
YUMAAZFT	YUMA FORTUNA			
GNVYAZMA	GREEN VALLEY			
SPRSAZEA	SUPERSTITION-EAST			
FTMDAZMA	FORT MCDOWELL			
CVCKAZMA	CAVE CREEK			
CTWDAZSO	COTTONWOOD-SOUTH			
SRVSAZMA	SIERRA VISTA-MN			
HGLYAZMA	HIGLEY			
PYSNAZMA	PAYSON			
PRSCAZEA	PRESCOTT EAST			
NGLSAZMA	NOGALES			
SEDNAZMA	SEDONA-MAIN			
HGLYAZQC	HGLY QUEEN CREEK			
SEDNAZSO	SEDONA-SOUTH			
NGLSAZMW	NOGALES MIDWAY			
TCSNAZWE	TUCSON WEST			
CHVYAZMA	CHINO VALLEY			
VAILAZSO	VAIL SOUTH			
NWRVAZMA	NEW RIVER			
PHNXAZLV	PHOENIX-LAVEEN			
TCSNAZSW	TUCSON SOUTHWEST			
CTWDAZMA	COTTONWOOD-MAIN			
MRCPAZMA	MARICOPA			
HMBLAZMA	HUMBOLDT			
CRCYAZMA	CIRCLE CITY			

Residential Local Exchange Service Competition in Qwest Wire Centers

Sorted by Qwest Market Share

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
STFDAZMA	STANFIELD			
WNSLAZMA	WINSLOW			
WNBGAZ01	WINTERSBURG			
SNMNAZMA	SAN MANUEL			
ELOYAZ01	ELOY			
CLDGAZMA	COOLIDGE			
MARNAZMA	MARANA			
MSPKAZMA	MUNDS PARK			
SRVSAZNO	SIERRA VISTA NO			
SPRRAZMA	SUPERIOR			
WLCXAZMA	WILLCOX			
TUBCAZMA	TUBAC			
BCKYAZMA	BUCKEYE			
BNSNAZMA	BENSON			
WHTKAZMA	WHITE TANKS			
MIAMAZMA	MIAMI			
DDVLAZNM	DUDLEYVILLE			
JSCYAZMA	JOSEPH CITY			
FLRNAZMA	FLORENCE			
TMBSAZMA	TOMBSTONE			
YRNLAZMA	YARNELL			
PIMAAZMA	PIMA			
BLCNAZMA	BLACK CANYON			
DGLSAZMA	DOUGLAS			
PLMNAZMA	PALOMINAS			
CMVRAZMA	CAMP VERDE			
VAILAZNO	VAIL NORTH			
SMTNAZMA	SOMERTON			
ORCLAZMA	ORACLE			
WLTNAZMA	WELLTON			
SFFRAZMA	SAFFORD			
BNSNAZSD	SAINT DAVID			
TNCKAZMA	TONTO CREEK			
FLGSAZSO	FLAGSTAFF SOUTH			
SRVSAZSO	SIERRA VISTA SO			
FTMDAZNO	RIO VERDE			
BISBAZMA	BISBEE			
MMTHAZMA	MAMMOTH			
WLMSAZMA	WILLIAMS			
PINEAZMA	PINE			
GLBNAZMA	GILA BEND			

Residential Local Exchange Service Competition in Qwest Wire Centers

Sorted by Qwest Market Share

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
KRNYAZMA	KEARNY			
ASFKAZMA	ASHFORK			
WCBGAZMA	WICKENBURG			
GRCNAZMA	GRAND CANYON			
HYDNAZMA	HAYDEN			
PTGNAZEL	PATOGONIA ELGIN			
PTGNAZMA	PATAGONIA			
TCSNAZML	MOUNT LEMMON			
WHTLAZMA	WHITLOW			

Business Local Exchange Service Competition in Qwest Wire Centers

Sorted by HHI

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
PHNXAZMA	PHOENIX-MAIN			
PHNXAZPP	PHOENIX-PECOS			
TCSNAZSW	TUCSON SOUTHWEST			
PHNXAZ81	PHOENIX-FOOTHILLS			
HGLYAZMA	HIGLEY			
TCSNAZMA	TUCSON-MAIN			
TCSNAZTV	TANQUE VERDE			
SEDNAZMA	SEDONA-MAIN			
SPRSAZMA	SUPERSTITION-MAIN			
CSGRAZMA	CASA GRANDE			
HGLYAZQC	HGLY QUEEN CREEK			
SRVSAZSO	SIERRA VISTA SO			
PHNXAZCA	PHOENIX-CACTUS			
VAILAZSO	VAIL SOUTH			
MSPKAZMA	MUNDS PARK			
HMBLAZMA	HUMBOLDT			
CVCKAZMA	CAVE CREEK			
FTMDAZMA	FORT MCDOWELL			
YUMAAZFT	YUMA FORTUNA			
PHNXAZMY	PHOENIX-MARYVALE			
NWRVAZMA	NEW RIVER			
GLDLAZMA	GLENDALE-MAIN			
PHNXAZPR	PHOENIX-PEORIA			
PHNXAZGR	PHOENIX-GREENWAY			
SPRSAZEA	SUPERSTITION-EAST			
FLGSAZEA	FLAGSTAFF EAST			
SCDLAZSH	SHEA			
CTWDAZMA	COTTONWOOD-MAIN			
PHNXAZNW	PHOENIX-NORTHWEST			
PRVYAZPP	PINNACLE PEAK			
SPRSAZWE	SUPERSTITION-WEST			
PHNXAZSO	PHOENIX-SOUTH			
PHNXAZLV	PHOENIX-LAVEEN			
CHNDAZMA	CHANDLER-MAIN			
MESAAZGI	GILBERT			
CHVYAZMA	CHINO VALLEY			
TCSNAZCO	CORTARO			
GDYRAZCW	COLDWATER			
TEMPAZMC	TEMPE-MCCLINTOCK			
MESAAZMA	MESA-MAIN			
CHNDAZSO	CHANDLER-SOUTH			

Business Local Exchange Service Competition in Qwest Wire Centers

Sorted by HHI

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
LTPKAZMA	LITCHFIELD PARK			
TCSNAZCA	CATALINA			
BRDSAZMA	BEARDSLEY			
PRSCAZMA	PRESCOTT MAIN			
CRNDAZMA	CORONADO			
NGLSAZMW	NOGALES MIDWAY			
TCSNAZNO	TUCSON-NORTH			
SRVSAZMA	SIERRA VISTA-MN			
AGFIAZSR	SUNRISE			
PHNXAZMR	PHOENIX-MID RIVERS			
PHNXAZSY	PHOENIX-SUNNYSLOPE			
PHNXAZNO	PHOENIX-NORTH			
TCSNAZSE	TUCSON SE			
PHNXAZNE	PHOENIX-NORTHEAST			
YUMAAZSE	YUMA-SOUTHEAST			
PHNXAZWE	PHOENIX-WEST			
SCDLAZMA	SCOTTSDALE			
SCDLAZTH	THUNDERBIRD			
TEMPAZMA	TEMPE-MAIN			
TCSNAZFW	FLOWING-WELLS			
GNVYAZMA	GREEN VALLEY			
CHNDAZWE	CHANDLER-WEST			
FLGSAZMA	FLAGSTAFF MAIN			
PYSNAZMA	PAYSON			
TCSNAZRN	RINCON			
PHNXAZBW	PHOENIX-BETHANY WEST			
BCKYAZMA	BUCKEYE			
YUMAAZMA	YUMA-MAIN			
TCSNAZEA	TUCSON-EAST			
DRVYAZNO	DEER VALLEY NORTH			
TMBSAZMA	TOMBSTONE			
PHNXAZSE	PHOENIX-SOUTHEAST			
PHNXAZEA	PHOENIX-EAST			
TCSNAZSO	TUCSON-SOUTH			
TCSNAZCR	CRAYCROFT			
TLSNAZMA	TOLLESON			
SRVSAZNO	SIERRA VISTA NO			
BLCNAZMA	BLACK CANYON			
GLOBAZMA	GLOBE			
SEDNAZSO	SEDONA-SOUTH			
PTGNAZEL	PATOGONIA ELGIN			

Business Local Exchange Service Competition in Qwest Wire Centers

Sorted by HHI

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
MIAMAZMA	MIAMI			
CRCYAZMA	CIRCLE CITY			
ELOYAZ01	ELOY			
PLMNAZMA	PALOMINAS			
PAGEAZMA	PAGE			
PRSCAZEA	PRESCOTT EAST			
WLMSAZMA	WILLIAMS			
PINEAZMA	PINE			
NGLSAZMA	NOGALES			
GLBNAZMA	GILA BEND			
CTWDAZSO	COTTONWOOD-SOUTH			
TNCKAZMA	TONTO CREEK			
WNSLAZMA	WINSLOW			
MMTHAZMA	MAMMOTH			
MRCPAZMA	MARICOPA			
CLDGAZMA	COOLIDGE			
BNSNAZSD	SAINT DAVID			
BNSNAZMA	BENSON			
WCBGAZMA	WICKENBURG			
SFFRAZMA	SAFFORD			
SMTNAZMA	SOMERTON			
TUBCAZMA	TUBAC			
CMVRAZMA	CAMP VERDE			
WNBGAZ01	WINTERSBURG			
VAILAZNO	VAIL NORTH			
BISBAZMA	BISBEE			
DGLSAZMA	DOUGLAS			
STFDAZMA	STANFIELD			
PIMAAZMA	PIMA			
GRCNAZMA	GRAND CANYON			
ASFKAZMA	ASHFORK			
WLTNAZMA	WELLTON			
WLCXAZMA	WILLCOX			
TCSNAZWE	TUCSON WEST			
FTMDAZNO	RIO VERDE			
HYDNAZMA	HAYDEN			
WHTKAZMA	WHITE TANKS			
SPRRAZMA	SUPERIOR			
YRNLAZMA	YARNELL			
PTGNAZMA	PATAGONIA			
ORCLAZMA	ORACLE			

Business Local Exchange Service Competition in Qwest Wire Centers

Sorted by HHI

CLLI	Wire Center	Qwest Market Share	4-firm Concentration Ratio	HHI
MARNAZMA	MARANA			
FLGSAZSO	FLAGSTAFF SOUTH			
JSCYAZMA	JOSEPH CITY			
FLRNAZMA	FLORENCE			
TCSNAZML	MOUNT LEMMON			
KRNYAZMA	KEARNY			
SNMNAZMA	SAN MANUEL			
WHTLAZMA	WHITLOW			
DDVLAZNM	DUDLEYVILLE			

PROPRIETARY EXHIBITS

RUCO 11

Testimony of

Ben Johnson, Ph.D.

(Pages 1 – 19)

EXHIBIT
RUCO-12
admitted

IN THE MATTER OF QWEST CORPORATION'S
FILING OF RENEWED PRICE REGULATION PLAN

DOCKET NO. T-01051B-03-0454

and

IN THE MATTER OF THE INVESTIGATION OF
THE COST OF TELECOMMUNICATIONS ACCESS

DOCKET NO. T-00000D-00-0672

SURREBUTTAL TESTIMONY

OF

DR. BEN JOHNSON
(REDACTED)

ON BEHALF OF THE

RESIDENTIAL UTILITY CONSUMER OFFICE

JANUARY 12, 2005

TESTIMONY

OF BEN JOHNSON, PH.D.

On Behalf of

THE STATE OF ARIZONA

RESIDENTIAL UTILITY CONSUMER OFFICE

Before the

ARIZONA CORPORATION COMMISSION

Docket No. T-01051B-03-0454

Docket No. T-00000D-00-0672

Introduction

Q. Would you please state your name and address?

A. Ben Johnson, 2252 Killearn Center Boulevard, Tallahassee, Florida 32309.

Q. What is your purpose in submitting this testimony?

A. In this surrebuttal testimony I will be responding to certain portions of the rebuttal testimony of Qwest witnesses Harry Shooshan and David Teitzel. I will also be commenting on positions taken by certain intervenor witnesses concerning issues discussed in my direct testimony. The fact that I do not discuss other portions of the testimony of these witnesses, or the positions taken by other witnesses, should not be construed as agreement with such undiscussed testimony.

Q. Would you please explain how your surrebuttal testimony is organized, and briefly summarize its major elements?

A. Yes. Following this introduction, my testimony has two major sections. The first section contains a response to rebuttal arguments proffered by Qwest witnesses Shooshan and Teitzel. I respond to the arguments made concerning appropriate measures of competition and the degree to which intramodal competition can justify Qwest's petition for greater pricing flexibility under its Arizona Price Regulation Plan (the current Plan). I will also address cost recovery as it pertains to Qwest's need for greater pricing flexibility. In addition, I will respond to Qwest's critiques of RUCO's proposed Price Regulation Plan (the recommended Plan) and the role that productivity, if any, should play in such a Plan.

The second section contains a response to arguments proffered by Cox Arizona Telcom, L.L.C. (Cox), MCI, Inc. (MCI), The United States Department of Defense (DoD), and the Utilities Division (Staff) of the Arizona Corporation Commission (Commission). As in my response to Qwest's rebuttal arguments, in this section I will examine some of these parties' positions on the status of competition in Arizona markets as well as their recommendations for current Plan modifications. Finally, I will critique some of these parties' positions on the appropriate use of the Arizona Universal Service Fund (AUSF) and switched access rate reductions.

Qwest

Q. In its direct testimony, did Qwest attribute much significance to the issue of competition, as it pertained to the Company's proposed revisions to its current Plan?

A. Yes. Mr. Teitzel described competition as the impetus behind the proposed revisions.

> It is imperative that the implications of the dynamic competitive environment in Arizona be recognized in the manner in which Qwest's rates are established and in relaxing regulatory guidelines where competition is now thriving. [Teitzel Direct, p. ii]

Q. Did the Company attempt to describe the competitive landscape in Arizona?

A. Yes. In addition to describing it as "dynamic" in the previous quote, Mr. Teitzel devotes over fifty pages of his direct testimony to describing the activities and successes of carriers he considers Qwest's competitors. After reading this discussion, one is left with the impression that Qwest is facing significant competitive pressures across its Arizona serving area.

Q. Did you present an alternate view of the competitive landscape in your direct testimony?

A. Yes. I painted a picture that was not so rosy. Namely, high barriers to entry still exist for carriers wishing to enter the market. This is evidenced by the relatively high market shares still enjoyed by Qwest across much of its territory, and the high 4-firm concentration ratios and Herfindahl-Hirschmann Indices (HHIs) seen in Qwest wire centers. Further, market abandonment by some major carriers and potential reduction in UNE availability going forward

may slow or reverse the trend toward increased competition.

Q. Have any of the other intervenors painted a similar picture?

A. Yes. Cox witness Lafferty also disputes Qwest's view of the competitive landscape.

> Qwest continues to serve the majority of customers in the state with recent trends suggesting the spread of competition is decreasing. ... Recent regulatory and legal decisions and other trends suggest competition for Qwest's basic wireline services will decrease -- not increase -- in the near future. [Lafferty Direct, p. 3]

Time Warner Telecom of Arizona LLC witness Gates takes a similar position.

> Qwest has overstated the extent to which it is subject to competition in Arizona. ... Qwest maintains dominance in Arizona. In addition, Qwest continues to benefit from its position as the monopoly provider of special access services, which allows it to realize monopoly profits and to control the strength and viability of its competitors. [Gates Direct, p. 3]

Staff witness Fimbres also takes a similar position.

> While some wire centers have all four forms of competition (resale, UNE-L, UNE-P & facilities bypass), the competitive gains in the nearly 9 year window since the 96 Telecom Act was passed highlight slow progress with little to support that acceleration is imminent. ... While the tariffs illustrate opportunities for broad residence and business local exchange service competition, the available evidence indicates that most of the 10 CLECs identified by Qwest are focused on providing business services. Only Cox appears to have a major emphasis on residence service. Only Cox appears to be committed to wide-spread, residential, facilities-based competition, the only form of local exchange

> service provisioning that allows for full local exchange service differentiation. [Fimbres Direct, pp. 11, 12]

Q. How did Qwest respond to your competitive picture?

A. Qwest's witnesses criticized the manner in which I measure competition and the manner in which I dealt with intramodal competition.

Q. Would you please outline Qwest's first criticism?

A. Yes. Mr. Teitzel states in his rebuttal testimony:

> The term "effective competition" does not appear in any Arizona rule or statute that is relevant to this docket. ... The term "effective competition" is not only missing from the Commission's rules, it is a term that may have multiple meanings. One such meaning is that effective competition is where there are no barriers of entry and the costs of entry are not excessive. That describes the current state of the telephony market in Arizona. [Teitzel Rebuttal, p. 67]

Even if the term "effective competition" doesn't appear in any Arizona rule or statute, that doesn't preclude this concept from being useful. If the term "effective competition" suffers from having multiple meanings, that problem is even more severe with respect to the word "competition" standing alone. All real-world markets involve some degree of competition, even those where a single provider serves 100% of the customers and no other providers are capable of providing the service or product in question (a pure monopoly), because alternatives always exist. For instance, a water utility fits the classic definition of a pure monopolist, yet it faces vigorous "competition" from numerous firms selling bottled watered.

As I stated in my direct testimony,

> Although economists recognize that full competition remains an unrealized ideal in our economy, the high levels of efficiency and equity achieved under effective competition have long been a primary justification of America's free enterprise or market-directed system. [Johnson Direct, p. 79]

I find it interesting that Mr. Teitzel attempts to invalidate my use of the term "effective competition" while Mr. Shooshan employs that same term in his examination of various competitive measures. [Shooshan Rebuttal, pp. 8, 24]

In an effort to avoid any potential ambiguities due to the fact that effective competition "may have multiple meanings" I very clearly defined my use of that term in my direct testimony. Namely, "Effective competition is present when a market is free of substantial barriers to entry and exit and when no firm or consortium of firms has enough market power to set or strongly influence market prices." [Id., p. 108] This is more stringent than Mr. Tietzel's interpretation that "effective competition is where there are no barriers of entry and the costs of entry are not excessive," in that the definition I offer accounts for market power, while Mr. Teitzel's does not. Section four of my direct testimony demonstrates why I believe that effective competition does not currently exist in telephony markets in Arizona, regardless of whether the Commission uses Mr. Teitzel's looser definition, or my more stringent one.

In his rebuttal testimony, Mr. Shooshan disagrees with my use of concentration ratios to gauge competition.

> First, it is important to consider the introduction of measurement bias that arises from utilization of number listings (as opposed to actual usage) in measuring a concentration index. ... Using number listings or lines as the appropriate measure of actual and potential *productive capacity*—the truly economically relevant measure for gauging competition—clearly understates true competitive effectiveness. [Shooshan Rebuttal, p. 10]

From this testimony, I gather Mr. Shooshan disputes my emphasis on lines, and would prefer more focus on usage (e.g. focusing on minutes of use or other volume-sensitive measures of market share). As well, it appears he may be suggesting that a measure of the carrying capacity of a network is more important than the volume of actual traffic or revenue generating services that are carried over that network.

I disagree on both counts. In that view, if a new fiber optic network can theoretically handle as much traffic as Qwest's existing network, that carrier should not be viewed as co-equal with Qwest, merely because it has installed productive capacity. If it has few customers and a largely empty network, this carrier's presence may be strong evidence for the existence of barriers to entry that make it difficult for newcomers to convince customers to change carriers. The huge volumes of empty capacity may be a better predictor of future bankruptcies than a measure of current competition. In this regard, I agree with the direct testimony Qwest witness Ziegler where he admonishes the Commission to recognize the "realities of the competitive marketplace." [Ziegler Direct, p. 16] The empirical data that best captures the extent to which competitors are <u>successfully</u> entering the market and winning customers (market shares, 4-firm concentration ratios, and HHIs) all confirm that the "realities of the competitive marketplace" are different in different parts of the state. Qwest's market power has

substantially diminished in some Arizona markets, but in other areas Qwest's market power remains strong. Add to this fact the concern that competition may diminish in the future, due to changes in the federal regulatory environment, and there is every reason to be concerned that Qwest's is asking for too much freedom, too soon.

Finally, if Mr. Shooshan truly believed that "the elasticity of supply is the best economic summary measure of competitive effectiveness," I find it interesting that not a single Qwest witness has offered empirical measures of the elasticity of supply, in an effort to bolster the Company's contention that it is facing effective competition. [Shooshan Rebuttal, p. 10]

Q. Would you please outline Qwest's second critique?

A. Yes. Mr. Shooshan responds to my contention that wireline and wireless services are not competitive alternatives. He states first:

> As long as the services are alike in "substance" (that is, they permit the same primary function to be performed), they are comparable for determining if there is effective competition. In this case, it is clear that wireless and wireline service are enough alike in their primary function to be considered substitutes. [Id., p. 24]

He states second:

> To determine which products or services are in the same market, it is not necessary for all customers to view the services as completely interchangeable. Rather, services are competitive substitutes if they "have the ability—actual or potential—to take significant amounts of business away from each other." [Id., p. 25]

Regarding Mr. Shooshan's first point, I disagree with the notion that being alike in "substance" is sufficient for two items to be classified as close substitutes. Among other problems with this approach, it fails to consider the possibility that substitution may be asymmetric (A is freely substituted for B but B isn't typically substituted for A). As well, it fails to consider the possibility that two alternatives may perform the same substantive function, yet one may be far more costly than the other. In that case, the more costly alternative doesn't provide effective competition for the less costly alternative. To illustrate these complications, consider again the situation where a water utility "competes" with bottled water. The convenience and purity of the bottled alternative leads some consumers to purchase this alternative, thereby reducing their consumption of tap water. But, due to cost differences, it is hardly realistic to suggest that intense competition in the bottled water market is sufficient to diminish the water utility's monopoly power.

I would grant that wireline and wireless phones enable the user to place phone calls. They are alike in this manner. However, in my direct testimony, I offered nine ways in which wireline and wireless are quite different. [Johnson Direct, pp. 178-179] Additionally, I have offered evidence that most consumers seem to believe that they are not close substitutes. Among other things, this is proven by the fact that so many consumers add wireless service without simultaneously dropping their wireline service. [Id., p. 179] Aside from introducing the "substance" concept, Mr. Shooshan has not offered any empirical "substance" to his rejection of my conclusions about wireless service.

I addressed Mr. Shooshan's second point in my direct testimony. Recall I mentioned that "wireless services do not constrain Qwest's ability to exploit its monopoly power in

traditional wireline markets." [Id.] I have shown that wireless service has not *actually* taken much business away from Qwest and any *potential* ability to do so is so speculative that it does not justify immediate action to adopt the sweeping revisions Qwest has proposed for its current Plan.

While Qwest did not provide much numerical evidence in its direct testimonies to support its wireless substitutability claims, one exception is the data cited by Mr. Teitzel in his rebuttal testimony. Interestingly, this data serves to validate my position on this issue rather than Qwest's. Recall that in my direct testimony I stated:

> For many customers, these services more closely meet the definition of complementary goods, rather than substitutes. Most people purchase both services, using their mobile phone in situations where it will function best and their conventional phone where it will function best. The very fact that so many people keep both phones (even if it requires them to double their expenditure on phone service) tends to prove that these services should not primarily be viewed as competitive alternatives. [Johnson Direct, p. 137]

In my direct testimony, I recognized that approximately 6% of wireless customers have abandoned their wireline service entirely. [Teitzel Rebuttal, p. 69] Mr. Teitzel goes on to reference a Yankee Group study that shows 64% of U.S. households have both a wireless and a wireline phone. [Id., p. 70] This dynamic – in which significantly more people have both phones than have substituted one for the other – reasonably supports the conclusion that these two services are primarily complements, rather than substitutes.

Finally, Mr. Teitzel critiques my assessment of cable telephony and VoIP as being "in their infancy." [Johnson Direct, p. 179] He mentions that Cox – a cable telephony provider – is

a "very robust telecommunications competitor" and that VoIP is a "viable telecommunications alternative." [Teitzel Rebuttal, p. 71] I am unsure how closely Mr. Teitzel read my direct testimony because I refer to these technologies as "potentially much more direct substitutes for traditional telephony" and I include Cox lines in my HHI calculations. [Johnson Direct, p. 179] I recognize the potential for increased substitution by these technologies, but even after giving full weight to lines provided by the most significant local provider (Cox), I still concluded that only some portions of Qwest's serving area had enough competition to justify the pricing flexibility the Company is seeking.

Q. What type of pricing flexibility is the Company seeking?

A. As I stated in my direct testimony,

> The current Plan includes a number of provisions that limit the extent to which the Company can increase rates for services in each of the current Plan's three baskets. The "inflation minus productivity" indexing mechanism, hard service caps, and rate element cap in Basket 1 are all examples of existing provisions that limit the Company's pricing flexibility. These specific provisions and others would be modified in the proposed Plan, thereby providing greater opportunities to charge higher prices to all the Categories. [Id., p. 19]

Additionally, Qwest has proposed nearly complete pricing freedom for services in its proposed Flexibly-priced Competitive Services basket. And its proposed "competitive zone" approach would allow it to move services from the Basic basket into the Flexibly-priced basket in certain portions of its Arizona serving area.

Q. Having already stated that your analysis of competition in Arizona indicated little support for the flexibility sought in Qwest's proposed Plan, do you support an alternative Plan?

A. Yes. I urge the Commission to utilize RUCO's recommended Plan to regulate Qwest services going forward.

Q. Did Qwest argue against the utilization of the recommended Plan in its rebuttal testimony?

A. Yes. Mr. Teitzel and Mr. Shooshan addressed perceived flaws in the recommended Plan. The witnesses critique the assignment of services to baskets as well as the retention of the productivity offset in the basket-wide cap on Basic Services. Regarding basket assignment, Mr. Shooshan argued that the recommended Plan was flawed in that it (1) doesn't keep wholesale services and retail services in separate baskets, (2) is contrary to spirit of price cap regulation, and (3) is too complex and cumbersome. Mr. Teitzel similarly argues that the recommended Plan "is perhaps interesting as an academic exercise but is impossible to effectuate." [Teitzel Rebuttal, p. 68]

Regarding the productivity offset, Mr. Shooshan contends (1) that it is not consistent with evolution of price cap regulation, (2) that other states have abandoned it, and (3) that it is wrong to use nationwide data in calculating it.

Q. Would you like to address Qwest's points pertaining to basket assignment under the recommended Plan?

A. Yes. I would first like to point out that Qwest has not questioned the validity of using competitive intensity to assign services. In fact, with respect to this underlying principle, RUCO's recommended Plan is very similar to Qwest's competitive zone approach. As a matter of pure logic, it is obviously appropriate to tailor the degree of pricing flexibility to with the intensity of the competitive pressures that Qwest faces. Because I believe that this fundamental logic applies to all price capped services, I don't think it is necessary to keep wholesale and retail services in separate baskets. What is important is to make sure that the most competitive services aren't commingled with the least competitive services. Mr. Shooshan simply states that separation of wholesale and retail services represents a "progressive approach," but he doesn't provide any support for this opinion. [Shooshan Rebuttal, p. 6] If he is concerned that competitive retail services might be placed in the same basket with monopoly wholesale services, I would certainly share that concern. If it is necessary to create additional baskets to avoid this possibility, I would not necessarily object to doing that.

While I am unsure what Mr. Shooshan means by the "spirit of price cap regulation," perhaps I touched on this subject in my direct testimony, where I stated:

> The specific goal of price cap regulation is to eliminate, or at least weaken, the linkage between cost and rates, but there is no evidence that policy makers have abandoned their focus on the broad public interest, or that they are no longer concerned about the traditional goals of public utility regulation. For example, in developing and refining its

> system of price cap regulation, the FCC apparently still viewed the results of effective competition as an appropriate benchmark for price cap regulation. [Johnson Direct, p. 83]

I do not see any way in which the recommended Plan abandons any of these principles. It is my view that assigning services to baskets according to competitive intensity will advance the public interest because price controls will be loosened most for services and areas with the most intense competition and controls will be only moderately relaxed, or maintained, for services and areas with less intensive competition.

Regarding Qwest's concerns with the complexity of service assignment under the recommended Plan, I conceded in my direct testimony that RUCO's approach was "somewhat more complex" than Qwest's competitive zone approach. [Id., p. 171] Qwest claims that instead of being *somewhat* more complex, RUCO's approach is *much* more complex. [Shooshan Rebuttal, p. 7] I strongly dispute this difference in degree. But, even if a more precise alignment of services and geographic areas *were* much more complex, that added complexity is fully justified if the Commission wants to grant Qwest as much pricing flexibility as possible, while making certain that the public interest is protected.

The appropriate assignment of services to baskets is crucial in price regulation. This assignment process dictates the degree of pricing flexibility that Qwest will be afforded in each case. If this assignment process is overly simplistic, Qwest may be granted an excessive degree of pricing flexibility in markets where it faces relatively little competitive pressure, and thus it will be able to exploit its residual market power to the detriment of its customers and the public generally. In my direct testimony, I specifically cautioned the Commission concerning this risk

due to the excessive simplicity of Qwest's proposed approach. [Johnson Direct, p. 171]

The current standards for classifying services as competitive can be found in Commission Rule R14-2-1108B.

> The petition for competitive classification shall set forth the conditions within the relevant market that demonstrate that the telecommunications service is competitive, providing, at a minimum, the following information:
>
> 1. A description of the general economic conditions that exist which make the relevant market for the service one that is competitive;
> 2. The number of alternative providers of the service;
> 3. The estimated market share held by each alternative provider of the service;
> 4. The names and addresses of any alternative providers of the service that are also affiliates of the telecommunications company, as defined in R14-2-801;
> 5. The ability of alternative providers to make functionally equivalent or substitute services readily available at competitive rates, terms, and conditions; and
> 6. Other indicators of market power, which may include growth and shifts in market share, ease of entry and exit, and any affiliation between and among alternative providers of the service(s). [R14-2-1108B]

The approach to basket assignment found in the recommended Plan is consistent with the procedure that Qwest must currently undertake to classify its services as competitive – taking into account the number of competitors, market shares, and other measures of market power. There is nothing about the current competitive classification mechanism that is unduly complex or burdensome.

To the extent service assignments under RUCO's recommended Plan would be more complex, that is primarily due to the fact that three categories would be used in evaluating the degree of competition, rather than two categories (competitive or not), and because Qwest would have the option of requesting different classification of the same service in different geographic markets. Admittedly, the latter option does add to the overall complexity of the system, but that same complexity is inherent in Qwest's own competitive zone proposal.

Furthermore, I would note that the same types of empirical evidence which are envisioned in the existing Rule (e.g. market shares) are often available for individual wire centers or exchanges.

Finally, it is not clear whether any "services that are deregulated today" would be "re-regulated when they are passed through Dr. Johnson's screen." At most, perhaps some services that have been placed into the most flexible pricing category should more appropriately be placed in the middle category, where Qwest would still enjoy a very substantial degree of pricing freedom. Such a reclassification would not be unreasonable, and in fact is contemplated under the current Commission rules:

> Any telecommunications service classified by the Commission as competitive may subsequently be reclassified as noncompetitive if the Commission determines that reclassification would protect the public interest. Notice and hearing would be required prior to any reclassification. The burden of proof would be on the party seeking reclassification. [R14-2-1108H]

Q. Dr. Johnson, in your direct testimony you summarized some competition statistics gathered from the June 30, 2004 edition of FCC Local Competition Report (FCC LCR). What does the December 2004 update of the FCC LCR indicate about the overall level of competition in Arizona?

A. According to the most recent FCC LCR, the overall CLEC market share in Arizona increased from 21.8% as of December 2003 to 25.2% as of June 30, 2004. [Table 6, FCC LCR] This is roughly five times the CLEC market share of 5% reported by the FCC in June 2000 [Table 7, FCC LCR]. This recent surge in CLEC market presence is consistent with the recent trend nationally; the nationwide CLEC market share more than quadrupled from December 1999 to June 2004 (from 4% to 18%). Table 1 below shows how Arizona compares to the other Qwest states and the nationwide totals, as of June 2004. These data suggest that competition in Arizona is similar to the level of competition that is present in Minnesota, Nebraska and Utah. Competition in the remaining Qwest states appears to be substantially less well developed.

Table 1
End-User Switched Access Lines
in States Served by Qwest
(As of June 30, 2004 per FCC LCR)

State	ILECs	CLECs	Total	CLEC Share
Arizona	**2,415,432**	**814,194**	**3,229,626**	**25.2%**
Colorado	2,439,132	498,583	2,937,715	17.0%
Idaho	666,914	47,398	714,312	6.6%
Iowa	1,232,364	199,115	1,431,479	13.9%
Minnesota	2,377,827	604,152	2,981,979	20.3%
Montana	482,548	19,204	501,752	3.8%
Nebraska	736,257	205,560	941,817	21.8%
New Mexico	894,345	76,469	970,814	7.9%
North Dakota	265,881	22,502	288,383	7.8%
Oregon	1,743,918	267,121	2,011,039	13.3%
South Dakota	271,682	n/a	n/a	n/a
Utah	940,678	288,009	1,228,687	23.4%
Washington	3,276,000	494,375	3,770,375	13.1%
Wyoming	235,360	n/a	n/a	n/a
Total Qwest	17,978,338	3,536,682	21,007,978	16.8%
Total Qwest w/o AZ	15,562,906	2,722,488	17,778,352	15.3%
Nationwide	148,103,506	31,983,229	180,086,735	17.8%

Q. Has the provisioning composition of the roughly 25% CLEC market share in Arizona changed with the update?

A. No it has not. Table 10 of the FCC LCR shows that 50% of the CLEC lines in Arizona are purely facilities-based (using loops that are self-provided) and 33% are UNE-based (including both UNE-P and UNE-L). This is about the same relative composition reported 6 months earlier.

Q. How does this competitive mix compare to other Qwest states?

A. Table 2 below provides this comparison. With respect to facilities-based competition, Arizona represents over 34% of facilities based lines in Qwest's 14 state territory.

Table 2
CLEC-Reported End-User Switched Access Lines By State
(As of June 30, 2004 per FCC LCR)

State	CLEC-Owned (%)	UNEs (%)	Resold Lines (%)
Arizona	**50**	**33**	**17**
Colorado	31	47	22
Idaho	n/a	55	n/a
Iowa	20	72	8
Minnesota	28	51	21
Mississippi	4	74	22
Montana	77	n/a	n/a
Nebraska	66	21	14
North Dakota	34	n/a	n/a
Oregon	13	71	16
South Dakota	n/a	n/a	n/a
Utah	24	49	27
Washington	30	52	18
Wyoming	n/a	n/a	n/a
Total Qwest	33	48	18
Total w/o AZ	28	52	19
Nationwide	23	61	16

Q. Can market share data be useful to the Commission in deciding how much pricing flexibility to grant Qwest through revisions to its Plan?

A. Yes. There are at least two ways in which market share data can be useful to the Commission. First, this data is useful in evaluating the extent and degree to which competitors are succeeding in their efforts to enter Qwest's markets. Recall, in my direct testimony, I stated:

> Market dominance and the ability to exercise market power – not the mere presence of alternative suppliers – are the key issues in deciding whether effective competition has emerged or is emerging. Thus, a logical first step in evaluating the extent of competition is to evaluate relative market shares. If the incumbent continues to enjoy an overwhelmingly large market share relative to the new entrants, it would not be appropriate to adopt regulatory policies which assume that competition is effective. Unless and until the incumbent's market power is greatly eroded, the continued regulatory oversight provided by state commissions and the FCC provides valuable protection for consumers and the public interest generally. [Johnson Direct, pp. 112]

Based upon market share data, I reached the following conclusions regarding wireline competition in Arizona.

In general, CLEC market shares in Arizona are

- higher for services to businesses than services to residences;
- higher for services in metropolitan markets than in rural areas; and
- are held almost entirely by carriers that use their own facilities at

1 least in part.

2

3 **Q. What is the second useful aspect of these market share data?**

4 A. These data not only reflect the extent to which the Arizona telecommunications market is
5 competitive, it also examines the underlying composition of that competition. For instance,
6 Arizona CLECs utilize UNEs in providing ****Proprietary Proprietary**** of their lines;
7 they fully rely on their own facilities for ****Proprietary Proprietary**** of their lines, and
8 they rely on pure resale for just ****Proprietary Proprietary**** of their lines.

9 This data is significant, since these different methods of operation have varying
10 implications for the likely outcome if Qwest were given additional pricing freedom. Simply
11 stated, facilities-based carriers face more substantial barriers to entry and exit than carriers that
12 strictly rely on resale of Qwest's services and/or network elements. Facilities-based CLECs
13 are more independent of Qwest, but they make a larger capital investment; the added risks
14 associated with these sunk investments may encourage facilities-based CLECs to be "price
15 followers" who are reluctant to "rock the boat." Conversely, CLECs that rely on UNE-P and
16 pure resale will encounter lower barriers to entry and exit, but they are less capable of acting
17 independently from Qwest (e.g., they cannot easily compete by adopting and promoting a
18 newer technology).

19 Another important factor to consider in light of the fact that Arizona CLECs utilize UNE
20 switching to provide ****Proprietary Proprietary**** of their lines is the ongoing
21 advocacy by Qwest at the federal level:

22

> Qwest and the other RBOCs have been actively lobbying to restrict the availability of UNEs and to make it more difficult, or impossible, for CLECs to rely exclusively on this form of entry. [Johnson Direct, pp. 122]
>
> Depending upon the content of these revised rules, much of the competitive activity that is currently observed, based upon rental of UNEs, may disappear. While this may result in more facilities-based competition, the latter form of competition is clearly more difficult and time consuming to achieve; thus the overall level of CLEC market penetration may decline below current levels, and it may remain at relatively low levels for many years into the future. [Johnson Direct, pp. 124]

Many CLECs are dependent on the use of unbundled portions of Qwest's network in its Arizona serving area. The existing degree of "successful entry" is not necessarily indicative of what the future holds, particularly if the unbundling requirements are loosened, due to the advocacy efforts of Qwest and other ILECs.

Q. How should the Commission interpret market share data?

A. All of these statistics indicate that, almost without regard to where in Qwest's serving territory you focus your attention, the market for residential local exchange service remains "highly concentrated." Recall that in my direct testimony, I provided the Commission with some benchmarks that it could use in evaluating the degree of pricing flexibility which should be associated with specific services and geographic markets. In an effort to provide some benchmarks for judging market conditions, I mentioned that I would anticipate that if the ILEC's market share remains in excess of 67%, it most likely should only receive moderate

pricing flexibility. Similarly, if the service is provided in a market with a 4-firm concentration ratio in excess of 90% and an HHI in excess of 4,000, most likely it would not be appropriate to grant more than moderate pricing flexibility to the ILEC.

An ILEC market share between 67% and 33%, a 4-firm concentration ratio between 90% and 75%, and/or an HHI between 4,000 and 1,800 would be indicative of a somewhat more intensely competitive market–one where regulatory controls could reasonably be relaxed to a greater degree, but significant regulatory protections should remain in place.

Finally, I suggested it would be reasonable to grant total pricing flexibility (with essentially no continuing regulatory protection from monopoly power) if the dominant carrier has a market share of 33% or lower, and the market exhibits a 4-firm concentration ratio that is lower than 75%, or an HHI of 1,800 or less.

Applying these benchmarks to the data received via discovery, we note that Qwest's share of the residential local exchange service market exceeds 67% in all but two of its wire-centers. Similarly, the 4-firm coneentration ratio in each Qwest wire center exceeds 90%. And finally, the residential HHIs in each Qwest wire center exceed 4,000 in all but the same two wire centers. These data are consistent with the general conclusion that CLEC market shares tend to be higher for services in metropolitan markets than in rural areas. Hence, it is not surprising that the two wire centers with residential market shares below 67% and residential HHIs below 4,000 are ****Proprietary Proprietary**.**

As I discuss more thoroughly in the following section, the evidence indicates that it might be appropriate for the Commission to keep most of residential local exchange service in the most tightly regulated service category (e.g., the Moderate Basket in RUCO's

recommended plan). The only exception would be the aforementioned wire centers.

Q. In your direct testimony you provided some illustrative examples of how the Commission might go about assigning specific services to baskets. Mr. Shooshan implies that under RUCO's recommended Plan the assignment process will be too complex. Can you provide some illustrative examples that clarify your recommendations, and demonstrate that it is not impossibly complex?

A. Yes. Schedules 1 and 2 attached to this testimony contain Qwest market share data and 4-firm concentration ratios, as well as HHIs by Qwest wire center, for residential local exchange service and business local exchange service, respectively. These data were provided as Schedules 4 and 5 in my direct testimony. To illustrate the assignment process, I have added recommendations for assigning these services by wire center to the three baskets in RUCO's recommended Plan in the final column of the schedules I present here.

Q. Would you please present your analysis of *residential local* exchange service?

A. Yes. Recall there are three attributes that can be used to assign a service to a basket under the RUCO's recommended Plan – geography, customer type, and service-specific characteristics.

Schedule 1 takes into consideration all three attributes. Residential local exchange services provide local calling capability, as well as providing access to a variety of other services, including switched toll services, custom calling services and caller ID. By looking at market data for residential customers separately from business customers, we are able to consider competitive differences related to customer type. By looking at market data for each

individual wire center we are able to consider competitive differences within distinct geographic areas.

By and large, the data in Schedule 1 suggests that competition is more extensive in highly urbanized areas than in outlying areas; this is not unexpected, considering differences in the concentration of customers and other factors. For example, the relatively dense Phoenix-Main wire center has an HHI of ****Proprietary Proprietary****. In contrast, the Whitlow wire center has a much lower density, and an HHI of ****Proprietary Proprietary****.

By closely examining the data in Schedule 1, however, it is clear that other geographic factors are at work, in addition to differences in density. As well, it becomes clear that residential competition is still relatively weak in comparison with business competition. In fact, all but two of Qwest's wire centers exhibit residential HHIs that exceed the 4,000 benchmark that I suggested as a potential benchmark for delineating between the Moderate Pricing Flexibility basket and the High Pricing Flexibility basket.

Given current market conditions and uncertainties concerning future trends in competition, RUCO recommends that residential local exchange services be placed in the Moderate Pricing Flexibility basket within all wire centers except for Phoenix - Main and Tucson - Main. Within these two wire centers, residential local services should initially be placed in the High Pricing Flexibility basket. Once experience has been gained with the impact of this reassignment, it would be reasonable to consider a request for movement into the Total Pricing Flexibility basket. I will explain the rational for this as I describe the next illustrative example.

Q. Would you please present your analysis of business local exchange service?

A. Yes. Recall that my Schedule 2, attached to this testimony, contains competitive data for business local exchange service in each Qwest wire center. In the ****Proprietary Proprietary****, Qwest currently holds a market share less than 67% (but greater than 33%) of the business local exchange market. Relying on this same data, this wire center has a 4-firm concentration ratio less than 75% and an HHI less than 1,800. In my direct testimony, I mentioned that a service that exhibited an incumbent market share less 33%, a 4-firm concentration ratio less than 75%, and an HHI less than 1,800 would be indicative of a Total Pricing Flexibility service. Accordingly, this wire center meets the second and third benchmark for placement in the Total Pricing Flexibility basket, but not the first benchmark (i.e., Qwest market share). Given this evidence, it would be reasonable to grant Qwest substantial additional pricing flexibility with regard to business local exchange services in this geographic area, by placing these services in either the High-Pricing Flexibility basket, or the Total Pricing Flexibility basket.

Q. Up to this point in your discussion, all business local exchange services have been lumped together. Is it feasible to account for the differences in the various business services?

A. Yes. However, the Commission would need to make some judgment calls, because the data provided during discovery is relatively weak in this regard. As I mentioned on page 175 of my direct testimony

> there are most likely differences in the intensity of competition for various business services, including 1FB, PBX trunks, and Centrex. In general, I would anticipate greater competitive penetration for PBX trunk service than for 1FB service, and greater competition for Centrex than for PBX trunk service. However, due to data limitations I was not able to compute separate HHIs for each of these services. [Johnson Direct, p. 175]

Given the available evidence, it would be reasonable, for example, for the Commission to place PBX Trunks and Centrex *service in the* ****Proprietary Proprietary**** in the Total Pricing Flexibility basket, while placing 1FB service in the High Pricing Flexibility basket.

Q. How do your illustrative examples compare to the assignment of services to baskets under Qwest's proposed Plan?

A. Recall that the proposed Plan assigns services to three baskets – Basic/Essential Non-competitive Services and Flexibly-priced Competitive Services (Wholesale Services basket is the third basket). Under Qwest's competitive zone proposals, many local exchange services would be assigned to the Flexibly-priced Competitive Services basket, and thus virtually all protection from monopoly power would be eliminated.

The major differences between RUCO's recommend Plan and Qwest's proposal are that RUCO provides a middle basket, which affords more pricing flexibility than the existing plan, but less than total flexibility. As shown on Schedule 2, this middle ground is very important under current market conditions. RUCO recommends assigning business local exchange service in many geographic areas to this middle basket, because competition has

advanced substantially, but not enough to justify granting total pricing flexibility.

Finally, RUCO recognizes that competition for many of the services used by large businesses is already very robust. Accordingly, RUCO recommends placing these services into the Total Pricing Flexibility basket, which is very similar to the Company's proposed Flexibly-priced Competitive Services basket. If the Commission adopts this recommendation, the Company will have nearly complete freedom to price these services in whatever manner it chooses.

Q. Would you like to address Qwest's points pertaining to the inclusion of a productivity offset (X) under the recommended Plan?

A. Yes. Mr. Shooshan suggests that the use of an offset is not consistent with the evolution of price cap regulation *because* many state commissions have recently approved Plans devoid of an offset. I cannot speak to the evidentiary record or advocacy context in which the decisions were made in Iowa, Colorado and Minnesota to eliminate use of an offset. However, simply citing to decisions in other jurisdictions is not an appropriate basis for making a decision that could result in a shift of many hundreds of millions of dollars from Arizona customers to Qwest's stockholders for the next 20 years. The evidence I presented in my direct testimony demonstrated that the existing 4.2% offset continues to be consistent with annual productivity and input cost savings achieved by the industry from 1986 to the present.

I explained the rationale for adjusting inflation for industry-specific productivity and cost reductions in my direct testimony:

> ...price cap regulation generally focuses on industry-wide data, while traditional regulation focuses on carrier-specific data. However, the full impact of this difference is not felt initially. When a price cap system is initially instituted, it typically resembles traditional regulation, since the price cap is usually based upon the existing tariffs, which were derived from carrier-specific data. ...Over time, the two systems will tend to diverge, since the price cap method of regulation normally focuses on industry-wide factors, while traditional regulation focuses on company-specific data (in a rate case). ...
>
> By including a factor for inflation, the firm is allowed to increase its prices to keep pace with inflation. This makes sense, to the extent that a firm's costs can be expected to increase as a result of inflation. However, since costs do not increase by exactly the same amount throughout the economy, due, for example, to industry-specific differences in productivity growth, the formula typically includes a factor (usually referred to as the "X" factor) which attempts to track industry-specific differences. [Id., pp. 84, 85]

Looking at national data, it is clear that ILECs continue to benefit from cost reductions relative to the overall rate of inflation. In other words, an ILEC of ordinary efficiency can still expect to benefit from windfall profits if it is allowed to increase its rates in synch with the national inflation rate, without taking into account the more favorable trends in productivity and input costs being experienced by the telecommunications industry. Costs are not increasing as fast as the overall inflation rate.

In this regard, it is important to focus on national data, rather than exclusively focusing on state-specific or carrier-specific data. While the latter data might suggest a recent diminishment in the long term decline in real telecommunications costs, that data is too narrow to provide an accurate, reliable indication of underlying cost conditions. Furthermore, an

exclusive focus on state-specific or carrier-specific data will tend to reestablish a direct link between Qwest's costs and its rates (albeit after a lag), thereby diluting incentives for increased efficiency and cost minimization.

Because the traditional system of rate base regulation relies upon carrier-specific cost information (albeit after a lag), there is a direct link between management decisions and prices that can weaken the incentive for firms to operate efficiently (e.g., because inefficiencies and excessive costs may be recovered from customers).

With a price cap system, prices are regulated by focusing on the changes in the overall level of costs that the firm faces (input cost inflation), and subtracting the impact of productivity or expected productivity growth as it can generally be expected to impact firms in the industry. The price cap should rise if the prices of a firm's inputs rise, but it should not be linked directly to changes in the specific costs incurred by each individual firm. If the system is tied to industry-wide data, it is feasible to avoid a direct link between management inefficiency and higher prices. Thus, by relying on broad data sets, management will have strong incentives to minimize the prices it pays for its inputs, and strong incentives to increase its productivity as much as possible. Whenever management reduces costs, the benefits will immediately and directly flow to stockholders (since revenues and the price cap remain unchanged). The same can be said about traditional regulation between rate cases; however, when a rate case does occur, efficiency incentives are diluted, because observed cost reductions are eventually passed through to ratepayers. In contrast, the benefit of industry wide declining costs should be passed through to customers. A properly designed price cap formula, which includes an appropriate offset based on industry data will assure strong incentives for efficiency and fair treatment of

customers. To the extent cost reductions are generic to the industry, they will be reflected in the data that is used in the price cap formula, and the benefits of these cost reductions will be shared with customers.

Thus, a price cap system with an appropriate offset provides stronger, more lasting incentives for management to cut costs and increase efficiency, in comparison with a scenario in which no offset is used, a scenario in which there are frequent rate cases, or a scenario in which the Commission relies on an ever-present threat of rolling back rates if excess profits arise due to a failure to include an offset in the price cap system.

Q. Would you like to address any other points raised in Qwest's rebuttal testimonies?

A. Yes. Mr. Teitzel, in his rebuttal testimony, critiques the revenue-cost comparisons I included on pages 46 through 63 of my direct testimony. He makes the following statements:

> As discussed in Ms. Million's direct testimony, Qwest's revenues are deficient by approximately $64 million to cover the cost of providing local exchange service in high cost wire centers. This was the basis for Qwest's proposal to establish a competitively-neutral draw from the AUSF to support the provision of local exchange service to high cost areas. [Teitzel Rebuttal, p. 65]
>
> However, the revenue generated by customers in the highest cost wire centers is not sufficient to cover Qwest's costs of providing service to those customers. This fact is the driver of Qwest's AUSF proposal. Essentially, Dr. Johnson is suggesting that the monopoly era system of implicit subsidies should be continued in perpetuity in Arizona. [Id., pp. 66-67]

Mr. Teitzel contends that Qwest's revenues in high cost areas are deficient by $64 million

based upon an analysis of the cost of providing local exchange service in these areas. While I don't disagree with the premise that it costs more to provide service in some areas relative to others, I strongly dispute the specific method Qwest is using to estimate the magnitude of the alleged shortfall. Recall that I stated the following in my direct testimony:

> Having been active in utility regulation for more than 25 years, I have been a part of numerous proceedings in which subsidy claims are made. I have found that where differences of opinion exist concerning the presence or absence of cross subsidies, the debate almost always centers around a single major point of contention–the appropriate interpretation and treatment of joint and common costs. [Johnson Direct, p. 48]

Staff witness Regan provided testimony that confirms the crucial importance of the appropriate treatment of joint and common costs in this context:

> Qwest would already be incurring the costs of the loops and ports if Qwest was "already" providing toll, access and vertical services, so those costs are not "additional" costs of basic local exchange service. However Qwest improperly included 100% of these loop and port costs in its claimed basic local TSLRIC. [Regan Direct, p. 16]

My revenue-cost comparisons show that the problem is not as widespread, or as severe, as Mr. Teitzel contends. Qwest did not provide a substantive response to my quantitative analysis in its rebuttal.

With regard to Mr. Teitzel's contention that "the monopoly era system of implicit subsidies should be continued in perpetuity in Arizona" this is simply not true. To the contrary, my revenue-cost comparisons suggest there are significant discrepancies in Qwest's gross profit

margins across different geographic markets. While I don't necessarily agree with characterizing these discrepancies as "implicit subsidies" I agree there is reason to be concerned about the magnitude of these discrepancies. Over the long term, these discrepancies may not be sustainable, given the increased level of competition being experienced in urban markets relative to rural markets – as well as the higher level of competition being experienced in business markets where the largest gross margins have historically been achieved. If profit margins continue to erode in these markets, it may be difficult for Qwest to continue to profitably serve low margin customers in high cost markets. As well, there is reason to be concerned that these discrepancies in gross profit margins have a tendency to distort the price signals that are sent to other carriers, by discouraging them from attempting to compete with Qwest in high cost areas.

Not only do I share some of Qwest's concerns about continuation of the status quo, I specifically recommended that, to the extent that Qwest believes it needs changes in the regulatory environment in order to "recover its costs of serving customers in high cost areas," I recommend utilizing a state Universal Service Fund approach similar to the one used in Kansas. [Ziegler Direct, p. 8]

> The KCC initially established the Kansas Universal Service Fund as a "revenue neutral" mechanism which replaced a portion of the existing access revenues. It later replaced this system with a forward-looking cost-based mechanism. The KCC recognized that costs per line can vary widely with density and distance from the central office. Therefore, in order to take these factors into account, the KCC decided to target support on the highest cost (i.e., least dense, most distant) areas within each wire center. Wire centers and zones within these wire centers were not given support unless the relevant costs per line exceeded

125% of the statewide average costs per line. [Johnson Direct, p. 65]

Other Intervenors

Q. Would you like to address any of the points raised in the direct testimonies of the other intervenors in these proceedings?

A. Yes. In particular, I would like to respond to two areas in which other intervenors put forward positions that are contrary to my recommendations – suggestions for modifying the current Plan, and suggestions for lowering switched access rates.

Q. Would you please outline and respond to intervenor positions as they relate to the first issue?

A. Yes. No other witness has recommended departing from the existing basket structure found in the current Plan. Those that have made suggestions for modifying the current Plan have limited their comments to suggestions for tweaking the existing price caps or the existing reclassification mechanism. I agree the current Plan is basically sound, and it would be better to retain the current Plan than to adopt Qwest's proposed Plan, I believe that now is an appropriate time to rethink the current Plan's basket structure, and to modify that structure, in order to provide Qwest with some additional pricing flexibility on a highly targeted basis, without prematurely removing protection from monopoly power in those markets where Qwest continues to enjoy a substantial degree of market power.

Second, I take issue with Staff's and DoD's proposed price caps. Like Qwest, Staff

supports eliminating X and replacing it with a revenue cap. Unlike Qwest, Staff proposes to retain a revenue cap on the Competitive Services basket. In responding to Qwest arguments above, I reemphasized why I believe it is appropriate to retain an offset. Neither Qwest nor Staff have presented any substantial evidence that the decades-long pattern of declining real costs in the telecommunications industry has suddenly come to a halt, or that market forces alone are capable of passing through to consumers the benefits of increasing productivity and declining costs, similar to the manner in which these benefits flow to consumers under conditions of effective competition.

I find it puzzling that Staff would paint a rather bleak picture of competition in Arizona, and yet contend that lost productivity due to "line and revenue losses" justify eliminating the offset. [Rowell Direct, p. 13] The effect of eliminating the offset will be to give Qwest an opportunity to earn monopoly profits from services sold in those markets where it faces the weakest competition.

On the other hand, I believe Staff goes too far in the opposite direction (i.e., not granting Qwest sufficient pricing flexibility) when it proposes using a revenue cap in the Competitive Services basket, even with an upward adjustment. [Rowell Direct, p. 12-13] I agree with Qwest's contention that competition is robust for some of its services in portions of its Arizona serving area. [Johnson Direct, p. 176] Given this fact, it can be reasonably expected that market forces alone will force Qwest to pass productivity gains and cost reductions through to consumers in these areas. As a result, I support RUCO's conclusion that the maximum rate provisions in Commission rules A.A.C. R14-2-1109 and A.A.C. R14-2-1110 are sufficient price caps on Competitive Services. I see no reason to impose a revenue cap, nor do I

anticipate any problem with granting Qwest near total pricing flexibility in these specific markets.

Q. Have any other intervenors proposed modifying the competitive zone approach Qwest employs in its proposed Plan?

A. Yes. Staff and Cox present their own competitive zone proposals. In one respect their recommendations are consistent with RUCO's recommended Plan: they separately deal with residential and business services. [See, Rowell Direct, p. 42 and Lee Direct, p. 9]

In another respect they take a quite different approach: Staff witness Rowell and Cox witness Lafferty argue against the use of Qwest wire centers as the geographical basis for competitive zones. Mr. Rowell states:

> The disadvantages of the wire center are that listing information is not available at the wire center level, information on CLECs who use their own network exclusively is not available at the wire center level (but Qwest has provided problematic estimates), information on wireless carriers and VOIP providers is not available at the wire center level and customers are not familiar with the concept of a wire center. [Rowell Direct, p. 24]

Mr. Lafferty states:

> Both customers and competitors must have a clear understanding of the boundaries. Customers think in terms of town, cities, counties and states, so any other definition would be hard for them to grasp. ... Most customers would understand towns or exchanges, but not wire centers. [Lafferty Direct, pp. 29-30]

After carefully considering the arguments proffered by Staff and Cox against the use of wire centers as a basis for evaluating competition, I continue to believe it is useful to analyze the data on this basis.

The first, most important advantage of using wire centers is that robust data is readily available for individual wire centers. Mr. Rowell concedes this point.

> Certain facts are available at the wire center level. The number of competitors serving customers in a wire center through UNE-L, UNE-P, and resale is known to Qwest. Also the specific number of lines each such competitor is serving in a wire center is known to Qwest. [Rowell Direct, p. 24]

It is exactly this granular, wire center-based line data that I recommend using to identify markets where increased pricing flexibility can appropriately, and safely, be granted (as summarized in my Schedules 1 and 2). Mr. Rowell argues that Cox does "not use wire center boundaries and thus they are unable to tell us how many customers or lines they are serving in each (Qwest) wire center." [Rowell Direct, p. 25] However, that doesn't preclude compiling Cox data that has been reconciled to the Qwest wire center boundaries. If an extreme level of precision were needed, it would only be necessary to obtain the street addresses of each of Cox's customers (or a random sample of those customers), and then to locate these addresses relative to the wire center boundaries. While this may sound difficult, it can be accomplished using highly computerized processes, similar to the methods that are used target direct mail campaigns at specific neighborhoods or sub-markets. On a more simplified basis, roughly the same results can be achieved by relying on ported phone number data. Many customers retain

the phone number that was issued by Qwest prior to the time they become a Cox customer. Since in most cases these phone numbers can easily be mapped directly back to the Qwest serving wire center, it is a relatively simple matter to estimate the number of Cox lines that are serving customers that are located within the geographic areas associated with each of Qwest's wire centers. Finally, I would note that Qwest's wire centers are also directly relevant to CLECs who rely on unbundled loops provided by Qwest, since they will generally connect their facilities to these loops at the associated Qwest wire center.

At some point in the expansion/entry process, a CLEC will need to analyze individual Qwest wire centers, in evaluating the cost of collocation, the cost of renting Qwest loops versus installing their own facilities, the cost of originating and terminating traffic to Qwest customers in that wire center and so forth. Thus, Qwest wire centers are relevant to all competing carriers, including those who primarily rely on their own facilities.

During each step of the entry and network expansion process, the CLEC needs to consider the fixed and variable costs of the entry decision in question, taking into account the fixed cost of collocation and the other investments involved in that entry option. The CLEC will not likely take the next step unless it has a reasonable expectation of recovering its fixed costs over the life cycle of the investment in question. The CLEC might incur collocation costs, costs for various pieces of equipment to be installed in the collocation area, and additional costs required to serve its customers. Throughout this series of decisions, the Qwest wire centers are relevant to their decision making process (although, admittedly, these wire centers are much less important for a cable television carrier like Cox). In general, CLEC entry is not an all-or-nothing decision that occurs exclusively at the county, city, town, or exchange level.

Rather, it is typically a sequential process that evolves and changes over time, with many of the key entry decisions occurring at the wire center level or at an even more granular level.

Additionally, larger geographic areas such as zip codes (as proposed by Staff) or towns and exchanges (as proposed by Cox) are generally more heterogeneous than individual wire centers. By this I mean that geographic and customer characteristics will vary more widely across a larger area than a smaller one. A town many encompass vastly different neighborhoods with widely varying economic and demographic conditions. Although a town or an exchange may possess a substantial urban component, it is also likely to possess a mixture of both urban and suburban markets. Furthermore, in a state like Arizona, which includes many rural areas, an exchange may include lightly populated rural areas beyond the suburbs. Because competitive conditions are likely to vary as the geographic area studied expands, declaring a service to be competitive (or not) within a relatively large, relatively heterogeneous area has the potential for significant error. Accordingly, I recommend developing the competitive analysis on a more granular basis, focusing on relatively small geographic areas, (like individual wire centers).

Q. How do you respond to the concerns expressed by Staff and Cox witnesses that customers aren't familiar with wire center boundaries?

A. First, it isn't necessary for customers to have familiarity with the geographic boundaries used in administering the price cap plan for the Commission to do its work. Stated another way, once the Commission determines where pricing flexibility will be granted, it will be sufficient to provide affected customers with notice of the fact that Qwest's rates are no longer subject to

stringent regulation, and to make sure they are informed of the existence of competitive alternatives, in the event Qwest uses its new-found freedom to raise its prices.

Second, if the Commission wants to align its basket assignments with geographic boundaries that are already familiar to customers, it can do so in the final stages of its analysis. If this alignment occurs as a final step, the benefits of using granular wire center data can be retained to a high degree. The Commission can start with a review of HHI and other data for individual wire centers; after determining which wire centers are experiencing the most intense levels of competition, the Commission can look more closely at these specific areas, to determine what existing boundaries (e.g. zip codes) are most closely aligned with, or come closest to encompassing, the wire center areas in question. Thus, for example, if the Commission concludes that competition in the Phoenix main wire center is intense enough to justify additional pricing freedom, it could implement this decision by reclassifying the appropriate services within certain zip codes.

I prepared Maps 1 and 2 to illustrate this suggestion. Map 1 centers on the Phoenix - Main wire center and shows the zip codes that overlap the area served by this wire center. As shown on Map 1, zip codes 85003, 85004 and 85007 are almost entirely within the Phoenix - Main wire center boundary. A substantial portion of one other zip code (85006) also falls within the area served by this wire center.

Map 2 shows the Tucson - Main wire centers with the zip codes overlaid. As shown, zip codes 85701, 85709, and 85721 lie entirely within the area served by this wire center. In addition, zip code 85713 is largely within the Tucson - Main wire center.

Q. Would you please outline other intervenor positions as they relate to adjusting access rates?

A. Yes. MCI, DoD and Staff have all sought intrastate access rate reductions in these proceedings. MCI witness Price enumerates his proposal:

> For all the reasons set forth in my testimony, MCI respectfully urges the Commission to reduce Qwest's Arizona intrastate switched access charges to levels approximating economic cost. If, however, the Commission is unwilling to take such action at this time, at a minimum, it should require Qwest's intrastate switched access rates to mirror its interstate switched access rates. [Price Direct, p. 3]

DoD witness Lee enumerates his proposal:

> If and when the FCC adopts a change to intercarrier compensation, it will undoubtedly result in a further reduction of interstate access rates. There is nothing to be gained by a further delay in bringing intrastate access rates at least to current interstate rate levels.
>
> On the other hand, I agree with Qwest witness Ziegler that this change should be on a revenue neutral basis, with switched access rate reductions offset by an appropriate end-user charge. To minimize rate shock, I recommend that this change be accomplished in two steps, with half of the difference in rates effective upon implementation of the revised price cap plan and full parity a year later. [Lee Direct, p. 11]

Finally, Staff witness Regan enumerates his proposal:

> I recommend that Qwest's intrastate switched access rates be reduced by 25%. ... This reduction will effectively bring Qwest to "parity" with the Qwest interstate switched access rates (when the interstate EUCL charges are factored into the calculation of the interstate switched access rates), and will bring the Arizona intrastate switched access

> rates in line with the average intrastate switched access charges of Qwest across its 14 state service territory. [Regan direct, p. 41]

Q. How do these recommendations compare to what you recommended for access in your direct testimony?

A. Unlike Cox, DoD and Staff, I have not recommended a specific level of access rate reductions, but I did express some concerns about the potential impact of such reductions:

> Switched access service is an important source of revenues that has historically been used to help pay for the costs of providing Universal Service. If these rates are greatly reduced, as some parties are advocating, there will be increased pressure to replace this revenue stream with an alternative source of funding, such as higher local exchange rates. This type of "rate rebalancing," as it has been called, may endanger the universal service goal, particularly if it is implemented in an extreme manner. [Johnson Direct, p. 36]

While I don't necessarily agree with the Staff proposal – a one-time access rate reduction of $25 million – it is not as extreme as MCI's proposal, which could lead to drastic dislocations (depending upon how the concept of "economic cost" is interpreted). While DoD's proposal is also somewhat extreme, at least they are proposing that the resulting rate changes be phased in gradually. In this regard, I would like to take this opportunity to reiterate a cautionary note I included in my direct testimony.

> In evaluating this conflicting advice, it would be appropriate to err in the direction of ensuring that the "price of entry" onto the telephone network remains at attractively low levels–thereby helping to maintain very high penetration rates. That is not to say that the Commission should be unwilling to deviate from the status quo, or that it should

> refuse to consider any reductions to access charges for fear of the consequences. However, the Commission should place a very high burden of proof on parties that are urging extreme changes to cost recovery patterns which have proven so successful for so many years. [Id. p.39]

Staff witness Abinah indicates that Staff would allow Qwest to recover its access charge reduction through an increase to the "Basket 3 Revenue Cap." Recall that I don't believe a "Basket 3 Revenue Cap" is necessary. For the same reasons I gave earlier, I doubt Qwest would have much success if it attempts to increase rates in Basket 3 in an effort to recoup the revenues lost from the 25% reduction in switched access rates. To that extent, the Staff proposal is not very attractive from Qwest's perspective. MCI and DoD, on the other hand, provide no indication how Qwest would be permitted to recover its access charge reduction under their proposals. Hence, the potential for drastically higher basic local exchange rates, and in turn the risks to universal service, are much greater under the MCI and DoD proposals.

I offered a much less risky means of reducing access in my direct testimony:

> While I question the logic or merits of proposals to greatly reduce switched access rates and increase basic exchange rates, under RUCO's recommended Plan the Company will be allowed to gradually rebalance these rates if it so chooses. RUCO's recommended Plan does not include any constraint on annual reductions in switched access rates, so regardless of where these rates are placed within the recommended Plan, Qwest can reduce these rates as rapidly as it chooses. The extent to which it can offset these reductions with increases in other rates will depend the degree of competition facing switched access services, and thus which basket it is placed into. For instance, nothing in the recommended Plan would prevent the Company

> from reducing its intrastate switched access rates to levels comparable to those charged in the federal jurisdiction, if for some reason it felt this was desirable. [Id., p. 194]

Because of the various price caps included in RUCO's recommended Plan, the Commission can be confident that any rebalancing that occurs between switched access and other rates will be reasonably gradual, and that offsetting increases in other rates will not be extreme.

Finally, I would again call attention to the portion of my recommendations where I endorsed the use of a state Universal Service Fund (USF) as an appropriate long term mechanism for dealing with geographic cost disparities. To the extent Qwest is experiencing insufficient gross profit margins in high cost, rural areas, I recommend moving away from the implicit revenue support that is provided by switched access, to a system that would provide competitively neutral, explicit, targeted support for high cost areas using a state USF. Recall I proposed the following in my direct testimony:

> If the Commission wants to ensure that rural areas (including many of the exchanges classified as UNE Zone 3) generate revenues which are sufficient to cover the relatively high cost of serving these areas, this should not be accomplished by giving Qwest the freedom to drastically increase rural rates. To the contrary, if the Commission is convinced that the existing system of implicit support is not sustainable or acceptable, it would be more appropriate to revamp the Arizona universal service fund that would provide an appropriate mechanism for dealing with these cost disparities. [Id., p. 65]

Modifying the Arizona USF to more closely resemble the Kansas USF would be a much better

solution to the "high cost problem" than Qwest's AUSF proposals and the other intervenors' access proposals. In this regard, it is worth noting that the Kansas Corporation Commission used this mechanism to reduce intrastate access charges to levels rough parity with interstate access charges, and that high cost support is available on a non-discriminatory basis to all qualified carriers serving customers in rural areas, including small and large ILECs (including SBC) as well as CLECs.

Q. Does this complete your surrebuttal testimony, which was prefiled on January 12, 2005?

A. Yes, it does.

PROPRIETARY EXHIBIT 1

for the

SUPPLEMENTAL TESTIMONY

OF BEN JOHNSON, PH.D.

On Behalf of

THE STATE OF ARIZONA

RESIDENTIAL UTILITY CONSUMER OFFICE

Before the

ARIZONA CORPORATION COMMISSION

Docket No. T-01051B-03-0454

Docket No. T-00000D-00-0672

Note 1: Multiple proprietary notes on the same line are noted by a, b, c, etc.

Note 2: Proprietary tables in their entirety will follow this list.

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Residential Local Exchange Service

Wire Center	Market Share	4-firm Concentration Ratio	HHI	Recommended Basket
PHOENIX-MAIN				Total
TUCSON-MAIN				High
PHOENIX-BETHANY WEST				Moderate
PHOENIX-SOUTHEAST				Moderate
PHOENIX-FOOTHILLS				Moderate
SUNRISE				Moderate
FLOWING-WELLS				Moderate
TUCSON SE				Moderate
CASA GRANDE				Moderate
PHOENIX-PECOS				Moderate
COLDWATER				Moderate
PHOENIX-NORTH				Moderate
SHEA				Moderate
TEMPE-MCCLINTOCK				Moderate
PHOENIX-MARYVALE				Moderate
GILBERT				Moderate
PHOENIX-MID RIVERS				Moderate
PHOENIX-PEORIA				Moderate
CHANDLER-WEST				Moderate
PHOENIX-EAST				Moderate
YUMA-MAIN				Moderate
CRAYCROFT				Moderate
YUMA-SOUTHEAST				Moderate
RINCON				Moderate
SUPERSTITION-WEST				Moderate
CHANDLER-MAIN				Moderate
LITCHFIELD PARK				Moderate
BEARDSLEY				Moderate
PHOENIX-NORTHWEST				Moderate
GLENDALE-MAIN				Moderate
CHANDLER-SOUTH				Moderate
TUCSON-NORTH				Moderate
SCOTTSDALE				Moderate
PHOENIX-WEST				Moderate
PHOENIX-CACTUS				Moderate
TEMPE-MAIN				Moderate
SUPERSTITION-MAIN				Moderate
MESA-MAIN				Moderate
PHOENIX-GREENWAY				Moderate
CORTARO				Moderate
TUCSON-SOUTH				Moderate

Residential Local Exchange Service

Wire Center	Market Share	4-firm Concentration Ratio	HHI	Recommended Basket
CATALINA				Moderate
TUCSON-EAST				Moderate
DEER VALLEY NORTH				Moderate
PHOENIX-SOUTH				Moderate
PAGE				Moderate
PRESCOTT MAIN				Moderate
CORONADO				Moderate
FLAGSTAFF EAST				Moderate
PINNACLE PEAK				Moderate
THUNDERBIRD				Moderate
PHOENIX-NORTHEAST				Moderate
TOLLESON				Moderate
TANQUE VERDE				Moderate
PHOENIX-SUNNYSLOPE				Moderate
GLOBE				Moderate
FLAGSTAFF MAIN				Moderate
YUMA FORTUNA				Moderate
GREEN VALLEY				Moderate
SUPERSTITION-EAST				Moderate
FORT MCDOWELL				Moderate
CAVE CREEK				Moderate
COTTONWOOD-SOUTH				Moderate
SIERRA VISTA-MN				Moderate
HIGLEY				Moderate
PAYSON				Moderate
PRESCOTT EAST				Moderate
NOGALES				Moderate
SEDONA-MAIN				Moderate
HGLY QUEEN CREEK				Moderate
SEDONA-SOUTH				Moderate
NOGALES MIDWAY				Moderate
TUCSON WEST				Moderate
CHINO VALLEY				Moderate
VAIL SOUTH				Moderate
NEW RIVER				Moderate
PHOENIX-LAVEEN				Moderate
TUCSON SOUTHWEST				Moderate
COTTONWOOD-MAIN				Moderate
MARICOPA				Moderate
HUMBOLDT				Moderate
CIRCLE CITY				Moderate

Residential Local Exchange Service

Wire Center	Market Share	4-firm Concentration Ratio	HHI	Recommended Basket
STANFIELD				Moderate
WINSLOW				Moderate
WINTERSBURG				Moderate
SAN MANUEL				Moderate
ELOY				Moderate
COOLIDGE				Moderate
MARANA				Moderate
MUNDS PARK				Moderate
SIERRA VISTA NO				Moderate
SUPERIOR				Moderate
WILLCOX				Moderate
TUBAC				Moderate
BUCKEYE				Moderate
BENSON				Moderate
WHITE TANKS				Moderate
MIAMI				Moderate
DUDLEYVILLE				Moderate
JOSEPH CITY				Moderate
FLORENCE				Moderate
TOMBSTONE				Moderate
YARNELL				Moderate
PIMA				Moderate
BLACK CANYON				Moderate
DOUGLAS				Moderate
PALOMINAS				Moderate
CAMP VERDE				Moderate
VAIL NORTH				Moderate
SOMERTON				Moderate
ORACLE				Moderate
WELLTON				Moderate
SAFFORD				Moderate
SAINT DAVID				Moderate
TONTO CREEK				Moderate
FLAGSTAFF SOUTH				Moderate
SIERRA VISTA SO				Moderate
RIO VERDE				Moderate
BISBEE				Moderate
MAMMOTH				Moderate
WILLIAMS				Moderate
PINE				Moderate
GILA BEND				Moderate

Residential Local Exchange Service

Wire Center	Market Share	4-firm Concentration Ratio	HHI	Recommended Basket
KEARNY				Moderate
ASHFORK				Moderate
WICKENBURG				Moderate
GRAND CANYON				Moderate
HAYDEN				Moderate
PATOGONIA ELGIN				Moderate
PATAGONIA				Moderate
MOUNT LEMMON				Moderate
WHITLOW				Moderate

Business Local Exchange Service

Wire Center	Market Share	4-firm Concentration Ratio	HHI	Recommended Basket
HUMBOLDT				Total
PHOENIX-MAIN				High or Total
PHOENIX-FOOTHILLS				High
PHOENIX-PECOS				High
SUPERSTITION-MAIN				High
TUCSON-MAIN				High
TUCSON SOUTHWEST				High
CASA GRANDE				Moderate or High
HIGLEY				Moderate or High
HGLY QUEEN CREEK				Moderate or High
MUNDS PARK				Moderate or High
SEDONA-MAIN				Moderate or High
SIERRA VISTA SO				Moderate or High
TANQUE VERDE				Moderate or High
VAIL SOUTH				Moderate or High
SUNRISE				Moderate
ASHFORK				Moderate
BUCKEYE				Moderate
BISBEE				Moderate
BLACK CANYON				Moderate
BENSON				Moderate
SAINT DAVID				Moderate
BEARDSLEY				Moderate
CHANDLER-MAIN				Moderate
CHANDLER-SOUTH				Moderate
CHANDLER-WEST				Moderate
CHINO VALLEY				Moderate
COOLIDGE				Moderate
CAMP VERDE				Moderate
CIRCLE CITY				Moderate
CORONADO				Moderate
COTTONWOOD-MAIN				Moderate
COTTONWOOD-SOUTH				Moderate
CAVE CREEK				Moderate
DUDLEYVILLE				Moderate
DOUGLAS				Moderate
DEER VALLEY NORTH				Moderate
ELOY				Moderate
FLAGSTAFF EAST				Moderate
FLAGSTAFF MAIN				Moderate
FLAGSTAFF SOUTH				Moderate

Business Local Exchange Service

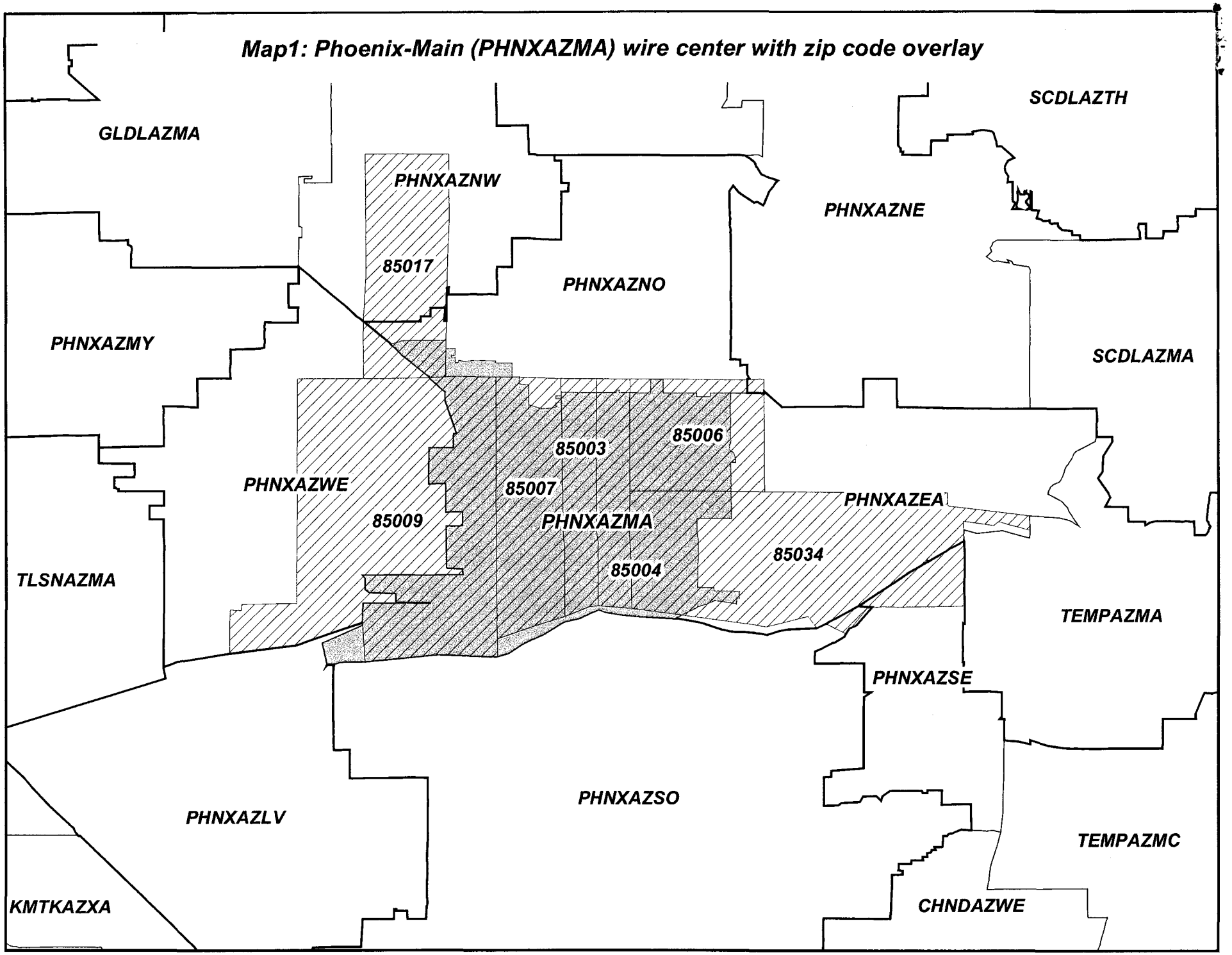
Wire Center	Market Share	4-firm Concentration Ratio	HHI	Recommended Basket
FLORENCE				Moderate
FORT MCDOWELL				Moderate
RIO VERDE				Moderate
COLDWATER				Moderate
GILA BEND				Moderate
GLENDALE-MAIN				Moderate
GLOBE				Moderate
GREEN VALLEY				Moderate
GRAND CANYON				Moderate
HAYDEN				Moderate
JOSEPH CITY				Moderate
KEARNY				Moderate
LITCHFIELD PARK				Moderate
MARANA				Moderate
GILBERT				Moderate
MESA-MAIN				Moderate
MIAMI				Moderate
MAMMOTH				Moderate
MARICOPA				Moderate
NOGALES				Moderate
NOGALES MIDWAY				Moderate
NEW RIVER				Moderate
ORACLE				Moderate
PAGE				Moderate
PHOENIX-BETHANY WEST				Moderate
PHOENIX-CACTUS				Moderate
PHOENIX-EAST				Moderate
PHOENIX-GREENWAY				Moderate
PHOENIX-LAVEEN				Moderate
PHOENIX-MID RIVERS				Moderate
PHOENIX-MARYVALE				Moderate
PHOENIX-NORTHEAST				Moderate
PHOENIX-NORTH				Moderate
PHOENIX-NORTHWEST				Moderate
PHOENIX-PEORIA				Moderate
PHOENIX-SOUTHEAST				Moderate
PHOENIX-SOUTH				Moderate
PHOENIX-SUNNYSLOPE				Moderate
PHOENIX-WEST				Moderate
PIMA				Moderate
PINE				Moderate

Business Local Exchange Service

Wire Center	Market Share	4-firm Concentration Ratio	HHI	Recommended Basket
PALOMINAS				Moderate
PRESCOTT EAST				Moderate
PRESCOTT MAIN				Moderate
PINNACLE PEAK				Moderate
PATOGONIA ELGIN				Moderate
PATAGONIA				Moderate
PAYSON				Moderate
SCOTTSDALE				Moderate
SHEA				Moderate
THUNDERBIRD				Moderate
SEDONA-SOUTH				Moderate
SAFFORD				Moderate
SOMERTON				Moderate
SAN MANUEL				Moderate
SUPERIOR				Moderate
SUPERSTITION-EAST				Moderate
SUPERSTITION-WEST				Moderate
SIERRA VISTA-MN				Moderate
SIERRA VISTA NO				Moderate
STANFIELD				Moderate
CATALINA				Moderate
CORTARO				Moderate
CRAYCROFT				Moderate
TUCSON-EAST				Moderate
FLOWING-WELLS				Moderate
MOUNT LEMMON				Moderate
TUCSON-NORTH				Moderate
RINCON				Moderate
TUCSON SE				Moderate
TUCSON-SOUTH				Moderate
TUCSON WEST				Moderate
TEMPE-MAIN				Moderate
TEMPE-MCCLINTOCK				Moderate
TOLLESON				Moderate
TOMBSTONE				Moderate
TONTO CREEK				Moderate
TUBAC				Moderate
VAIL NORTH				Moderate
WICKENBURG				Moderate
WHITE TANKS				Moderate
WHITLOW				Moderate

Business Local Exchange Service

Wire Center	Market Share	4-firm Concentration Ratio	HHI	Recommended Basket
WILLCOX				Moderate
WILLIAMS				Moderate
WELLTON				Moderate
WINTERSBURG				Moderate
WINSLOW				Moderate
YARNELL				Moderate
YUMA FORTUNA				Moderate
YUMA-MAIN				Moderate
YUMA-SOUTHEAST				Moderate


Map1: Phoenix-Main (PHNXAZMA) wire center with zip code overlay
GLDLAZMA
PHNXAZNW
85017
PHNXAZNO
PHNXAZNE
SCDLAZTH
PHNXAZMY
SCDLAZMA
85003
85006
PHNXAZWE
85007
PHNXAZEA
85009
PHNXAZMA
85034
85004
TLSNAZMA
TEMPAZMA
PHNXAZSE
PHNXAZSO
PHNXAZLV
TEMPAZMC
KMTKAZXA
CHNDAZWE

Map 2: Tucson-Main (TCSNAZMA) wire center with zip code overlay

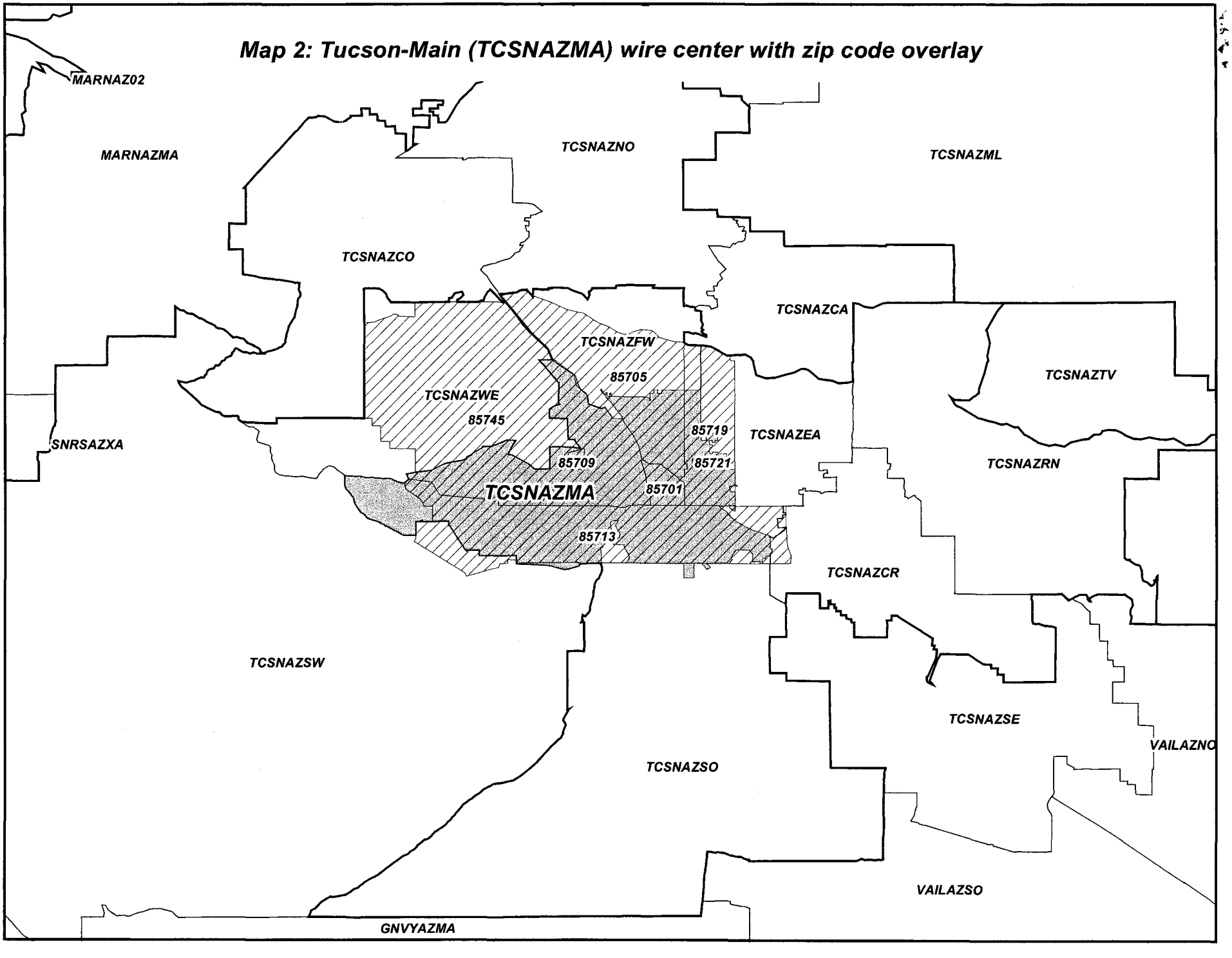


EXHIBIT
tabbies
RUCO-13
admitted

IN THE MATTER OF QWEST CORPORATION'S
FILING OF RENEWED PRICE REGULATION PLAN

DOCKET NO. T-01051B-03-0454

and

IN THE MATTER OF THE INVESTIGATION OF
THE COST OF TELECOMMUNICATIONS ACCESS

DOCKET NO. T-00000D-00-0672

SURREBUTTAL TESTIMONY

OF

DR. BEN JOHNSON
(PROPRIETARY VERSION)

ON BEHALF OF THE

RESIDENTIAL UTILITY CONSUMER OFFICE

JANUARY 12, 2005

1 TESTIMONY

2 OF BEN JOHNSON, PH.D.

3 On Behalf of

4 THE STATE OF ARIZONA

5 RESIDENTIAL UTILITY CONSUMER OFFICE

6 Before the

7 ARIZONA CORPORATION COMMISSION

8

9 Docket No. T-01051B-03-0454

10 Docket No. T-00000D-00-0672

11

12 **Introduction**

13

14 **Q. Would you please state your name and address?**

15 A. Ben Johnson, 2252 Killearn Center Boulevard, Tallahassee, Florida 32309.

16

17 **Q. What is your purpose in submitting this testimony?**

18 A. In this surrebuttal testimony I will be responding to certain portions of the rebuttal testimony of

19 Qwest witnesses Harry Shooshan and David Teitzel. I will also be commenting on positions

20 taken by certain intervenor witnesses concerning issues discussed in my direct testimony. The

21 fact that I do not discuss other portions of the testimony of these witnesses, or the positions

22 taken by other witnesses, should not be construed as agreement with such undiscussed

23 testimony.

Q. Would you please explain how your surrebuttal testimony is organized, and briefly summarize its major elements?

A. Yes. Following this introduction, my testimony has two major sections. The first section contains a response to rebuttal arguments proffered by Qwest witnesses Shooshan and Teitzel. I respond to the arguments made concerning appropriate measures of competition and the degree to which intramodal competition can justify Qwest's petition for greater pricing flexibility under its Arizona Price Regulation Plan (the current Plan). I will also address cost recovery as it pertains to Qwest's need for greater pricing flexibility. In addition, I will respond to Qwest's critiques of RUCO's proposed Price Regulation Plan (the recommended Plan) and the role that productivity, if any, should play in such a Plan.

The second section contains a response to arguments proffered by Cox Arizona Telcom, L.L.C. (Cox), MCI, Inc. (MCI), The United States Department of Defense (DoD), and the Utilities Division (Staff) of the Arizona Corporation Commission (Commission). As in my response to Qwest's rebuttal arguments, in this section I will examine some of these parties' positions on the status of competition in Arizona markets as well as their recommendations for current Plan modifications. Finally, I will critique some of these parties' positions on the appropriate use of the Arizona Universal Service Fund (AUSF) and switched access rate reductions.

Qwest

Q. In its direct testimony, did Qwest attribute much significance to the issue of competition, as it pertained to the Company's proposed revisions to its current Plan?

A. Yes. Mr. Teitzel described competition as the impetus behind the proposed revisions.

> It is imperative that the implications of the dynamic competitive environment in Arizona be recognized in the manner in which Qwest's rates are established and in relaxing regulatory guidelines where competition is now thriving. [Teitzel Direct, p. ii]

Q. Did the Company attempt to describe the competitive landscape in Arizona?

A. Yes. In addition to describing it as "dynamic" in the previous quote, Mr. Teitzel devotes over fifty pages of his direct testimony to describing the activities and successes of carriers he considers Qwest's competitors. After reading this discussion, one is left with the impression that Qwest is facing significant competitive pressures across its Arizona serving area.

Q. Did you present an alternate view of the competitive landscape in your direct testimony?

A. Yes. I painted a picture that was not so rosy. Namely, high barriers to entry still exist for carriers wishing to enter the market. This is evidenced by the relatively high market shares still enjoyed by Qwest across much of its territory, and the high 4-firm concentration ratios and Herfindahl-Hirschmann Indices (HHIs) seen in Qwest wire centers. Further, market abandonment by some major carriers and potential reduction in UNE availability going forward

may slow or reverse the trend toward increased competition.

Q. Have any of the other intervenors painted a similar picture?

A. Yes. Cox witness Lafferty also disputes Qwest's view of the competitive landscape.

> Qwest continues to serve the majority of customers in the state with recent trends suggesting the spread of competition is decreasing. ... Recent regulatory and legal decisions and other trends suggest competition for Qwest's basic wireline services will decrease -- not increase -- in the near future. [Lafferty Direct, p. 3]

Time Warner Telecom of Arizona LLC witness Gates takes a similar position.

> Qwest has overstated the extent to which it is subject to competition in Arizona. ... Qwest maintains dominance in Arizona. In addition, Qwest continues to benefit from its position as the monopoly provider of special access services, which allows it to realize monopoly profits and to control the strength and viability of its competitors. [Gates Direct, p. 3]

Staff witness Fimbres also takes a similar position.

> While some wire centers have all four forms of competition (resale, UNE-L, UNE-P & facilities bypass), the competitive gains in the nearly 9 year window since the 96 Telecom Act was passed highlight slow progress with little to support that acceleration is imminent. ... While the tariffs illustrate opportunities for broad residence and business local exchange service competition, the available evidence indicates that most of the 10 CLECs identified by Qwest are focused on providing business services. Only Cox appears to have a major emphasis on residence service. Only Cox appears to be committed to wide-spread, residential, facilities-based competition, the only form of local exchange

> service provisioning that allows for full local exchange service differentiation. [Fimbres Direct, pp. 11, 12]

Q. How did Qwest respond to your competitive picture?

A. Qwest's witnesses criticized the manner in which I measure competition and the manner in which I dealt with intramodal competition.

Q. Would you please outline Qwest's first criticism?

A. Yes. Mr. Teitzel states in his rebuttal testimony:

> The term "effective competition" does not appear in any Arizona rule or statute that is relevant to this docket. ... The term "effective competition" is not only missing from the Commission's rules, it is a term that may have multiple meanings. One such meaning is that effective competition is where there are no barriers of entry and the costs of entry are not excessive. That describes the current state of the telephony market in Arizona. [Teitzel Rebuttal, p. 67]

Even if the term "effective competition" doesn't appear in any Arizona rule or statute, that doesn't preclude this concept from being useful. If the term "effective competition" suffers from having multiple meanings, that problem is even more severe with respect to the word "competition" standing alone. All real-world markets involve some degree of competition, even those where a single provider serves 100% of the customers and no other providers are capable of providing the service or product in question (a pure monopoly), because alternatives always exist. For instance, a water utility fits the classic definition of a pure monopolist, yet it faces vigorous "competition" from numerous firms selling bottled watered.

As I stated in my direct testimony,

> Although economists recognize that full competition remains an unrealized ideal in our economy, the high levels of efficiency and equity achieved under effective competition have long been a primary justification of America's free enterprise or market-directed system. [Johnson Direct, p. 79]

I find it interesting that Mr. Teitzel attempts to invalidate my use of the term "effective competition" while Mr. Shooshan employs that same term in his examination of various competitive measures. [Shooshan Rebuttal, pp. 8, 24]

In an effort to avoid any potential ambiguities due to the fact that effective competition "may have multiple meanings" I very clearly defined my use of that term in my direct testimony. Namely, "Effective competition is present when a market is free of substantial barriers to entry and exit and when no firm or consortium of firms has enough market power to set or strongly influence market prices." [Id., p. 108] This is more stringent than Mr. Tietzel's interpretation that "effective competition is where there are no barriers of entry and the costs of entry are not excessive," in that the definition I offer accounts for market power, while Mr. Teitzel's does not. Section four of my direct testimony demonstrates why I believe that effective competition does not currently exist in telephony markets in Arizona, regardless of whether the Commission uses Mr. Teitzel's looser definition, or my more stringent one.

In his rebuttal testimony, Mr. Shooshan disagrees with my use of concentration ratios to gauge competition.

> First, it is important to consider the introduction of measurement bias that arises from utilization of number listings (as opposed to actual usage) in measuring a concentration index. ... Using number listings or lines as the appropriate measure of actual and potential *productive capacity*—the truly economically relevant measure for gauging competition—clearly understates true competitive effectiveness. [Shooshan Rebuttal, p. 10]

From this testimony, I gather Mr. Shooshan disputes my emphasis on lines, and would prefer more focus on usage (e.g. focusing on minutes of use or other volume-sensitive measures of market share). As well, it appears he may be suggesting that a measure of the carrying capacity of a network is more important than the volume of actual traffic or revenue generating services that are carried over that network.

I disagree on both counts. In that view, if a new fiber optic network can theoretically handle as much traffic as Qwest's existing network, that carrier should not be viewed as co-equal with Qwest, merely because it has installed productive capacity. If it has few customers and a largely empty network, this carrier's presence may be strong evidence for the existence of barriers to entry that make it difficult for newcomers to convince customers to change carriers. The huge volumes of empty capacity may be a better predictor of future bankruptcies than a measure of current competition. In this regard, I agree with the direct testimony Qwest witness Ziegler where he admonishes the Commission to recognize the "realities of the competitive marketplace." [Ziegler Direct, p. 16] The empirical data that best captures the extent to which competitors are <u>successfully</u> entering the market and winning customers (market shares, 4-firm concentration ratios, and HHIs) all confirm that the "realities of the competitive marketplace" are different in different parts of the state. Qwest's market power has

substantially diminished in some Arizona markets, but in other areas Qwest's market power remains strong. Add to this fact the concern that competition may diminish in the future, due to changes in the federal regulatory environment, and there is every reason to be concerned that Qwest's is asking for too much freedom, too soon.

Finally, if Mr. Shooshan truly believed that "the elasticity of supply is the best economic summary measure of competitive effectiveness," I find it interesting that not a single Qwest witness has offered empirical measures of the elasticity of supply, in an effort to bolster the Company's contention that it is facing effective competition. [Shooshan Rebuttal, p. 10]

Q. Would you please outline Qwest's second critique?

A. Yes. Mr. Shooshan responds to my contention that wireline and wireless services are not competitive alternatives. He states first:

> As long as the services are alike in "substance" (that is, they permit the same primary function to be performed), they are comparable for determining if there is effective competition. In this case, it is clear that wireless and wireline service are enough alike in their primary function to be considered substitutes. [Id., p. 24]

He states second:

> To determine which products or services are in the same market, it is not necessary for all customers to view the services as completely interchangeable. Rather, services are competitive substitutes if they "have the ability—actual or potential—to take significant amounts of business away from each other." [Id., p. 25]

Regarding Mr. Shooshan's first point, I disagree with the notion that being alike in "substance" is sufficient for two items to be classified as close substitutes. Among other problems with this approach, it fails to consider the possibility that substitution may be asymmetric (A is freely substituted for B but B isn't typically substituted for A). As well, it fails to consider the possibility that two alternatives may perform the same substantive function, yet one may be far more costly than the other. In that case, the more costly alternative doesn't provide effective competition for the less costly alternative. To illustrate these complications, consider again the situation where a water utility "competes" with bottled water. The convenience and purity of the bottled alternative leads some consumers to purchase this alternative, thereby reducing their consumption of tap water. But, due to cost differences, it is hardly realistic to suggest that intense competition in the bottled water market is sufficient to diminish the water utility's monopoly power.

I would grant that wireline and wireless phones enable the user to place phone calls. They are alike in this manner. However, in my direct testimony, I offered nine ways in which wireline and wireless are quite different. [Johnson Direct, pp. 178-179] Additionally, I have offered evidence that most consumers seem to believe that they are not close substitutes. Among other things, this is proven by the fact that so many consumers add wireless service without simultaneously dropping their wireline service. [Id., p. 179] Aside from introducing the "substance" concept, Mr. Shooshan has not offered any empirical "substance" to his rejection of my conclusions about wireless service.

I addressed Mr. Shooshan's second point in my direct testimony. Recall I mentioned that "wireless services do not constrain Qwest's ability to exploit its monopoly power in

traditional wireline markets." [Id.] I have shown that wireless service has not *actually* taken much business away from Qwest and any *potential* ability to do so is so speculative that it does not justify immediate action to adopt the sweeping revisions Qwest has proposed for its current Plan.

While Qwest did not provide much numerical evidence in its direct testimonies to support its wireless substitutability claims, one exception is the data cited by Mr. Teitzel in his rebuttal testimony. Interestingly, this data serves to validate my position on this issue rather than Qwest's. Recall that in my direct testimony I stated:

> For many customers, these services more closely meet the definition of complementary goods, rather than substitutes. Most people purchase both services, using their mobile phone in situations where it will function best and their conventional phone where it will function best. The very fact that so many people keep both phones (even if it requires them to double their expenditure on phone service) tends to prove that these services should not primarily be viewed as competitive alternatives. [Johnson Direct, p. 137]

In my direct testimony, I recognized that approximately 6% of wireless customers have abandoned their wireline service entirely. [Teitzel Rebuttal, p. 69] Mr. Teitzel goes on to reference a Yankee Group study that shows 64% of U.S. households have both a wireless and a wireline phone. [Id., p. 70] This dynamic – in which significantly more people have both phones than have substituted one for the other – reasonably supports the conclusion that these two services are primarily complements, rather than substitutes.

Finally, Mr. Teitzel critiques my assessment of cable telephony and VoIP as being "in their infancy." [Johnson Direct, p. 179] He mentions that Cox – a cable telephony provider – is

a "very robust telecommunications competitor" and that VoIP is a "viable telecommunications alternative." [Teitzel Rebuttal, p. 71] I am unsure how closely Mr. Teitzel read my direct testimony because I refer to these technologies as "potentially much more direct substitutes for traditional telephony" and I include Cox lines in my HHI calculations. [Johnson Direct, p. 179] I recognize the potential for increased substitution by these technologies, but even after giving full weight to lines provided by the most significant local provider (Cox), I still concluded that only some portions of Qwest's serving area had enough competition to justify the pricing flexibility the Company is seeking.

Q. What type of pricing flexibility is the Company seeking?

A. As I stated in my direct testimony,

> The current Plan includes a number of provisions that limit the extent to which the Company can increase rates for services in each of the current Plan's three baskets. The "inflation minus productivity" indexing mechanism, hard service caps, and rate element cap in Basket 1 are all examples of existing provisions that limit the Company's pricing flexibility. These specific provisions and others would be modified in the proposed Plan, thereby providing greater opportunities to charge higher prices to all the Categories. [Id., p. 19]

Additionally, Qwest has proposed nearly complete pricing freedom for services in its proposed Flexibly-priced Competitive Services basket. And its proposed "competitive zone" approach would allow it to move services from the Basic basket into the Flexibly-priced basket in certain portions of its Arizona serving area.

Q. Having already stated that your analysis of competition in Arizona indicated little support for the flexibility sought in Qwest's proposed Plan, do you support an alternative Plan?

A. Yes. I urge the Commission to utilize RUCO's recommended Plan to regulate Qwest services going forward.

Q. Did Qwest argue against the utilization of the recommended Plan in its rebuttal testimony?

A. Yes. Mr. Teitzel and Mr. Shooshan addressed perceived flaws in the recommended Plan. The witnesses critique the assignment of services to baskets as well as the retention of the productivity offset in the basket-wide cap on Basic Services. Regarding basket assignment, Mr. Shooshan argued that the recommended Plan was flawed in that it (1) doesn't keep wholesale services and retail services in separate baskets, (2) is contrary to spirit of price cap regulation, and (3) is too complex and cumbersome. Mr. Teitzel similarly argues that the recommended Plan "is perhaps interesting as an academic exercise but is impossible to effectuate." [Teitzel Rebuttal, p. 68]

Regarding the productivity offset, Mr. Shooshan contends (1) that it is not consistent with evolution of price cap regulation, (2) that other states have abandoned it, and (3) that it is wrong to use nationwide data in calculating it.

Q. Would you like to address Qwest's points pertaining to basket assignment under the recommended Plan?

A. Yes. I would first like to point out that Qwest has not questioned the validity of using competitive intensity to assign services. In fact, with respect to this underlying principle, RUCO's recommended Plan is very similar to Qwest's competitive zone approach. As a matter of pure logic, it is obviously appropriate to tailor the degree of pricing flexibility to with the intensity of the competitive pressures that Qwest faces. Because I believe that this fundamental logic applies to all price capped services, I don't think it is necessary to keep wholesale and retail services in separate baskets. What is important is to make sure that the most competitive services aren't commingled with the least competitive services. Mr. Shooshan simply states that separation of wholesale and retail services represents a "progressive approach," but he doesn't provide any support for this opinion. [Shooshan Rebuttal, p. 6] If he is concerned that competitive retail services might be placed in the same basket with monopoly wholesale services, I would certainly share that concern. If it is necessary to create additional baskets to avoid this possibility, I would not necessarily object to doing that.

While I am unsure what Mr. Shooshan means by the "spirit of price cap regulation," perhaps I touched on this subject in my direct testimony, where I stated:

> The specific goal of price cap regulation is to eliminate, or at least weaken, the linkage between cost and rates, but there is no evidence that policy makers have abandoned their focus on the broad public interest, or that they are no longer concerned about the traditional goals of public utility regulation. For example, in developing and refining its

> system of price cap regulation, the FCC apparently still viewed the results of effective competition as an appropriate benchmark for price cap regulation. [Johnson Direct, p. 83]

I do not see any way in which the recommended Plan abandons any of these principles. It is my view that assigning services to baskets according to competitive intensity will advance the public interest because price controls will be loosened most for services and areas with the most intense competition and controls will be only moderately relaxed, or maintained, for services and areas with less intensive competition.

Regarding Qwest's concerns with the complexity of service assignment under the recommended Plan, I conceded in my direct testimony that RUCO's approach was "somewhat more complex" than Qwest's competitive zone approach. [Id., p. 171] Qwest claims that instead of being *somewhat* more complex, RUCO's approach is *much* more complex. [Shooshan Rebuttal, p. 7] I strongly dispute this difference in degree. But, even if a more precise alignment of services and geographic areas *were* much more complex, that added complexity is fully justified if the Commission wants to grant Qwest as much pricing flexibility as possible, while making certain that the public interest is protected.

The appropriate assignment of services to baskets is crucial in price regulation. This assignment process dictates the degree of pricing flexibility that Qwest will be afforded in each case. If this assignment process is overly simplistic, Qwest may be granted an excessive degree of pricing flexibility in markets where it faces relatively little competitive pressure, and thus it will be able to exploit its residual market power to the detriment of its customers and the public generally. In my direct testimony, I specifically cautioned the Commission concerning this risk

due to the excessive simplicity of Qwest's proposed approach. [Johnson Direct, p. 171]

The current standards for classifying services as competitive can be found in Commission Rule R14-2-1108B.

> The petition for competitive classification shall set forth the conditions within the relevant market that demonstrate that the telecommunications service is competitive, providing, at a minimum, the following information:
>
> 1. A description of the general economic conditions that exist which make the relevant market for the service one that is competitive;
> 2. The number of alternative providers of the service;
> 3. The estimated market share held by each alternative provider of the service;
> 4. The names and addresses of any alternative providers of the service that are also affiliates of the telecommunications company, as defined in R14-2-801;
> 5. The ability of alternative providers to make functionally equivalent or substitute services readily available at competitive rates, terms, and conditions; and
> 6. Other indicators of market power, which may include growth and shifts in market share, ease of entry and exit, and any affiliation between and among alternative providers of the service(s). [R14-2-1108B]

The approach to basket assignment found in the recommended Plan is consistent with the procedure that Qwest must currently undertake to classify its services as competitive – taking into account the number of competitors, market shares, and other measures of market power. There is nothing about the current competitive classification mechanism that is unduly complex or burdensome.

To the extent service assignments under RUCO's recommended Plan would be more complex, that is primarily due to the fact that three categories would be used in evaluating the degree of competition, rather than two categories (competitive or not), and because Qwest would have the option of requesting different classification of the same service in different geographic markets. Admittedly, the latter option does add to the overall complexity of the system, but that same complexity is inherent in Qwest's own competitive zone proposal.

Furthermore, I would note that the same types of empirical evidence which are envisioned in the existing Rule (e.g. market shares) are often available for individual wire centers or exchanges.

Finally, it is not clear whether any "services that are deregulated today" would be "re-regulated when they are passed through Dr. Johnson's screen." At most, perhaps some services that have been placed into the most flexible pricing category should more appropriately be placed in the middle category, where Qwest would still enjoy a very substantial degree of pricing freedom. Such a reclassification would not be unreasonable, and in fact is contemplated under the current Commission rules:

> Any telecommunications service classified by the Commission as competitive may subsequently be reclassified as noncompetitive if the Commission determines that reclassification would protect the public interest. Notice and hearing would be required prior to any reclassification. The burden of proof would be on the party seeking reclassification. [R14-2-1108H]

Q. Dr. Johnson, in your direct testimony you summarized some competition statistics gathered from the June 30, 2004 edition of FCC Local Competition Report (FCC LCR). What does the December 2004 update of the FCC LCR indicate about the overall level of competition in Arizona?

A. According to the most recent FCC LCR, the overall CLEC market share in Arizona increased from 21.8% as of December 2003 to 25.2% as of June 30, 2004. [Table 6, FCC LCR] This is roughly five times the CLEC market share of 5% reported by the FCC in June 2000 [Table 7, FCC LCR]. This recent surge in CLEC market presence is consistent with the recent trend nationally; the nationwide CLEC market share more than quadrupled from December 1999 to June 2004 (from 4% to 18%). Table 1 below shows how Arizona compares to the other Qwest states and the nationwide totals, as of June 2004. These data suggest that competition in Arizona is similar to the level of competition that is present in Minnesota, Nebraska and Utah. Competition in the remaining Qwest states appears to be substantially less well developed.

Table 1
End-User Switched Access Lines
in States Served by Qwest
(As of June 30, 2004 per FCC LCR)

State	ILECs	CLECs	Total	CLEC Share
Arizona	**2,415,432**	**814,194**	**3,229,626**	**25.2%**
Colorado	2,439,132	498,583	2,937,715	17.0%
Idaho	666,914	47,398	714,312	6.6%
Iowa	1,232,364	199,115	1,431,479	13.9%
Minnesota	2,377,827	604,152	2,981,979	20.3%
Montana	482,548	19,204	501,752	3.8%
Nebraska	736,257	205,560	941,817	21.8%
New Mexico	894,345	76,469	970,814	7.9%
North Dakota	265,881	22,502	288,383	7.8%
Oregon	1,743,918	267,121	2,011,039	13.3%
South Dakota	271,682	n/a	n/a	n/a
Utah	940,678	288,009	1,228,687	23.4%
Washington	3,276,000	494,375	3,770,375	13.1%
Wyoming	235,360	n/a	n/a	n/a
Total Qwest	17,978,338	3,536,682	21,007,978	16.8%
Total Qwest w/o AZ	15,562,906	2,722,488	17,778,352	15.3%
Nationwide	148,103,506	31,983,229	180,086,735	17.8%

Q. Has the provisioning composition of the roughly 25% CLEC market share in Arizona changed with the update?

A. No it has not. Table 10 of the FCC LCR shows that 50% of the CLEC lines in Arizona are purely facilities-based (using loops that are self-provided) and 33% are UNE-based (including both UNE-P and UNE-L). This is about the same relative composition reported 6 months earlier.

Q. How does this competitive mix compare to other Qwest states?

A. Table 2 below provides this comparison. With respect to facilities-based competition, Arizona represents over 34% of facilities based lines in Qwest's 14 state territory.

Table 2
CLEC-Reported End-User Switched Access Lines By State
(As of June 30, 2004 per FCC LCR)

State	CLEC-Owned (%)	UNEs (%)	Resold Lines (%)
Arizona	**50**	**33**	**17**
Colorado	31	47	22
Idaho	n/a	55	n/a
Iowa	20	72	8
Minnesota	28	51	21
Mississippi	4	74	22
Montana	77	n/a	n/a
Nebraska	66	21	14
North Dakota	34	n/a	n/a
Oregon	13	71	16
South Dakota	n/a	n/a	n/a
Utah	24	49	27
Washington	30	52	18
Wyoming	n/a	n/a	n/a
Total Qwest	33	48	18
Total w/o AZ	28	52	19
Nationwide	23	61	16

Q. Can market share data be useful to the Commission in deciding how much pricing flexibility to grant Qwest through revisions to its Plan?

A. Yes. There are at least two ways in which market share data can be useful to the Commission. First, this data is useful in evaluating the extent and degree to which competitors are succeeding in their efforts to enter Qwest's markets. Recall, in my direct testimony, I stated:

> Market dominance and the ability to exercise market power – not the mere presence of alternative suppliers – are the key issues in deciding whether effective competition has emerged or is emerging. Thus, a logical first step in evaluating the extent of competition is to evaluate relative market shares. If the incumbent continues to enjoy an overwhelmingly large market share relative to the new entrants, it would not be appropriate to adopt regulatory policies which assume that competition is effective. Unless and until the incumbent's market power is greatly eroded, the continued regulatory oversight provided by state commissions and the FCC provides valuable protection for consumers and the public interest generally. [Johnson Direct, pp. 112]

Based upon market share data, I reached the following conclusions regarding wireline competition in Arizona.

In general, CLEC market shares in Arizona are

- higher for services to businesses than services to residences;
- higher for services in metropolitan markets than in rural areas; and
- are held almost entirely by carriers that use their own facilities at

least in part.

Q. What is the second useful aspect of these market share data?

A. These data not only reflect the extent to which the Arizona telecommunications market is competitive, it also examines the underlying composition of that competition. For instance, Arizona CLECs utilize UNEs in providing ****Proprietary Proprietary**** of their lines; they fully rely on their own facilities for ****Proprietary Proprietary**** of their lines, and they rely on pure resale for just ****Proprietary Proprietary**** of their lines.

This data is significant, since these different methods of operation have varying implications for the likely outcome if Qwest were given additional pricing freedom. Simply stated, facilities-based carriers face more substantial barriers to entry and exit than carriers that strictly rely on resale of Qwest's services and/or network elements. Facilities-based CLECs are more independent of Qwest, but they make a larger capital investment; the added risks associated with these sunk investments may encourage facilities-based CLECs to be "price followers" who are reluctant to "rock the boat." Conversely, CLECs that rely on UNE-P and pure resale will encounter lower barriers to entry and exit, but they are less capable of acting independently from Qwest (e.g., they cannot easily compete by adopting and promoting a newer technology).

Another important factor to consider in light of the fact that Arizona CLECs utilize UNE switching to provide ****Proprietary Proprietary**** of their lines is the ongoing advocacy by Qwest at the federal level:

> Qwest and the other RBOCs have been actively lobbying to restrict the availability of UNEs and to make it more difficult, or impossible, for CLECs to rely exclusively on this form of entry. [Johnson Direct, pp. 122]
>
> Depending upon the content of these revised rules, much of the competitive activity that is currently observed, based upon rental of UNEs, may disappear. While this may result in more facilities-based competition, the latter form of competition is clearly more difficult and time consuming to achieve; thus the overall level of CLEC market penetration may decline below current levels, and it may remain at relatively low levels for many years into the future. [Johnson Direct, pp. 124]

Many CLECs are dependent on the use of unbundled portions of Qwest's network in its Arizona serving area. The existing degree of "successful entry" is not necessarily indicative of what the future holds, particularly if the unbundling requirements are loosened, due to the advocacy efforts of Qwest and other ILECs.

Q. How should the Commission interpret market share data?

A. All of these statistics indicate that, almost without regard to where in Qwest's serving territory you focus your attention, the market for residential local exchange service remains "highly concentrated." Recall that in my direct testimony, I provided the Commission with some benchmarks that it could use in evaluating the degree of pricing flexibility which should be associated with specific services and geographic markets. In an effort to provide some benchmarks for judging market conditions, I mentioned that I would anticipate that if the ILEC's market share remains in excess of 67%, it most likely should only receive moderate

pricing flexibility. Similarly, if the service is provided in a market with a 4-firm concentration ratio in excess of 90% and an HHI in excess of 4,000, most likely it would not be appropriate to grant more than moderate pricing flexibility to the ILEC.

An ILEC market share between 67% and 33%, a 4-firm concentration ratio between 90% and 75%, and/or an HHI between 4,000 and 1,800 would be indicative of a somewhat more intensely competitive market–one where regulatory controls could reasonably be relaxed to a greater degree, but significant regulatory protections should remain in place.

Finally, I suggested it would be reasonable to grant total pricing flexibility (with essentially no continuing regulatory protection from monopoly power) if the dominant carrier has a market share of 33% or lower, and the market exhibits a 4-firm concentration ratio that is lower than 75%, or an HHI of 1,800 or less.

Applying these benchmarks to the data received via discovery, we note that Qwest's share of the residential local exchange service market exceeds 67% in all but two of its wire centers. Similarly, the 4-firm concentration ratio in each Qwest wire center exceeds 90%. And finally, the residential HHIs in each Qwest wire center exceed 4,000 in all but the same two wire centers. These data are consistent with the general conclusion that CLEC market shares tend to be higher for services in metropolitan markets than in rural areas. Hence, it is not surprising that the two wire centers with residential market shares below 67% and residential HHIs below 4,000 are ****Proprietary Proprietary****.

As I discuss more thoroughly in the following section, the evidence indicates that it might be appropriate for the Commission to keep most of residential local exchange service in the most tightly regulated service category (e.g., the Moderate Basket in RUCO's

recommended plan). The only exception would be the aforementioned wire centers.

Q. In your direct testimony you provided some illustrative examples of how the Commission might go about assigning specific services to baskets. Mr. Shooshan implies that under RUCO's recommended Plan the assignment process will be too complex. Can you provide some illustrative examples that clarify your recommendations, and demonstrate that it is not impossibly complex?

A. Yes. Schedules 1 and 2 attached to this testimony contain Qwest market share data and 4-firm concentration ratios, as well as HHIs by Qwest wire center, for residential local exchange service and business local exchange service, respectively. These data were provided as Schedules 4 and 5 in my direct testimony. To illustrate the assignment process, I have added recommendations for assigning these services by wire center to the three baskets in RUCO's recommended Plan in the final column of the schedules I present here.

Q. Would you please present your analysis of residential local exchange service?

A. Yes. Recall there are three attributes that can be used to assign a service to a basket under the RUCO's recommended Plan – geography, customer type, and service-specific characteristics.

Schedule 1 takes into consideration all three attributes. Residential local exchange services provide local calling capability, as well as providing access to a variety of other services, including switched toll services, custom calling services and caller ID. By looking at market data for residential customers separately from business customers, we are able to consider competitive differences related to customer type. By looking at market data for each

individual wire center we are able to consider competitive differences within distinct geographic areas.

By and large, the data in Schedule 1 suggests that competition is more extensive in highly urbanized areas than in outlying areas; this is not unexpected, considering differences in the concentration of customers and other factors. For example, the relatively dense Phoenix-Main wire center has an HHI of ****Proprietary Proprietary**.** In contrast, the Whitlow wire center has a much lower density, and an HHI of ****Proprietary Proprietary**.**

By closely examining the data in Schedule 1, however, it is clear that other geographic factors are at work, in addition to differences in density. As well, it becomes clear that residential competition is still relatively weak in comparison with business competition. In fact, all but two of Qwest's wire centers exhibit residential HHIs that exceed the 4,000 benchmark that I suggested as a potential benchmark for delineating between the Moderate Pricing Flexibility basket and the High Pricing Flexibility basket.

Given current market conditions and uncertainties concerning future trends in competition, RUCO recommends that residential local exchange services be placed in the Moderate Pricing Flexibility basket within all wire centers except for Phoenix - Main and Tucson - Main. Within these two wire centers, residential local services should initially be placed in the High Pricing Flexibility basket. Once experience has been gained with the impact of this reassignment, it would be reasonable to consider a request for movement into the Total Pricing Flexibility basket. I will explain the rational for this as I describe the next illustrative example.

Q. Would you please present your analysis of business local exchange service?

A. Yes. Recall that my Schedule 2, attached to this testimony, contains competitive data for business local exchange service in each Qwest wire center. In the ****Proprietary Proprietary****, Qwest currently holds a market share less than 67% (but greater than 33%) of the business local exchange market. Relying on this same data, this wire center has a 4-firm concentration ratio less than 75% and an HHI less than 1,800. In my direct testimony, I mentioned that a service that exhibited an incumbent market share less 33%, a 4-firm concentration ratio less than 75%, and an HHI less than 1,800 would be indicative of a Total Pricing Flexibility service. Accordingly, this wire center meets the second and third benchmark for placement in the Total Pricing Flexibility basket, but not the first benchmark (i.e., Qwest market share). Given this evidence, it would be reasonable to grant Qwest substantial additional pricing flexibility with regard to business local exchange services in this geographic area, by placing these services in either the High Pricing Flexibility basket, or the Total Pricing Flexibility basket.

Q. Up to this point in your discussion, all business local exchange services have been lumped together. Is it feasible to account for the differences in the various business services?

A. Yes. However, the Commission would need to make some judgment calls, because the data provided during discovery is relatively weak in this regard. As I mentioned on page 175 of my direct testimony

> there are most likely differences in the intensity of competition for various business services, including 1FB, PBX trunks, and Centrex. In general, I would anticipate greater competitive penetration for PBX trunk service than for 1FB service, and greater competition for Centrex than for PBX trunk service. However, due to data limitations I was not able to compute separate HHIs for each of these services. [Johnson Direct, p. 175]

Given the available evidence, it would be reasonable, for example, for the Commission to place PBX Trunks and Centrex service in the ****Proprietary Proprietary**** in the Total Pricing Flexibility basket, while placing 1FB service in the High Pricing Flexibility basket.

Q. How do your illustrative examples compare to the assignment of services to baskets under Qwest's proposed Plan?

A. Recall that the proposed Plan assigns services to three baskets – Basic/Essential Non-competitive Services and Flexibly-priced Competitive Services (Wholesale Services basket is the third basket). Under Qwest's competitive zone proposals, many local exchange services would be assigned to the Flexibly-priced Competitive Services basket, and thus virtually all protection from monopoly power would be eliminated.

The major differences between RUCO's recommend Plan and Qwest's proposal are that RUCO provides a middle basket, which affords more pricing flexibility than the existing plan, but less than total flexibility. As shown on Schedule 2, this middle ground is very important under current market conditions. RUCO recommends assigning business local exchange service in many geographic areas to this middle basket, because competition has

advanced substantially, but not enough to justify granting total pricing flexibility.

Finally, RUCO recognizes that competition for many of the services used by large businesses is already very robust. Accordingly, RUCO recommends placing these services into the Total Pricing Flexibility basket, which is very similar to the Company's proposed Flexibly-priced Competitive Services basket. If the Commission adopts this recommendation, the Company will have nearly complete freedom to price these services in whatever manner it chooses.

Q. Would you like to address Qwest's points pertaining to the inclusion of a productivity offset (X) under the recommended Plan?

A. Yes. Mr. Shooshan suggests that the use of an offset is not consistent with the evolution of price cap regulation *because* many state commissions have recently approved Plans devoid of an offset. I cannot speak to the evidentiary record or advocacy context in which the decisions were made in Iowa, Colorado and Minnesota to eliminate use of an offset. However, simply citing to decisions in other jurisdictions is not an appropriate basis for making a decision that could result in a shift of many hundreds of millions of dollars from Arizona customers to Qwest's stockholders for the next 20 years. The evidence I presented in my direct testimony demonstrated that the existing 4.2% offset continues to be consistent with annual productivity and input cost savings achieved by the industry from 1986 to the present.

I explained the rationale for adjusting inflation for industry-specific productivity and cost reductions in my direct testimony:

> ...price cap regulation generally focuses on industry-wide data, while traditional regulation focuses on carrier-specific data. However, the full impact of this difference is not felt initially. When a price cap system is initially instituted, it typically resembles traditional regulation, since the price cap is usually based upon the existing tariffs, which were derived from carrier-specific data. ...Over time, the two systems will tend to diverge, since the price cap method of regulation normally focuses on industry-wide factors, while traditional regulation focuses on company-specific data (in a rate case). ...
>
> By including a factor for inflation, the firm is allowed to increase its prices to keep pace with inflation. This makes sense, to the extent that a firm's costs can be expected to increase as a result of inflation. However, since costs do not increase by exactly the same amount throughout the economy, due, for example, to industry-specific differences in productivity growth, the formula typically includes a factor (usually referred to as the "X" factor) which attempts to track industry-specific differences. [Id., pp. 84, 85]

Looking at national data, it is clear that ILECs continue to benefit from cost reductions relative to the overall rate of inflation. In other words, an ILEC of ordinary efficiency can still expect to benefit from windfall profits if it is allowed to increase its rates in synch with the national inflation rate, without taking into account the more favorable trends in productivity and input costs being experienced by the telecommunications industry. Costs are not increasing as fast as the overall inflation rate.

In this regard, it is important to focus on national data, rather than exclusively focusing on state-specific or carrier-specific data. While the latter data might suggest a recent diminishment in the long term decline in real telecommunications costs, that data is too narrow to provide an accurate, reliable indication of underlying cost conditions. Furthermore, an

exclusive focus on state-specific or carrier-specific data will tend to reestablish a direct link between Qwest's costs and its rates (albeit after a lag), thereby diluting incentives for increased efficiency and cost minimization.

Because the traditional system of rate base regulation relies upon carrier-specific cost information (albeit after a lag), there is a direct link between management decisions and prices that can weaken the incentive for firms to operate efficiently (e.g., because inefficiencies and excessive costs may be recovered from customers).

With a price cap system, prices are regulated by focusing on the changes in the overall level of costs that the firm faces (input cost inflation), and subtracting the impact of productivity or expected productivity growth as it can generally be expected to impact firms in the industry. The price cap should rise if the prices of a firm's inputs rise, but it should not be linked directly to changes in the specific costs incurred by each individual firm. If the system is tied to industry-wide data, it is feasible to avoid a direct link between management inefficiency and higher prices. Thus, by relying on broad data sets, management will have strong incentives to minimize the prices it pays for its inputs, and strong incentives to increase its productivity as much as possible. Whenever management reduces costs, the benefits will immediately and directly flow to stockholders (since revenues and the price cap remain unchanged). The same can be said about traditional regulation between rate cases; however, when a rate case does occur, efficiency incentives are diluted, because observed cost reductions are eventually passed through to ratepayers. In contrast, the benefit of industry wide declining costs should be passed through to customers. A properly designed price cap formula, which includes an appropriate offset based on industry data will assure strong incentives for efficiency and fair treatment of

customers. To the extent cost reductions are generic to the industry, they will be reflected in the data that is used in the price cap formula, and the benefits of these cost reductions will be shared with customers.

Thus, a price cap system with an appropriate offset provides stronger, more lasting incentives for management to cut costs and increase efficiency, in comparison with a scenario in which no offset is used, a scenario in which there are frequent rate cases, or a scenario in which the Commission relies on an ever-present threat of rolling back rates if excess profits arise due to a failure to include an offset in the price cap system.

Q. Would you like to address any other points raised in Qwest's rebuttal testimonies?

A. Yes. Mr. Teitzel, in his rebuttal testimony, critiques the revenue-cost comparisons I included on pages 46 through 63 of my direct testimony. He makes the following statements:

> As discussed in Ms. Million's direct testimony, Qwest's revenues are deficient by approximately $64 million to cover the cost of providing local exchange service in high cost wire centers. This was the basis for Qwest's proposal to establish a competitively-neutral draw from the AUSF to support the provision of local exchange service to high cost areas. [Teitzel Rebuttal, p. 65]
>
> However, the revenue generated by customers in the highest cost wire centers is not sufficient to cover Qwest's costs of providing service to those customers. This fact is the driver of Qwest's AUSF proposal. Essentially, Dr. Johnson is suggesting that the monopoly era system of implicit subsidies should be continued in perpetuity in Arizona. [Id., pp. 66-67]

Mr. Teitzel contends that Qwest's revenues in high cost areas are deficient by $64 million

based upon an analysis of the cost of providing local exchange service in these areas. While I don't disagree with the premise that it costs more to provide service in some areas relative to others, I strongly dispute the specific method Qwest is using to estimate the magnitude of the alleged shortfall. Recall that I stated the following in my direct testimony:

> Having been active in utility regulation for more than 25 years, I have been a part of numerous proceedings in which subsidy claims are made. I have found that where differences of opinion exist concerning the presence or absence of cross subsidies, the debate almost always centers around a single major point of contention–the appropriate interpretation and treatment of joint and common costs. [Johnson Direct, p. 48]

Staff witness Regan provided testimony that confirms the crucial importance of the appropriate treatment of joint and common costs in this context:

> Qwest would already be incurring the costs of the loops and ports if Qwest was "already" providing toll, access and vertical services, so those costs are not "additional" costs of basic local exchange service. However Qwest improperly included 100% of these loop and port costs in its claimed basic local TSLRIC. [Regan Direct, p. 16]

My revenue-cost comparisons show that the problem is not as widespread, or as severe, as Mr. Teitzel contends. Qwest did not provide a substantive response to my quantitative analysis in its rebuttal.

With regard to Mr. Teitzel's contention that "the monopoly era system of implicit subsidies should be continued in perpetuity in Arizona" this is simply not true. To the contrary, my revenue-cost comparisons suggest there are significant discrepancies in Qwest's gross profit

margins across different geographic markets. While I don't necessarily agree with characterizing these discrepancies as "implicit subsidies" I agree there is reason to be concerned about the magnitude of these discrepancies. Over the long term, these discrepancies may not be sustainable, given the increased level of competition being experienced in urban markets relative to rural markets – as well as the higher level of competition being experienced in business markets where the largest gross margins have historically been achieved. If profit margins continue to erode in these markets, it may be difficult for Qwest to continue to profitably serve low margin customers in high cost markets. As well, there is reason to be concerned that these discrepancies in gross profit margins have a tendency to distort the price signals that are sent to other carriers, by discouraging them from attempting to compete with Qwest in high cost areas.

Not only do I share some of Qwest's concerns about continuation of the status quo, I specifically recommended that, to the extent that Qwest believes it needs changes in the regulatory environment in order to "recover its costs of serving customers in high cost areas," I recommend utilizing a state Universal Service Fund approach similar to the one used in Kansas. [Ziegler Direct, p. 8]

> The KCC initially established the Kansas Universal Service Fund as a "revenue neutral" mechanism which replaced a portion of the existing access revenues. It later replaced this system with a forward-looking cost-based mechanism. The KCC recognized that costs per line can vary widely with density and distance from the central office. Therefore, in order to take these factors into account, the KCC decided to target support on the highest cost (i.e., least dense, most distant) areas within each wire center. Wire centers and zones within these wire centers were not given support unless the relevant costs per line exceeded

125% of the statewide average costs per line. [Johnson Direct, p. 65]

Other Intervenors

Q. Would you like to address any of the points raised in the direct testimonies of the other intervenors in these proceedings?

A. Yes. In particular, I would like to respond to two areas in which other intervenors put forward positions that are contrary to my recommendations – suggestions for modifying the current Plan, and suggestions for lowering switched access rates.

Q. Would you please outline and respond to intervenor positions as they relate to the first issue?

A. Yes. No other witness has recommended departing from the existing basket structure found in the current Plan. Those that have made suggestions for modifying the current Plan have limited their comments to suggestions for tweaking the existing price caps or the existing reclassification mechanism. I agree the current Plan is basically sound, and it would be better to retain the current Plan than to adopt Qwest's proposed Plan, I believe that now is an appropriate time to rethink the current Plan's basket structure, and to modify that structure, in order to provide Qwest with some additional pricing flexibility on a highly targeted basis, without prematurely removing protection from monopoly power in those markets where Qwest continues to enjoy a substantial degree of market power.

Second, I take issue with Staff's and DoD's proposed price caps. Like Qwest, Staff

supports eliminating X and replacing it with a revenue cap. Unlike Qwest, Staff proposes to retain a revenue cap on the Competitive Services basket. In responding to Qwest arguments above, I reemphasized why I believe it is appropriate to retain an offset. Neither Qwest nor Staff have presented any substantial evidence that the decades-long pattern of declining real costs in the telecommunications industry has suddenly come to a halt, or that market forces alone are capable of passing through to consumers the benefits of increasing productivity and declining costs, similar to the manner in which these benefits flow to consumers under conditions of effective competition.

I find it puzzling that Staff would paint a rather bleak picture of competition in Arizona, and yet contend that lost productivity due to "line and revenue losses" justify eliminating the offset. [Rowell Direct, p. 13] The effect of eliminating the offset will be to give Qwest an opportunity to earn monopoly profits from services sold in those markets where it faces the weakest competition.

On the other hand, I believe Staff goes too far in the opposite direction (i.e., not granting Qwest sufficient pricing flexibility) when it proposes using a revenue cap in the Competitive Services basket, even with an upward adjustment. [Rowell Direct, p. 12-13] I agree with Qwest's contention that competition is robust for some of its services in portions of its Arizona serving area. [Johnson Direct, p. 176] Given this fact, it can be reasonably expected that market forces alone will force Qwest to pass productivity gains and cost reductions through to consumers in these areas. As a result, I support RUCO's conclusion that the maximum rate provisions in Commission rules A.A.C. R14-2-1109 and A.A.C. R14-2-1110 are sufficient price caps on Competitive Services. I see no reason to impose a revenue cap, nor do I

anticipate any problem with granting Qwest near total pricing flexibility in these specific markets.

Q. Have any other intervenors proposed modifying the competitive zone approach Qwest employs in its proposed Plan?

A. Yes. Staff and Cox present their own competitive zone proposals. In one respect their recommendations are consistent with RUCO's recommended Plan: they separately deal with residential and business services. [See, Rowell Direct, p. 42 and Lee Direct, p. 9]

In another respect they take a quite different approach: Staff witness Rowell and Cox witness Lafferty argue against the use of Qwest wire centers as the geographical basis for competitive zones. Mr. Rowell states:

> The disadvantages of the wire center are that listing information is not available at the wire center level, information on CLECs who use their own network exclusively is not available at the wire center level (but Qwest has provided problematic estimates), information on wireless carriers and VOIP providers is not available at the wire center level and customers are not familiar with the concept of a wire center. [Rowell Direct, p. 24]

Mr. Lafferty states:

> Both customers and competitors must have a clear understanding of the boundaries. Customers think in terms of town, cities, counties and states, so any other definition would be hard for them to grasp. ... Most customers would understand towns or exchanges, but not wire centers. [Lafferty Direct, pp. 29-30]

After carefully considering the arguments proffered by Staff and Cox against the use of wire centers as a basis for evaluating competition, I continue to believe it is useful to analyze the data on this basis.

The first, most important advantage of using wire centers is that robust data is readily available for individual wire centers. Mr. Rowell concedes this point.

> Certain facts are available at the wire center level. The number of competitors serving customers in a wire center through UNE-L, UNE-P, and resale is known to Qwest. Also the specific number of lines each such competitor is serving in a wire center is known to Qwest. [Rowell Direct, p. 24]

It is exactly this granular, wire center-based line data that I recommend using to identify markets where increased pricing flexibility can appropriately, and safely, be granted (as summarized in my Schedules 1 and 2). Mr. Rowell argues that Cox does "not use wire center boundaries and thus they are unable to tell us how many customers or lines they are serving in each (Qwest) wire center." [Rowell Direct, p. 25] However, that doesn't preclude compiling Cox data that has been reconciled to the Qwest wire center boundaries. If an extreme level of precision were needed, it would only be necessary to obtain the street addresses of each of Cox's customers (or a random sample of those customers), and then to locate these addresses relative to the wire center boundaries. While this may sound difficult, it can be accomplished using highly computerized processes, similar to the methods that are used target direct mail campaigns at specific neighborhoods or sub-markets. On a more simplified basis, roughly the same results can be achieved by relying on ported phone number data. Many customers retain

the phone number that was issued by Qwest prior to the time they become a Cox customer. Since in most cases these phone numbers can easily be mapped directly back to the Qwest serving wire center, it is a relatively simple matter to estimate the number of Cox lines that are serving customers that are located within the geographic areas associated with each of Qwest's wire centers. Finally, I would note that Qwest's wire centers are also directly relevant to CLECs who rely on unbundled loops provided by Qwest, since they will generally connect their facilities to these loops at the associated Qwest wire center.

At some point in the expansion/entry process, a CLEC will need to analyze individual Qwest wire centers, in evaluating the cost of collocation, the cost of renting Qwest loops versus installing their own facilities, the cost of originating and terminating traffic to Qwest customers in that wire center and so forth. Thus, Qwest wire centers are relevant to all competing carriers, including those who primarily rely on their own facilities.

During each step of the entry and network expansion process, the CLEC needs to consider the fixed and variable costs of the entry decision in question, taking into account the fixed cost of collocation and the other investments involved in that entry option. The CLEC will not likely take the next step unless it has a reasonable expectation of recovering its fixed costs over the life cycle of the investment in question. The CLEC might incur collocation costs, costs for various pieces of equipment to be installed in the collocation area, and additional costs required to serve its customers. Throughout this series of decisions, the Qwest wire centers are relevant to their decision making process (although, admittedly, these wire centers are much less important for a cable television carrier like Cox). In general, CLEC entry is not an all-or-nothing decision that occurs exclusively at the county, city, town, or exchange level.

1 Rather, it is typically a sequential process that evolves and changes over time, with many of the
2 key entry decisions occurring at the wire center level or at an even more granular level.
3 Additionally, larger geographic areas such as zip codes (as proposed by Staff) or towns
4 and exchanges (as proposed by Cox) are generally more heterogeneous than individual wire
5 centers. By this I mean that geographic and customer characteristics will vary more widely
6 across a larger area than a smaller one. A town many encompass vastly different
7 neighborhoods with widely varying economic and demographic conditions. Although a town or
8 an exchange may possess a substantial urban component, it is also likely to possess a mixture of
9 both urban and suburban markets. Furthermore, in a state like Arizona, which includes many
10 rural areas, an exchange may include lightly populated rural areas beyond the suburbs.
11 Because competitive conditions are likely to vary as the geographic area studied expands,
12 declaring a service to be competitive (or not) within a relatively large, relatively heterogeneous
13 area has the potential for significant error. Accordingly, I recommend developing the
14 competitive analysis on a more granular basis, focusing on relatively small geographic areas,
15 (like individual wire centers).
16
17 **Q. How do you respond to the concerns expressed by Staff and Cox witnesses that**
18 **customers aren't familiar with wire center boundaries?**
19 A. First, it isn't necessary for customers to have familiarity with the geographic boundaries used in
20 administering the price cap plan for the Commission to do its work. Stated another way, once
21 the Commission determines where pricing flexibility will be granted, it will be sufficient to
22 provide affected customers with notice of the fact that Qwest's rates are no longer subject to

stringent regulation, and to make sure they are informed of the existence of competitive alternatives, in the event Qwest uses its new-found freedom to raise its prices.

Second, if the Commission wants to align its basket assignments with geographic boundaries that are already familiar to customers, it can do so in the final stages of its analysis. If this alignment occurs as a final step, the benefits of using granular wire center data can be retained to a high degree. The Commission can start with a review of HHI and other data for individual wire centers; after determining which wire centers are experiencing the most intense levels of competition, the Commission can look more closely at these specific areas, to determine what existing boundaries (e.g. zip codes) are most closely aligned with, or come closest to encompassing, the wire center areas in question. Thus, for example, if the Commission concludes that competition in the Phoenix main wire center is intense enough to justify additional pricing freedom, it could implement this decision by reclassifying the appropriate services within certain zip codes.

I prepared Maps 1 and 2 to illustrate this suggestion. Map 1 centers on the Phoenix - Main wire center and shows the zip codes that overlap the area served by this wire center. As shown on Map 1, zip codes 85003, 85004 and 85007 are almost entirely within the Phoenix - Main wire center boundary. A substantial portion of one other zip code (85006) also falls within the area served by this wire center.

Map 2 shows the Tucson - Main wire centers with the zip codes overlaid. As shown, zip codes 85701, 85709, and 85721 lie entirely within the area served by this wire center. In addition, zip code 85713 is largely within the Tucson - Main wire center.

Q. Would you please outline other intervenor positions as they relate to adjusting access rates?

A. Yes. MCI, DoD and Staff have all sought intrastate access rate reductions in these proceedings. MCI witness Price enumerates his proposal:

> For all the reasons set forth in my testimony, MCI respectfully urges the Commission to reduce Qwest's Arizona intrastate switched access charges to levels approximating economic cost. If, however, the Commission is unwilling to take such action at this time, at a minimum, it should require Qwest's intrastate switched access rates to mirror its interstate switched access rates. [Price Direct, p. 3]

DoD witness Lee enumerates his proposal:

> If and when the FCC adopts a change to intercarrier compensation, it will undoubtedly result in a further reduction of interstate access rates. There is nothing to be gained by a further delay in bringing intrastate access rates at least to current interstate rate levels.
>
> On the other hand, I agree with Qwest witness Ziegler that this change should be on a revenue neutral basis, with switched access rate reductions offset by an appropriate end-user charge. To minimize rate shock, I recommend that this change be accomplished in two steps, with half of the difference in rates effective upon implementation of the revised price cap plan and full parity a year later. [Lee Direct, p. 11]

Finally, Staff witness Regan enumerates his proposal:

> I recommend that Qwest's intrastate switched access rates be reduced by 25%. ... This reduction will effectively bring Qwest to "parity" with the Qwest interstate switched access rates (when the interstate EUCL charges are factored into the calculation of the interstate switched access rates), and will bring the Arizona intrastate switched access

> rates in line with the average intrastate switched access charges of Qwest across its 14 state service territory. [Regan direct, p. 41]

Q. How do these recommendations compare to what you recommended for access in your direct testimony?

A. Unlike Cox, DoD and Staff, I have not recommended a specific level of access rate reductions, but I did express some concerns about the potential impact of such reductions:

> Switched access service is an important source of revenues that has historically been used to help pay for the costs of providing Universal Service. If these rates are greatly reduced, as some parties are advocating, there will be increased pressure to replace this revenue stream with an alternative source of funding, such as higher local exchange rates. This type of "rate rebalancing," as it has been called, may endanger the universal service goal, particularly if it is implemented in an extreme manner. [Johnson Direct, p. 36]

While I don't necessarily agree with the Staff proposal – a one-time access rate reduction of $25 million – it is not as extreme as MCI's proposal, which could lead to drastic dislocations (depending upon how the concept of "economic cost" is interpreted). While DoD's proposal is also somewhat extreme, at least they are proposing that the resulting rate changes be phased in gradually. In this regard, I would like to take this opportunity to reiterate a cautionary note I included in my direct testimony.

> In evaluating this conflicting advice, it would be appropriate to err in the direction of ensuring that the "price of entry" onto the telephone network remains at attractively low levels–thereby helping to maintain very high penetration rates. That is not to say that the Commission should be unwilling to deviate from the status quo, or that it should

> refuse to consider any reductions to access charges for fear of the consequences. However, the Commission should place a very high burden of proof on parties that are urging extreme changes to cost recovery patterns which have proven so successful for so many years. [Id. p.39]

Staff witness Abinah indicates that Staff would allow Qwest to recover its access charge reduction through an increase to the "Basket 3 Revenue Cap." Recall that I don't believe a "Basket 3 Revenue Cap" is necessary. For the same reasons I gave earlier, I doubt Qwest would have much success if it attempts to increase rates in Basket 3 in an effort to recoup the revenues lost from the 25% reduction in switched access rates. To that extent, the Staff proposal is not very attractive from Qwest's perspective. MCI and DoD, on the other hand, provide no indication how Qwest would be permitted to recover its access charge reduction under their proposals. Hence, the potential for drastically higher basic local exchange rates, and in turn the risks to universal service, are much greater under the MCI and DoD proposals.

I offered a much less risky means of reducing access in my direct testimony:

> While I question the logic or merits of proposals to greatly reduce switched access rates and increase basic exchange rates, under RUCO's recommended Plan the Company will be allowed to gradually rebalance these rates if it so chooses. RUCO's recommended Plan does not include any constraint on annual reductions in switched access rates, so regardless of where these rates are placed within the recommended Plan, Qwest can reduce these rates as rapidly as it chooses. The extent to which it can offset these reductions with increases in other rates will depend the degree of competition facing switched access services, and thus which basket it is placed into. For instance, nothing in the recommended Plan would prevent the Company

> from reducing its intrastate switched access rates to levels comparable to those charged in the federal jurisdiction, if for some reason it felt this was desirable. [Id., p. 194]

Because of the various price caps included in RUCO's recommended Plan, the Commission can be confident that any rebalancing that occurs between switched access and other rates will be reasonably gradual, and that offsetting increases in other rates will not be extreme.

Finally, I would again call attention to the portion of my recommendations where I endorsed the use of a state Universal Service Fund (USF) as an appropriate long term mechanism for dealing with geographic cost disparities. To the extent Qwest is experiencing insufficient gross profit margins in high cost, rural areas, I recommend moving away from the implicit revenue support that is provided by switched access, to a system that would provide competitively neutral, explicit, targeted support for high cost areas using a state USF. Recall I proposed the following in my direct testimony:

> If the Commission wants to ensure that rural areas (including many of the exchanges classified as UNE Zone 3) generate revenues which are sufficient to cover the relatively high cost of serving these areas, this should not be accomplished by giving Qwest the freedom to drastically increase rural rates. To the contrary, if the Commission is convinced that the existing system of implicit support is not sustainable or acceptable, it would be more appropriate to revamp the Arizona universal service fund that would provide an appropriate mechanism for dealing with these cost disparities. [Id., p. 65]

Modifying the Arizona USF to more closely resemble the Kansas USF would be a much better

solution to the "high cost problem" than Qwest's AUSF proposals and the other intervenors' access proposals. In this regard, it is worth noting that the Kansas Corporation Commission used this mechanism to reduce intrastate access charges to levels rough parity with interstate access charges, and that high cost support is available on a non-discriminatory basis to all qualified carriers serving customers in rural areas, including small and large ILECs (including SBC) as well as CLECs.

Q. Does this complete your surrebuttal testimony, which was prefiled on January 12, 2005?

A. Yes, it does.

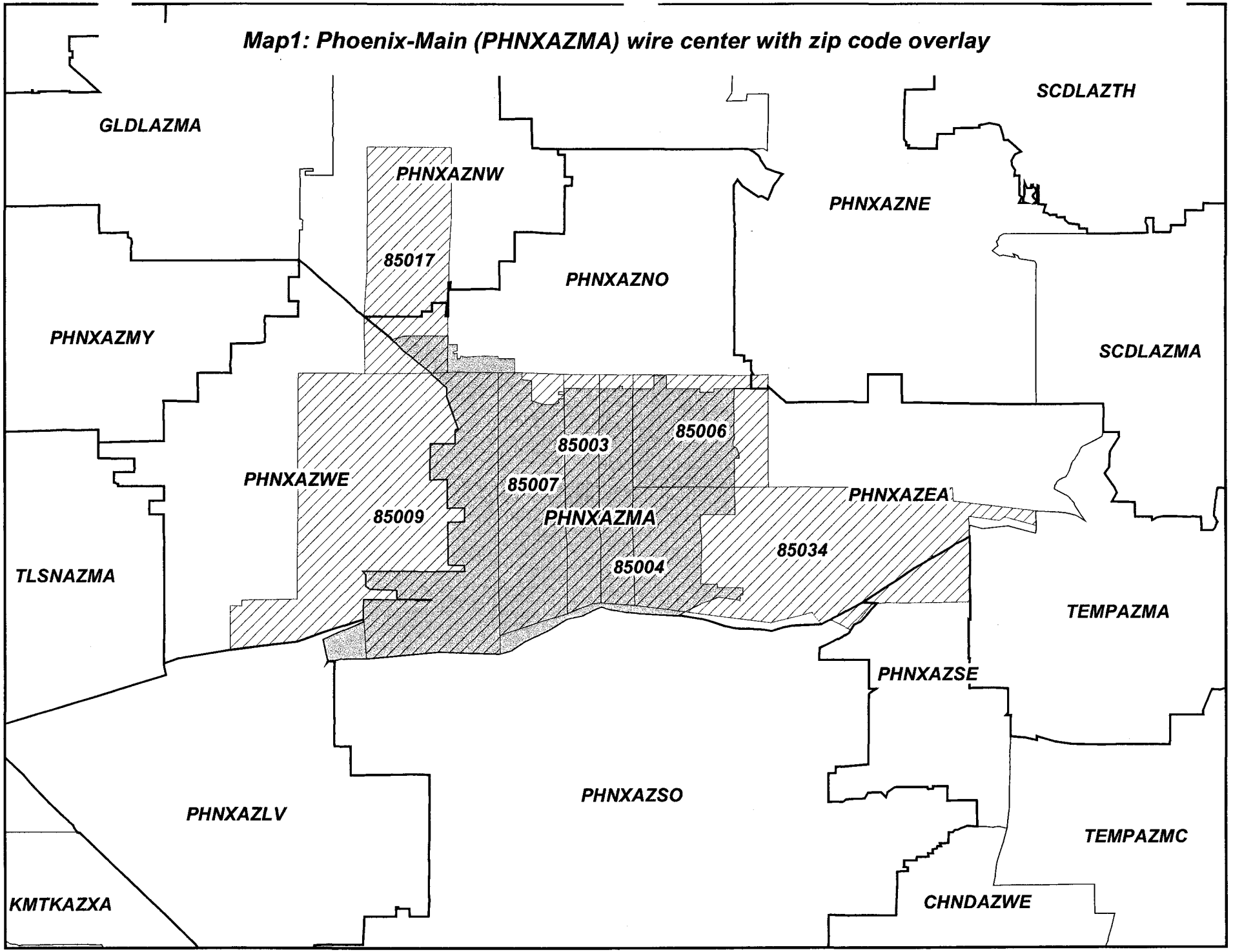
PROPRIETARY EXHIBIT 1

RUCO 13

Supplemental Testimony of

Ben Johnson, Ph.D.

(Pages 1 – 9)


Map1: Phoenix-Main (PHNXAZMA) wire center with zip code overlay
GLDLAZMA
SCDLAZTH
PHNXAZNW
PHNXAZNE
85017
PHNXAZNO
PHNXAZMY
SCDLAZMA
85006
85003
PHNXAZWE
85007
PHNXAZEA
85009
PHNXAZMA
85034
85004
TLSNAZMA
TEMPAZMA
PHNXAZSE
PHNXAZSO
PHNXAZLV
TEMPAZMC
KMTKAZXA
CHNDAZWE

Map 2: Tucson-Main (TCSNAZMA) wire center with zip code overlay

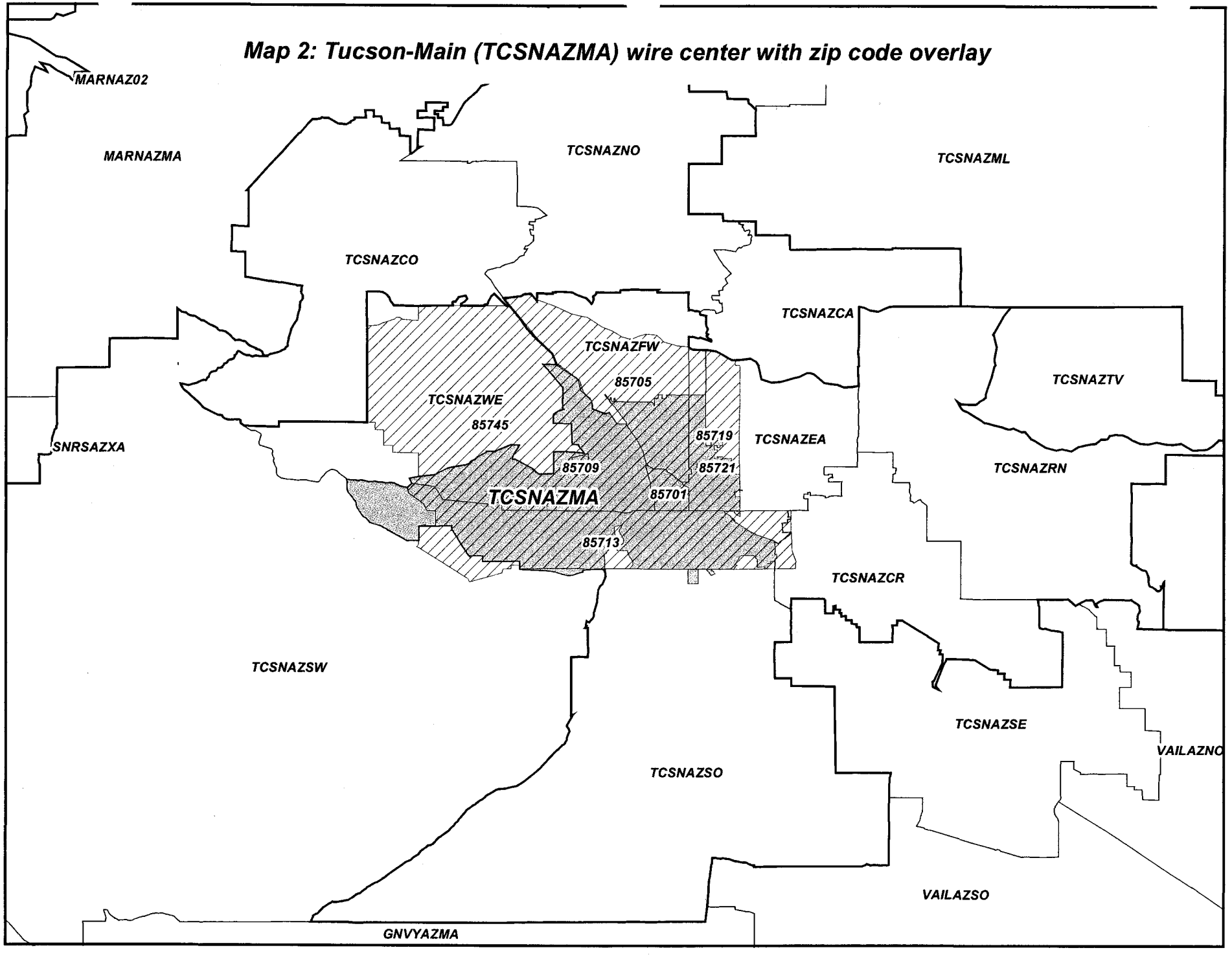


EXHIBIT
RUCO-64
admitted

QWEST CORPORATION

IN THE MATTER OF QWEST CORPORATION'S FILING OF
RENEWED PRICE REGULATION PLAN
(DOCKET No. T-01051B-03-0454)

and

IN THE MATTER OF THE INVESTIGATION OF THE COST OF
TELECOMMUNICATIONS ACCESS
(DOCKET No. T-00000D-00-0672)

SUPPLEMENTAL TESTIMONY

IN OPPOSITION TO

QWEST'S SETTLEMENT AGREEMENT

OF

BEN JOHNSON, PH.D.

ON BEHALF OF

THE

RESIDENTIAL UTILITY CONSUMER OFFICE

OCTOBER 14, 2005

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TESTIMONY

OF BEN JOHNSON, PH.D.

On Behalf of

THE STATE OF ARIZONA

RESIDENTIAL UTILITY CONSUMER OFFICE

Before the

ARIZONA CORPORATION COMMISSION

Docket No. T-01051B-03-0454

Docket No. T-00000D-00-0672

Introduction

Q. Would you please state your name and address?

A. Ben Johnson, 2252 Killearn Center Boulevard, Tallahassee, Florida 32309.

Q. What is your present occupation?

A. I am a consulting economist and president of Ben Johnson Associates, Inc., an economic research firm specializing in public utility regulation.

Q. Have you prepared an appendix that describes your qualifications in regulatory and utility economics?

A. Yes. Appendix A, attached to my testimony, will serve this purpose.

Q. What is your purpose in making your appearance at this hearing?

A. Our firm has been retained by the Residential Utility Consumer Office ("RUCO") to assist with RUCO's participation in this proceeding, which involves a proposed settlement and price cap plan between Staff, Qwest and other parties which is intended to resolve issues raised in two separate Arizona Corporation Commission (Commission) dockets – T-01051B-03-0454 (which examines proposed revisions to Qwest Corporation's Arizona Price Regulation Plan) and T-00000D-00-0672 (which investigates the pricing of Qwest's intrastate switched access service).

Following this introduction, my testimony has three major sections. In the first section, I briefly sketch the background of this proceeding and summarize the proposed settlement. In the second section, I discuss respond to specific provisions in the proposed settlement and revised price cap plan. In the third section, I present my conclusions and recommendations.

Q. Would you please very briefly summarize your conclusions?

A. After careful review of the revised plan proposed by the settling parties, I have concluded that, from a public interest perspective, it does not represent an improvement over the current Plan. To the contrary, under the proposed plan Qwest will have greater freedom to exploit its remaining monopoly power, by increasing prices for services where it faces relatively little competition. And, the proposed plan includes very few, if any, changes which would benefit residential and other mass market customers.

As I explained in my direct testimony, significant barriers to entry remain in many portions of the Arizona telecommunications market – and continue in residential areas

and rural parts of the state. While exceptions certainly exist, by and large, most local competitors have not yet enjoyed much success in penetrating the local exchange market, developing a market presence, gaining large numbers of customers, or building substantial revenues. The high degree of pricing freedom that would be granted Qwest under the proposed settlement is not consistent with the limited, inconsistent state of competition in much of Qwest's Arizona service territory.

Equally troubling, the proposed settlement does not even attempt to resolve pressing issues, such as geographic differences in cost, geographic differences in competitive pressure, and the need for an improved Arizona Universal Service Fund.

I conclude that the public interest would not be served by replacing the current price cap plan with the plan attached to the proposed settlement. The proposed settlement is not an improvement over the existing plan; nor does it address some important issues pending in this proceeding which are central to the future viability of competition in the Arizona telecommunications market. I recommend that the Commission reject the proposed settlement, and proceed to a hearing on the full record in this hearing on the full record in this matter.

Background

Q. Can you start your background discussion by briefly describing the purpose of price cap regulation?

A. The primary objective of regulation, including price cap regulation, has always been to produce results in the utility sectors of the economy that parallel those obtainable under

conditions of effective competition. Although economists recognize that full competition remains an unrealized ideal in our economy, the high levels of efficiency and equity achieved under effective competition have long been a primary justification of America's free enterprise or market-directed system.

As I explained in my direct testimony, the specific goal of price cap regulation is to eliminate the linkage between cost and rates. However, under price cap regulation, policy makers still view the results of effective competition as an appropriate benchmark, and still are focused on preventing monopolists from charging excessive rates or earning supra-normal profits. Once competition becomes strong enough to force ILECs to charge the going market rate for their services, then price cap regulation can be greatly loosened, particularly if the incumbent is being forced by competition to set its rates below the price cap level. Stated differently, price caps are a means by which regulators can transition to a competitive market, by loosening constraints as competitive pressures become strong enough to prevent the exercise of monopoly power. However, if the freedom to increase prices is provided prematurely, it can harm consumers and adversely impact the transition to effective competition.

Q. Would you now briefly sketching the background of this docket?

A. Certainly. The Commission opened the Access Docket in September 2000 with the intent of analyzing the relationship between the rates charged and the costs incurred in the provision of access service. [Procedural Order, December 3, 2001, p. 1] On June 28, 2002, after several rounds of comments and testimony, Staff filed a Motion to Suspend the Procedural Schedule. The Commission granted the motion on July 8, 2002. The

Access Investigation was subsequently combined with the rate cap review in this proceeding, and thus it is feasible for the Commission to implement changes to Qwest's access rate structure in this proceeding, should it decide this is appropriate.

The origin of the Price Cap Docket can be found in the Commission's Order No. 63487, which approved the Company's current Plan. On July 1, 2003 Qwest filed an application for a Revised Price Regulation Plan. After several procedural delays, Qwest filed supporting testimony on May 20, 2004. RUCO, Staff and other parties filed direct testimony on November 18, 2004. Qwest filed rebuttal testimony on December 20, 2004. The other parties filed surrebuttal testimony on January 12, 2005.

Shortly thereafter, Qwest, Staff, RUCO and other interested parties began a series of settlement discussions. On August 23, 2005, Staff filed a Notice of Settlement Agreement. The agreement included a revised price cap plan, and was entered into by Staff, Qwest, the Department of Defense and other Federal Agencies, MCI, Time Warner, the Arizona Utility Investors Association and DO Communications. The settling parties filed supporting testimony on September 6, 2005.

Q. Would you briefly summarize the Settlement Agreement?

A. The Settlement Agreement has three main components. First, the parties agreed to a jurisdictional revenue deficiency of $31.8 million. Second, the parties agreed to a $12 million switched access reduction. Third, the parties agreed to a Revised Price Cap Plan. Key provisions of the revised plan include:

1. Services are grouped into four baskets.

2. Prices for services in Basket 1 (Hard Capped Retail Services) cannot increase over the term of the plan.
3. Prices for individual services in Basket 2 (Limited Pricing Flexibility Retail Services) cannot increase more than 25% per year. Combined revenue increases for all services Basket 2 are limited by an overall revenue cap.
4. Price increases for individual services in Basket 3 (Flexibly-Priced Competitive Services) are not constrained. However, combined revenue increases for all services are limited by an overall revenue cap.
5. Prices for services in Basket 4 (Wholesale Services) are capped at current tariff or contract levels for the duration of the plan.
6. During the term of the plan, Qwest can raise rates for basket 2 and 3 services to generate up to an additional $43.8 million in revenues. ($31.8 million revenue deficiency, plus $12 million access charge rebalancing) However, during the first year of the plan, revenues cannot increase more than $31.8 million.
7. During the first year of the plan, only $1.8 million of the allowed $31.8 million revenue increase can be derived from increases to Basket 2 services. During the remaining years of the plan, only $13.8 million of the allowed $43.8 million revenue increase can be derived from increases to Basket 2 services.
8. The plan has a duration of 3 years. At the end of 3 years, Qwest can propose to: 1) continue the plan; 2) revise the plan; or 3) terminate the plan. The plan continues in effect until the Commission approves a renewal or modification of the plan, or until the Commission orders the termination of the plan.

Response to Settlement and Proposed Plan

Conceptual Framework

Q. Let's turn to your response to the proposed settlement and price cap plan. Can you begin by discussing the appropriate framework within which the Commission should review the proposal?

A. Under the existing price cap plan, Qwest must

> submit an application for continuation or modification of the Price Cap Plan nine months prior to its expiration, to be reviewed by Staff and RUCO. Continuation or modification of the Plan is subject to Commission approval and the Plan remains in effect pending a Commission decision renewing, modifying or terminating it. [Decision No. 63487, March 30, 2001, p. 6]

The settling parties are requesting a modification to the current plan through approval of their proposed settlement and revised price cap plan. In addition to modifying the current plan by approving the settlement (or some variation of the settlement), the Commission has the option of renewing the current plan, or terminating it. Presumably, if it simply terminates the current plan, Qwest would thereafter be subject to traditional regulation.

When analyzing the proposed settlement, the Commission should determine whether the proposal is in the public interest. In order to make such a determination, the Commission needs a benchmark to evaluate the merits of the proposed settlement. That benchmark should be the statu quo. In evaluating whether the settlement is an improvement over the status quo, the Commission should focus on whether or not the

proposed settlement furthers important public policy objectives, such as establishing robust and effective competition in the telecommunications market, preventing the exploitation of monopoly power where competition is not fully effective, and preserving and promoting universal service.

For purposes of my testimony, I will work within this conceptual framework, by comparing the existing plan to the proposed settlement and by analyzing whether the settlement advances or damages the aforementioned policy objectives. During such an analysis, it is particularly important to consider the perspective of residential and other mass market consumers, because they did not participate in the settlement negotiations, they have the fewest competitive options, and they collectively have the most to gain or lose from any changes in the form of regulation applied to Qwest.

On balance, if the proposed settlement is worse for these customers than the existing plan, it fails to advance important public policy goals, or it fails to adequately address important policy issues which were supposed to be dealt with in this proceeding. the Commission should reject the proposed settlement, and proceed to a full hearing on the merits, using the existing record that has been developed over the course of this proceeding.

Service Baskets and Competition

Q. Let's turn to your discussion of service baskets and competition. Can you begin by comparing the current basket structure to the proposed basket structure?

A. Yes. Under the current plan, services are divided into 3 baskets: 1) Basic/Essential Non-Competitive Services; 2) Wholesale Services; and, 3) Flexibly-Priced Competitive Services. As I mentioned above, the proposed plan divides services into 4 baskets: 1) Hard Capped Retail Services; 2) Limited Pricing Flexibility Retail Services; 3) Flexibly-Priced Competitive Services; and, 4) Wholesale Services.

Q. How did the settling parties determine which services to place into each basket?

A. Staff witness Rowell explains that the services included in the existing Basket 1 have been divided into proposed Baskets 1 and 2 under the settlement proposal.

> Under the current plan, Basket 1 contains both basic services that are hard capped and other services that have a 25% annual cap on price increases. Essentially, the proposed plan gives each of these two classes of services their own basket. [Rowell Direct, p. 4]

Under the current plan, Basket 3 includes those services that have been accorded pricing flexibility or have been determined by the Commission to be competitive under A.A.C. R14-2-1108, and new services and service packages. It appears that the intent of the parties was to leave these services in Basket 3 under the proposed plan. Similarly, it appears the parties intended the wholesale service basket to remain unchanged. In other words, Basket 4 under the proposed plan would include the services that are currently in Basket 2.

Q. Did RUCO propose the addition of more retail baskets in the testimony it submitted earlier in this proceeding?

A. Yes. As I explained in my direct testimony, RUCO agrees with Qwest that competitive conditions in the state have intensified since the Commission approved the current Plan. Accordingly, RUCO recommended a modified basket structure that better aligned services with similar competitive characteristics. More specifically, RUCO recommended establishing three baskets: Moderate Pricing Flexibility Services; High Pricing Flexibility Services; and Total Pricing Flexibility Services. While the settling parties have increased the number of baskets, they have not adequately aligned these baskets with current competitive conditions.

Q. It sounds like the parties have simply split the current Basket 1 into two separate baskets by separating the services that are hard-capped from those that have a 25% cap on price increases. Is that the only effect of the proposed changes to the basket structure?

A. Unfortunately, no. Some services that are currently subject to a hard cap would be moved into Basket 2, where they will be subject to prices of as much as increase by 25% per year. For example, under the current plan, rates for additional local exchange lines used by residential and small business customers are hard-capped. However, the parties propose to move these additional lines to Basket 2, thereby allowing prices to increase by as much as 25% per year. Similarly, under the current plan, exchange zone increment charges on additional lines are capped. These services also have been moved to Basket 2. There are other services that are capped under the current plan, but which have been

moved into Basket 2 to under the proposed plan. For instance, PBX trunks and caller ID block are currently hard capped, but if the settlement is approved, prices for these services will be allowed to increase by 25% per year.

Further, the settling parties propose to move some services that are currently in Basket 1 to Basket 3, where Qwest would have virtually unlimited freedom to increase prices. For example, Stand-by Line Service, Home Business Line Service, Uniform Call Distribution and Code Billing are currently in Basket 1. All of these services are in Basket 3 under the proposed settlement plan. Additionally, at the time the current plan was approved, existing service packages were placed in Basket 1. Under the proposed plan, these packages would be placed in Basket 3.

Q. Are the changes you just described appropriate?

A. No. Services should be assigned to baskets primarily on the basis of the intensity of the competitive pressures currently being faced by Qwest. In determining the most appropriate assignment of each service, the Commission could also consider other relevant factors, including public safety or other public interest concerns, evidence that competition is likely to intensify or diminish in the future, and evidence that viable substitutes are available for those customers who would be unwilling or unable to use a competitive offering, if the price of the service in question were to be increased substantially.

By aligning the degree of pricing flexibility with the degree of competitive intensity, the Commission can further the goals of the 1996 Telecom Act while also protecting customers from Qwest's remaining market power. The 1996 Telecom Act is

1 designed to encourage greater competition, and it declared invalid all state rules that
2 restricted entry or otherwise limited competition in telephone service. Since the
3 development of competition for telephone services was one of the primary goals of the
4 1996 Telecom Act, and since competition for some services has grown considerably in
5 recent years, it is reasonable to use competitive conditions as the primary basis for
6 assigning services to baskets.
7 When assigning services to baskets, what is important is to make sure that the
8 more highly competitive services aren't commingled with much less competitive services.
9 Assigning services to baskets according to competitive intensity will advance the public
10 interest because price controls will be loosened most for services and areas with the most
11 intense competition and controls will be only moderately relaxed, or maintained, for
12 services and areas with less intensive competition.
13 Under the settlement proposal, some services that are subject to relatively weak or
14 non-existent competition would be assigned to baskets 2 or 3, where they would be the
15 subject of an excessive degree of pricing freedom. As a result, Qwest would be granted
16 an excessive degree of pricing flexibility in some of the markets where it faces relatively
17 little competitive pressure, and thus it will be able to exploit its residual market power to
18 the detriment of its customers and the public generally.
19
20 **Q. Can you elaborate on some of the specific problems that would result from the**
21 **proposed basket structure if the settlement proposal were accepted?**
22 A. Under the current plan, individual rates for additional local exchange access lines are
23 capped at the prices that were in place when the current plan was first approved. Further,

these services are in Basket 1, and are therefore subject to an overall basket price cap equal to the change in GDP-PI minus 4.2%. To the extent inflation is less than 4.2%, at least some of the prices for basket 1 services must decline.

In contrast, under the proposed plan, prices for additional access lines (for both business and residential customers) will no longer be subject to a hard cap, and they will no longer be subject to mandatory reductions in prices when inflation runs less than 4.2%. In fact, under the proposed settlement, revenues from Basket 2 services can increase up to $43.8 million, so the additional line rates could immediately be increased by 25%, and Qwest could thereafter increase these prices by as much as 25% per year, until they reach monopoly profit-maximizing levels ("whatever the traffic will bear").

Similar problems apply to exchange zone increment charges applicable to additional lines, as well as rates for PBX trunks and caller ID block. Even more rapid movement to monopoly profit-maximizing price levels will be possible with respect to services that will be moved from the current basket 1 to the proposed basket 3. These include Stand-by Line Service, Home Business Line Service, Uniform Call Distribution, Code Billing and certain service bundles. Price increases for these services are currently constrained by the requirement that prices not increase by more than inflation minus 4.2% (an allowance for cost reductions due to productivity), as part of basket 1. Under the proposed plan, these services would be moved to basket 3, and Qwest would be given essentially unlimited freedom to raise prices, even if competition is weak or nonexistent.

Q. Can you describe the service packages that have been moved to Basket 3?

A. Yes. When the current plan was approved, all existing service packages were included in Basket 1. These included packages associated with basic exchange service (TIMCODE E5.9.1), as well as packages not associated with basic exchange service. (TIMCODE E5.9.2) Under the current plan, new service packages can be placed in Basket 3 with Commission approval. However, the plan provides that the "mere repackaging of existing Basket 1 services does not qualify the existing services to be "new services". [Price Cap Plan, Section 4.e.ii]

In contrast, under the proposed settlement, all existing and future packages would be placed in Basket 3, including existing packages associated with basic exchange service. These existing packages include QWEST CHOICE Business and QWEST CHOICE Home, which allow basic exchange customers to choose 3 enhanced features (e.g., Caller ID, Call Forwarding, Call Waiting, etc..) for a single monthly rate. These services will be in Basket 3 under the proposed plan. These are important offerings which are widely used by mass market customers. From the perspective of many residential and small business customers, these features are seen as an essential part of their local exchange service. The limited degree of competition which currently exists for local exchange service is not sufficient to justify giving Qwest complete freedom to increase prices for these local exchange service packages. To the contrary, Qwest continues to dominate most Arizona local exchange markets, and it would not be appropriate for the Commission to give Qwest the freedom to rapidly increase prices for these local exchange service packages. Under the existing plan, the prices for many of these packages have been essentially frozen in place, because they were subject to a hard

cap. Clearly, the public interest would not be served by going from the current plan, with its hard cap, to the proposed settlement plan, which would subject these customers to the full extent of Qwest's residual monopoly power.

Settlement Does Not Resolve Certain Problems

Q. You have been discussing problems with specific provisions in the proposed plan. Can you now discuss the important issues that the proposed plan fails to address?

A. There are at least three major, conceptually related, issues that are not adequately addressed by the settling parties and their proposed plan. These issues are: geographic cost differences; geographic competitive differences; and, the need for an improved universal service fund.

Q. Can you elaborate on what you mean by geographic cost differences?

A. Qwest's service Arizona territory covers a very large geographic area which encompasses a range of different market conditions. Even within the same local calling area or local exchange there can be extreme differences between the operating and engineering characteristics of wire centers in the downtown urban core and the characteristics of the outlying wire centers. In turn, these differences can translate into substantial differences in the costs and difficulties involved in serving customers in different wire centers.

The most obvious example of these differences concerns the unbundled UNE loop rates; lower rates tend to apply to urban wire centers while higher rates apply to rural wire centers. But differences in UNE loop rates are just the tip of the iceberg. There may be

even more dramatic percentage differences in non-loop costs when comparing the cost per line of serving customers using a CLEC switch in urban and rural wire centers (e.g., due to differences in available economies of scale with respect to inter-office transport facilities and collocation facilities). Further, marketing and sales costs can sometimes be higher in small towns and rural areas. For instance, marketing options may be relatively limited, and entrants may be forced to expend precious advertising dollars on television and media coverage areas that are far wider than the intended target market.

Q. Can you now discuss the geographic differences in competition throughout Qwest's service territory?

A. As a result of differences in the underlying characteristics of each geographic area and differences in the mix of customers that are present in each area, competitive pressures will vary widely within a single ILEC's service territory. In general, one can expect to see lower barriers to entry and more intense competitive pressures in downtown urban areas, with higher barriers to entry and weaker competitive activity in rural areas. Similarly, it is reasonable to anticipate that competitive carriers will focus, at least initially, on concentrations of customers that use large volumes of telecommunications services (sometimes referred to as "enterprise" customers). For instance, revenues from some services (e.g., custom calling) may be lower in some small towns relative to some urban areas, due to differences in demand characteristics and/or income levels.

Q. Have you studied the actual differences in competitive entry in Qwest's service territory?

A. Yes. In my direct testimony, filed earlier in this proceeding, I presented evidence that Qwest continues to enjoy dominant positions in many local markets, which are at least partially protected by substantial barriers to entry. At the time of my analysis, competition had been increasing in some areas–particularly in business markets. My review of the data indicated that Qwest has been experiencing substantial market share losses in Phoenix and Tucson. Nevertheless, the Company continues to dominate most Arizona local exchange markets. In some markets competitors have been quite successful in winning customers; in other cases, relatively few competitors have been attracted into the market, or they have not been very successful in winning a share of the market. The data showed that successful competitive entry is not easy anywhere; but in some locations entry barriers are higher than in other areas.

In particular, my analyses showed that CLECs tend to disproportionately focus on serving enterprise customers, and that a higher proportion of enterprise lines exists in the higher density wire centers. Enterprise lines tend to be most prevalent in wire centers that serve the more urbanized, higher density parts of the state. In general, it is reasonable to anticipate that Qwest will continue to face the greatest competitive pressures in areas with the highest line density.

Q. Does the proposed settlement attempt to resolve problems caused by geographic differences in costs, and the resulting effects on competition?

A. No. Qwest originally included a "competitive zone" approach in its proposed price cap plan. While there were problems with this specific proposal, I recommended that geographic differences in the level of competition be considered when deciding which services go into the various baskets.

While there were important differences in their specific proposals, both RUCO and Qwest recognized that widely differing competitive conditions should be recognized in developing revisions to Qwest's price cap plan. Yet, Section 26 of the Settlement Agreement provides:

> Qwest shall withdraw its proposal for competitive zones in Arizona. Qwest further agrees that it will not renew its request for competitive zones during the term of the Renewed Price Cap Plan.

As explained by Qwest witness Jerrold Thompson:

> Competitive zones were a controversial topic in the direct testimony in this proceeding with very disparate points of view. The elimination of this issue removes this controversy. Qwest will continue to price its services to consumers in sparsely-populated areas in the state in similar ways to consumers in the highly competitive areas of Phoenix and Tucson. [Thompson Direct, p. 4]

While this part of the settlement may have been intended to reduce controversy, this has the unfortunate effect of disregarding a very important feature of the current economic environment in which Qwest operates, and will likely exacerbate the problems – and

1 controversy – which will arise in the future. By failing to consider differences in
2 competitive conditions, the proposed settlement leaves customers in high cost rural areas
3 vulnerable to excessive price increases – a problem that is exacerbated by other aspects of
4 the proposed settlement, including removal of the productivity offset and changes in the
5 basket structure. The proposed settlement and price cap plan does not go far enough in
6 protecting consumers who have few, if any, competitive alternatives; aside from the hard
7 cap on prices of certain services (a cap which applies to all geographic areas regardless of
8 the extent of competition) the settlement proposal offers very little protection from
9 monopoly power for customers in markets where competition is weak or non-existent.
10 Nor do the proposed changes to the existing price cap plan improve the prospects for
11 effective competition in these markets.
12
13 **Q. Are there other alternatives that could be used to improve the prospects for**
14 **competition in rural areas?**
15 A. In the absence of a state USF which adequately alleviates the high costs of serving rural
16 customers, there is relatively little potential for competition in the lower density, higher
17 cost parts of the state. As I explained in my direct testimony, if the Commission wants to
18 ensure that rural areas generate revenues which are sufficient to cover the relatively high
19 cost of serving these areas, it should revamp the Arizona universal service fund to
20 provide an appropriate mechanism for dealing with these cost disparities.
21 Historically, the high cost of serving rural areas has been recovered in part by
22 allowing carriers to charge higher for toll and access services than would otherwise be
23 allowed. In both the federal and state jurisdictions, access rates have historically been

regulated on a uniform average basis; the high costs incurred in rural areas is one of the reasons why policy makers have historically allowed Qwest to charge so much for ancillary services like switched access, custom calling and CallerID. Stated another way, high rural loop costs have translated into relatively high rates for switched access, long distance toll, and other ancillary services. As I explained in my direct testimony, other states, such as Kansas, have used some sort of universal service funding mechanism as an alternative method of providing high cost support. This proceeding provided an excellent opportunity for the Commission to deal with these concerns – or at least make a start in the right direction. Instead, the settlement essentially ignores the problem. It reduces the amount of cost support provided by access charges, thereby making it less profitable for competitive local exchange carriers to serve high cost rural areas, without making any improvements to the structure of the existing USF mechanism. In this area, as in others, the settlement proposal falls well short of what is needed, and cannot fairly be described as an improvement over the status quo.

Conclusions and Recommendations

Q. What are your conclusions regarding the proposed settlement?

A. The proposed plan is not an improvement over the current plan, and therefore approving it would not be in the public interest. If adopted, the settlement would give Qwest too much freedom to exert its monopoly power. Some monopoly services, including additional basic local exchange lines used by residential customers, will no longer be hard capped. Instead, they will be subject to price increases of as much as 25% per year. Other

1 services that currently are subject to a 25% annual cap on rate increases, including and
2 local exchange service packages used by residential customers, will be subject to
3 unlimited price increases under the proposed plan.

4 Clearly, the existing level of competition in many parts of Qwest's Arizona
5 service territory is not strong enough to prevent Qwest from imposing substantial price
6 increases on residential customers if the settlement is approved. Under the proposed
7 settlement, Qwest would be granted far too much pricing flexibility in markets where it
8 faces very little competitive pressure, and thus it will be able to exploit its residual market
9 power to the detriment of its residential customers and the public generally.

10 As I explained in my direct testimony, significant barriers to entry remain in many
11 portions of the Arizona telecommunications market, particularly in residential areas and
12 rural parts of the state. Few local competitors have enjoyed success in penetrating the
13 local exchange market. The high degree of pricing freedom that would be granted Qwest
14 under the proposed settlement is inconsistent with the limited state of competition in most
15 rural and residential markets in Arizona. Clearly, these provisions of the settlement
16 proposal are not motivated by any need to provide Qwest with additional freedom to
17 respond to competitive market forces– since in a declining cost industry those market
18 forces almost always translate into downward pricing pressures, yet Qwest already has
19 considerable freedom to reduce prices under the current plan. As well, the changes to the
20 existing price cap plan that are called for by the settlement go almost entirely in the
21 opposite direction – providing Qwest with greater freedom to <u>increase</u> prices, rather than
22 providing further opportunities to reduce prices.

If the existing price cap plan were truly placing the company at a competitive disadvantage (e.g., if the Company were prevented from cutting prices in response to competitive pressures), the competitors' market share would be much larger, and the Company's share of the market would be declining much more rapidly than it actually has. Further, in such an environment, Qwest would not have focused its negotiating efforts on trying to obtain policy changes that will result in increased rates, nor would it have been so quick to abandon portions of its original proposals which would have provided it with greater freedom to reduce prices in areas where it is suffering from greater than average market share losses. The balance struck in the proposed settlement is clearly oriented toward changes in the current plan that will enable Qwest to extract additional revenues and profits from markets where the Company continues to enjoy a substantial degree of monopoly power, rather than changes that would better enable the Company to cut prices in markets where this is necessitated by increased competitive pressures.

I would also note that the settlement offers very few, if any, changes which would represent an improvement over the current plan from the perspective of residential and other mass market customers. On balance, the proposed settlement is worse for these customers than the existing plan, and therefore the Commission should reject the proposed settlement.

Q. Are there other reasons why the proposed plan should not be approved?

A. Yes. If the Commission is going to modify or replace the current plan, it should take this opportunity to make progress in resolving at least some of the looming issues which are

casting a shadow over the industry, and were discussed by the parties in testimony submitted earlier in this proceeding. More specifically, the settlement proposal does not adequately address issues related to geographic cost differences, geographic differences in competitive market conditions, or the need for an improved Arizona Universal Service Fund.

Qwest's Arizona service territory encompasses a wide range of different market conditions. Even within the same metropolitan area there can be extreme differences in operating and engineering characteristics. These differences translate into substantial differences in the costs and difficulties involved in serving customers in different parts of Qwest's service territory. As a result, competitive pressures vary widely throughout Qwest's Arizona market areas. This proceeding provided an excellent opportunity for the Commission to deal with these very real, and growing, concerns. Yet, the settlement essentially ignores these problems. In fact, it may exacerbate the problems because it reduces the amount of cost support provided by switched access charges, thereby making it less profitable for competitive local exchange carriers to serve high cost rural areas, without making any offsetting improvements to the structure of the existing USF mechanism. The settlement proposal falls well short of what is needed, and cannot be considered an improvement over the current plan.

Q. What do you recommend the Commission do?

A. I recommend that the Commission reject the proposed settlement, and move forward with a full hearing on all of the issues that were raised during the earlier stages of this proceeding. It is not yet time to begin thinking about providing the Company with the

type of extreme pricing flexibility that it seeks through this proposal. Qwest continues to enjoy a dominant share of most Arizona telecommunications market, and its competitors are far too small to provide an adequate substitute for continued pricing constraints, such as those contained in the current plan. Further, the plan does not address important policy issues that need to be resolved before the existing plan is modified.

I believe that parties have had ample opportunity to provide written testimony concerning all of the issues that need to be dealt with in this proceeding. Since no further testimony needs to be submitted, the Commission can go directly to a full hearing on the merits of the parties' respective positions without further delay. If, however, the Commission wants the parties to submit additional testimony concerning specific issues, or to respond to specific questions that have arisen during the course of this settlement hearing, it could allow the parties to file testimony that is focused on those specific issues or questions with only a minimal delay.

Q. Does this conclude your testimony concerning the proposed settlement, which was prefiled on October 14, 2005?

A. Yes, it does.

Appendix A

Qualifications

Present Occupation

Q. What is your present occupation?

A. I am a consulting economist and President of Ben Johnson Associates, Inc.®, a firm of economic and analytic consultants specializing in the area of public utility regulation.

Educational Background

Q. What is your educational background?

A. I graduated with honors from the University of South Florida with a Bachelor of Arts degree in Economics in March 1974. I earned a Master of Science degree in Economics at Florida State University in September 1977. The title of my Master's Thesis is a "A Critique of Economic Theory as Applied to the Regulated Firm." Finally, I graduated from Florida State University in April 1982 with the Ph.D. degree in Economics. The title of my doctoral dissertation is "Executive Compensation, Size, Profit, and Cost in the Electric Utility Industry."

Clients

Q. What types of clients employ your firm?

A Much of our work is performed on behalf of public agencies at every level of government involved in utility regulation. These agencies include state regulatory

commissions, public counsels, attorneys general, and local governments, among others. We are also employed by various private organizations and firms, both regulated and unregulated. The diversity of our clientele is illustrated below.

Regulatory Commissions

Alabama Public Service Commission—Public Staff for Utility Consumer Protection
Alaska Public Utilities Commission
Arizona Corporation Commission
Arkansas Public Service Commission
Connecticut Department of Public Utility Control
District of Columbia Public Service Commission
Idaho Public Utilities Commission
Idaho State Tax Commission
Iowa Department of Revenue and Finance
Kansas State Corporation Commission
Maine Public Utilities Commission
Minnesota Department of Public Service
Missouri Public Service Commission
National Association of State Utility Consumer Advocates
Nevada Public Service Commission
New Hampshire Public Utilities Commission
North Carolina Utilities Commission—Public Staff
Oklahoma Corporation Commission
Ontario Ministry of Culture and Communications
Staff of the Delaware Public Service Commission
Staff of the Georgia Public Service Commission
Texas Public Utilities Commission
Virginia State Corporation Commission
Washington Utilities and Transportation Commission

West Virginia Public Service Commission—Division of Consumer Advocate
Wisconsin Public Service Commission
Wyoming Public Service Commission

Public Counsels

Arizona Residential Utility Consumers Office
Colorado Office of Consumer Counsel
Colorado Office of Consumer Services
Connecticut Consumer Counsel
District of Columbia Office of People's Counsel
Florida Public Counsel
Georgia Consumers' Utility Counsel
Hawaii Division of Consumer Advocacy
Illinois Small Business Utility Advocate Office
Indiana Office of the Utility Consumer Counselor
Iowa Consumer Advocate
Maryland Office of People's Counsel
Minnesota Office of Consumer Services
Missouri Public Counsel
New Hampshire Consumer Counsel
Ohio Consumer Counsel
Pennsylvania Office of Consumer Advocate
Utah Department of Business Regulation—Committee of Consumer Services

Attorneys General

Arkansas Attorney General
Florida Attorney General—Antitrust Division
Idaho Attorney General

Kentucky Attorney General
Michigan Attorney General
Minnesota Attorney General
Nevada Attorney General's Office of Advocate for Customers of Public Utilities
South Carolina Attorney General
Utah Attorney General
Virginia Attorney General
Washington Attorney General

Local Governments

City of Austin, TX
City of Corpus Christi, TX
City of Dallas, TX
City of El Paso, TX
City of Galveston, TX
City of Norfolk, VA
City of Phoenix, AZ
City of Richmond, VA
City of San Antonio, TX
City of Tucson, AZ
County of Augusta, VA
County of Henrico, VA
County of York, VA
Town of Ashland, VA
Town of Blacksburg, VA
Town of Pecos City, TX

Other Government Agencies

Canada—Department of Communications
Hillsborough County Property Appraiser
Provincial Governments of Canada
Sarasota County Property Appraiser
State of Florida—Department of General Services
United States Department of Justice—Antitrust Division
Utah State Tax Commission

Regulated Firms

Alabama Power Company
Americall LDC, Inc.
BC Rail
CommuniGroup
Florida Association of Concerned Telephone Companies, Inc.
LDDS Communications, Inc.
Louisiana/Mississippi Resellers Association
Madison County Telephone Company
Montana Power Company
Mountain View Telephone Company
Nevada Power Company
Network I, Inc.
North Carolina Long Distance Association
Northern Lights Public Utility
Otter Tail Power Company
Pan-Alberta Gas, Ltd.
Resort Village Utility, Inc.
South Carolina Long Distance Association
Stanton Telephone
Teleconnect Company
Tennessee Resellers' Association

Westel Telecommunications
Yelcot Telephone Company, Inc.

Other Private Organizations

Arizona Center for Law in the Public Interest
Black United Fund of New Jersey
Casco Bank and Trust
Coalition of Boise Water Customers
Colorado Energy Advocacy Office
East Maine Medical Center
Georgia Legal Services Program
Harris Corporation
Helca Mining Company
Idaho Small Timber Companies
Independent Energy Producers of Idaho
Interstate Securities Corporation
J.R. Simplot Company
Merrill Trust Company
MICRON Semiconductor, Inc.
Native American Rights Fund
PenBay Memorial Hospital
Rosebud Enterprises, Inc.
Skokomish Indian Tribe
State Farm Insurance Company
Twin Falls Canal Company
World Center for Birds of Prey

Prior Experience

Q. Before becoming a consultant, what was your employment experience?

A. From August 1975 to September 1977, I held the position of Senior Utility Analyst with Office of Public Counsel in Florida. From September 1974 until August 1975, I held the position of Economic Analyst with the same office. Prior to that time, I was employed by the law firm of Holland and Knight as a corporate legal assistant.

Q. In how many formal utility regulatory proceedings have you been involved?

A. As a result of my experience with the Florida Public Counsel and my work as a consulting economist, I have been actively involved in approximately 400 different formal regulatory proceedings concerning electric, telephone, natural gas, railroad, and water and sewer utilities.

Q. Have you done any independent research and analysis in the field of regulatory economics?

A. Yes, I have undertaken extensive research and analysis of various aspects of utility regulation. Many of the resulting reports were prepared for the internal use of the Florida Public Counsel. Others were prepared for use by the staff of the Florida Legislature and for submission to the Arizona Corporation Commission, the Florida Public Service Commission, the Canadian Department of Communications, and the Provincial Governments of Canada, among others. In addition, as I already mentioned, my Master's thesis concerned the theory of the regulated firm.

Q. Have you testified previously as an expert witness in the area of public utility regulation?

A. Yes. I have provided expert testimony on more than 250 occasions in proceedings before state courts, federal courts, and regulatory commissions throughout the United States and in Canada. I have presented or have pending expert testimony before 35 state commissions, the Interstate Commerce Commission, the Federal Communications Commission, the District of Columbia Public Service Commission, the Alberta, Canada Public Utilities Board, and the Ontario Ministry of Culture and Communication.

Q. What types of companies have you analyzed?

A. My work has involved more than 425 different telephone companies, covering the entire spectrum from AT&T Communications to Stanton Telephone, and more than 55 different electric utilities ranging in size from Texas Utilities Company to Savannah Electric and Power Company. I have also analyzed more than 30 other regulated firms, including water, sewer, natural gas, and railroad companies.

Teaching and Publications

Q. Have you ever lectured on the subject of regulatory economics?

A. Yes, I have lectured to undergraduate classes in economics at Florida State University on various subjects related to public utility regulation and economic theory. I have also addressed conferences and seminars sponsored by such institutions as the National Association of Regulatory Utility Commissioners (NARUC), the Marquette University College of Business Administration, the Utah Division of Public Utilities and the University of Utah, the Competitive Telecommunications Association (COMPTEL), the

International Association of Assessing Officers (IAAO), the Michigan State University Institute of Public Utilities, the National Association of State Utility Consumer Advocates (NASUCA), the Rural Electrification Administration (REA), North Carolina State University, and the National Society of Rate of Return Analysts.

Q. Have you published any articles concerning public utility regulation?

A. Yes, I have authored or co-authored the following articles and comments:

"Attrition: A Problem for Public Utilities—Comment." *Public Utilities Fortnightly*, March 2, 1978, pp. 32-33.

"The Attrition Problem: Underlying Causes and Regulatory Solutions." *Public Utilities Fortnightly*, March 2, 1978, pp. 17-20.

"The Dilemma in Mixing Competition with Regulation." *Public Utilities Fortnightly,* February 15, 1979, pp. 15-19.

"Cost Allocations: Limits, Problems, and Alternatives." *Public Utilities Fortnightly,* December 4, 1980, pp. 33-36.

"AT&T is Wrong." *The New York Times,* February 13, 1982, p. 19.

"Deregulation and Divestiture in a Changing Telecommunications Industry," with Sharon D. Thomas. *Public Utilities Fortnightly*, October 14, 1982, pp. 17-22.

"Is the Debt-Equity Spread Always Positive?" *Public Utilities Fortnightly,* November 25, 1982, pp. 7-8.

"Working Capital: An Evaluation of Alternative Approaches." *Electric Rate-Making,* December 1982/January 1983, pp. 36-39.

"The Staggers Rail Act of 1980: Deregulation Gone Awry," with Sharon D. Thomas. *West Virginia Law Review,* Coal Issue 1983, pp. 725-738.

"Bypassing the FCC: An Alternative Approach to Access Charges." *Public Utilities Fortnightly*, March 7, 1985, pp. 18-23.

"On the Results of the Telephone Network's Demise—Comment," with Sharon D. Thomas. *Public Utilities Fortnightly*, May 1, 1986, pp. 6-7.

"Universal Local Access Service Tariffs: An Alternative Approach to Access Charges." In *Public Utility Regulation in an Environment of Change,* edited by Patrick C. Mann and Harry M. Trebing, pp. 63-75. Proceedings of the Institute of Public Utilities Seventeenth Annual Conference. East Lansing, Michigan: Michigan State University Public Utilities Institute, 1987.

With E. Ray Canterbery. Review of *The Economics of Telecommunications: Theory and Policy* by John T. Wenders. *Southern Economic Journal* 54.2 (October 1987).

"The Marginal Costs of Subscriber Loops," A Paper Published in the Proceedings of the Symposia on Marginal Cost Techniques for Telephone Services. The National Regulatory Research Institute, July 15-19, 1990 and August 12-16, 1990.

With E. Ray Canterbery and Don Reading. "Cost Savings from Nuclear Regulatory Reform: An Econometric Model." *Southern Economic Journal,* January 1996.

Professional Memberships

Q. Do you belong to any professional societies?

A. Yes. I am a member of the American Economic Association.

EXHIBIT
RUCO-15
Admitted

IN THE MATTER OF QWEST CORPORATION'S
FILING OF RENEWED PRICE REGULATION PLAN.

DOCKET NO. T-01051B-03-0454

and

IN THE MATTER OF THE INVESTIGATION OF THE
COST OF TELECOMMUNICATIONS ACCESS.

DOCKET NO. T-00000D-00-0672

DIRECT TESTIMONY

OF

WILLIAM A. RIGSBY

On Behalf of
The
RESIDENTIAL UTILITY CONSUMER OFFICE

November 18, 2004

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9

INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My Name is William A. Rigsby. I am a Public Utilities Analyst V employed by the Residential Utility Consumer Office ("RUCO") located at 1110 W. Washington, Suite 220, Phoenix, Arizona 85007.

Q. Please state your educational background and your qualifications in the field of utilities regulation.

A. Appendix I, which is attached to this testimony, describes my educational background and also includes a list of the rate cases and regulatory matters that I have been involved with.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to present recommendations that are based on my analysis of Qwest Communications, Inc.'s ("Qwest" or "Company") application for a permanent rate increase for certain regulated services available to ratepayers under a revised price cap plan ("Application") for the Company's operations in Arizona.

Q. Briefly describe Qwest's operations in Arizona.

A. As the largest incumbent local exchange carrier ("ILEC") in the state, Qwest provides a full range of telecommunications services at both the retail and wholesale levels. During the test year ended December 31,

2003 ("Test Year"), Qwest provided telecommunications services to the metropolitan areas of Phoenix and Tucson as well as Flagstaff, Yuma, Prescott, Payson, Sierra Vista and various other rural portions of the state. Qwest provides service to customers located in both of Arizona's Local Access and Transport Areas ("LATA").

Q. Please explain your role in RUCO's analysis of Qwest's Application.

A. I reviewed Qwest's Application and performed a cost of capital analysis to determine a fair rate of return on Qwest's invested capital. In addition to my recommended capital structure, my direct testimony will present my recommended costs of common equity and my recommended cost of debt (long-term, short-term and lease obligations). The Company has no preferred stock. The recommendations contained in this testimony are based on information obtained from the Company's Application and on market-based research that I conducted during my cost of capital analysis.

Q. Were you also responsible for conducting an analysis of Qwest's proposed revenue level, rate base, and rate design?

A. No, the revenue level and rate base portions of this case were handled by RUCO witness Marylee Diaz Cortez, CPA. RUCO consultant Ben Johnson, Ph.D. will address the universal service, industry competition and the price cap plan/rate design issues in the case.

Q. What areas will you address in your testimony?

A. I will address the cost of capital issues associated with the case.

Q. Please identify the exhibits that you are sponsoring.

A. I am sponsoring Schedules WAR-1 through WAR-9.

SUMMARY OF TESTIMONY AND RECOMMENDATIONS

Q. Briefly summarize how your cost of capital testimony is organized.

A. My cost of capital testimony is organized into three sections. First, I will present the findings of my cost of equity capital analysis, in which I utilized both the discounted cash flow ("DCF") method, which I believe is the most reliable methodology, and the capital asset pricing model ("CAPM"), which I rely on as a check of my DCF results. These are the two most commonly used methods for calculating the cost of equity capital in rate case proceedings and are generally regarded as the most reliable[1]. In this first section I will also provide a brief overview of the current economic climate that Qwest is operating in. Second, I will compare my recommended capital structure with the Company proposed capital structure. Third, I will comment on Qwest's cost of capital testimony. Schedules WAR-1 through WAR-9 will provide support for my cost of capital analysis.

[1] A. Lawrence Kolbe and James A Read Jr., The Cost of Capital – Estimating the Rate of Return for Public Utilities, The MIT Press: Cambridge, Massachusetts, 1984, pp. 35-94.

Q. Please summarize the recommendations and adjustments that you will address in your testimony.

A. Based on the results of my analysis of Qwest, I am making the following recommendations:

Cost of Equity Capital – I am recommending an 11.50 percent cost of equity capital. This 11.50 percent figure is based on an average of the results that I obtained in my cost of equity analysis, which employed both the DCF and CAPM methodologies.

Cost of Debt – I am recommending that the Commission adopt Qwest's proposed 7.89 percent cost of long-term debt and 7.24 percent cost of short-term debt. This is based on my review of the costs associated with Qwest's various bond issues, notes and leasing obligations.

Capital Structure – I am recommending that the Company-proposed capital structure, which is comprised of approximately 25 percent common equity and 75 percent debt, be adopted by the Commission.

Cost of Capital – Based on the results of my recommended capital structure, cost of common equity, and debt analyses, I am recommending an 8.73 percent cost of capital for Qwest. This figure represents the

weighted cost of both the Company's common equity and debt/lease obligations.

Q. Why do you believe that your recommended 8.73 percent cost of capital is an appropriate rate of return for Qwest to earn on its invested capital?

A. The 8.73 percent cost of capital figure that I have recommended meets the criteria established in the landmark Supreme Court cases of Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia (262 U.S. 679, 1923) and Federal Power Commission v. Hope Natural Gas Company (320 U.S. 391, 1944). Simply stated, these two cases affirmed that a public utility that is efficiently and economically managed is entitled to a return on investment that instills confidence in its financial soundness, allows the utility to attract capital, and also allows the utility to perform its duty to provide service to ratepayers. The rate of return adopted for the utility should also be comparable to a return that investors would expect to receive from investments with similar risk.

The Hope decision allows for the rate of return to cover both the operating expenses and the "capital costs of the business" which includes interest on debt and dividend payment to shareholders. This is predicated on the belief that, in the long run, a company that cannot meet its debt obligations and provide its shareholders with an adequate rate of return will not continue to supply adequate public utility service to ratepayers.

Q. Do the Bluefield and Hope decisions indicate that a rate of return sufficient to cover all operating and capital costs is guaranteed?

A. No. Neither case guarantees a rate of return on utility investment. What the Bluefield and Hope decisions *do allow*, is for a utility to be provided with the *opportunity* to earn a reasonable rate of return on its investment. That is to say that a utility, such as Qwest, is provided with the opportunity to earn an appropriate rate of return if the Company's management exercises good judgment and manages its assets and resources in a manner that is both prudent and economically efficient.

COST OF EQUITY CAPITAL

Q. What is your recommended cost of equity capital for Qwest?

A. Based on the results of my DCF and CAPM analyses, which ranged from 10.20 percent to 12.80 percent, I am recommending an 11.50 percent cost of equity capital for Qwest. My recommended 11.50 percent figure is a mean average of the results of the 10.20 percent cost of equity derived from my DCF analysis, and the 12.80 percent expected return derived from my CAPM analysis (using an arithmetic mean).

Discounted Cash Flow (DCF) Method

Q. Please explain the DCF method that you used to estimate Qwest's cost of equity capital.

A. The DCF method employs a stock valuation model that is often referred to as either the constant growth valuation model or the Gordon[2] model. Simply stated, the DCF model is based on the premise that the current price of a given share of common stock is determined by the present value of all of the future cash flows that will be generated by that share of common stock. The rate that is used to discount these cash flows back to their present value is often referred to as the investor's cost of capital (i.e. the cost at which an investor is willing to forego other investments in favor of the one that he or she has chosen).

Another way of looking at the investor's cost of capital is to consider it from the standpoint of a company that is offering its shares of stock to the investing public. In order to raise capital, through the sale of common stock, a company must provide a required rate of return on its stock that will attract investors to commit funds to that particular investment. In this respect, the terms "cost of capital" and "investor's required return" are one in the same. For common stock, this required return is a function of the dividend that is paid on the stock. The investor's required rate of return can be expressed as the percentage of the dividend that is paid on the

[2] Named after Dr. Myron J. Gordon, the professor of finance who developed the model.

stock (dividend yield) plus an expected rate of future dividend growth. This is illustrated in mathematical terms by the following formula:

$$k = (D_1 \div P_0) + g$$

where: k = the required return (cost of equity, equity capitalization rate),

$D_1 \div P_0$ = the dividend yield of a given share of stock calculated by dividing the expected dividend by the current market price of the given share of stock, and

g = the expected rate of future dividend growth.

This formula is the basis for the standard growth valuation model that I used to determine Qwest's cost of equity capital. It is similar to the model that was used by the Company.

Q. In determining the rate of future dividend growth for Qwest, what assumptions did you make?

A. There are two primary assumptions regarding dividend growth that must be made when using the DCF method. First, dividends will grow by a constant rate into perpetuity, and second, the dividend payout ratio will remain at a constant rate. Both of these assumptions are predicated on the traditional DCF model's basic underlying assumption that a company's

earnings, dividends, book value and share growth all increase at the same constant rate of growth into infinity. Given these assumptions, if the dividend payout ratio remains constant, so does the earnings retention ratio (the percentage of earnings that are retained by the company as opposed to being paid out in dividends). This being the case, a company's dividend growth can be measured by multiplying its retention ratio (1 - dividend payout ratio) by its book return on equity. This can be stated as g = b x r.

Q. Would you please provide an example that will illustrate the relationship that earnings, the dividend payout ratio and book value have with dividend growth?

A. RUCO consultant Stephen Hill illustrated this relationship in a Citizens Utilities Company 1993 rate case by using a hypothetical utility.[3]

Table I

	Year 1	Year 2	Year 3	Year 4	Year 5	Growth
Book Value	$10.00	$10.40	$10.82	$11.25	$11.70	4.00%
Equity Return	10%	10%	10%	10%	10%	N/A
Earnings/Sh.	$1.00	$1.04	$1.082	$1.125	$1.170	4.00%
Payout Ratio	0.60	0.60	0.60	0.60	0.60	N/A
Dividend/Sh	$0.60	$0.624	$0.649	$0.675	$0.702	4.00%

[3] Citizens Utilities Company, Arizona Gas Division, Docket No. E-1032-93-111, Prepared Testimony, dated December 10, 1993, p. 25.

Table I of Mr. Hill's illustration presents data for a five-year period on his hypothetical utility. In Year 1, the utility had a common equity or book value of $10.00 per share, an investor-expected equity return of ten percent, and a dividend payout ratio of sixty percent. This results in earnings per share of $1.00 ($10.00 book value x 10 percent equity return) and a dividend of $0.60 ($1.00 earnings/sh. x 0.60 payout ratio) during Year 1. Because forty percent (1 - 0.60 payout ratio) of the utility's earnings are retained as opposed to being paid out to investors, book value increases to $10.40 in Year 2 of Mr. Hill's illustration. Table I presents the results of this continuing scenario over the remaining five-year period.

The results displayed in Table I demonstrate that under "steady-state" (i.e. constant) conditions, book value, earnings and dividends all grow at the same constant rate. The table further illustrates that the dividend growth rate, as discussed earlier, is a function of (1) the internally generated funds or earnings that are retained by a company to become new equity, and (2) the return that an investor earns on that new equity. The DCF dividend growth rate, expressed as g = b x r, is also referred to as the internal or sustainable growth rate.

Q. If earnings and dividends both grow at the same rate as book value, shouldn't that rate be the sole factor in determining the DCF growth rate?

A. No. Possible changes in the expected rate of return on either common equity or the dividend payout ratio make earnings and dividend growth by themselves unreliable. This can be seen in the continuation of Mr. Hill's illustration on a hypothetical utility.

Table II

	Year 1	Year 2	Year 3	Year 4	Year 5	Growth
Book Value	$10.00	$10.40	$10.82	$11.47	$12.158	5.00%
Equity Return	10%	10%	15%	15%	15%	10.67%
Earnings/Sh	$1.00	$1.04	$1.623	$1.720	$1.824	16.20%
Payout Ratio	0.60	0.60	0.60	0.60	0.60	N/A
Dividend/Sh	$0.60	$0.624	$0.974	$1.032	$1.094	16.20%

In the example displayed in Table II, a sustainable growth rate of four percent[4] exists in Year 1 and Year 2 (as in the prior example). In Year 3, Year 4 and Year 5, however, the sustainable growth rate increases to six percent.[5] If the hypothetical utility in Mr. Hill's illustration were expected to earn a fifteen-percent return on common equity on a continuing basis, then a six percent long-term rate of growth would be reasonable. However, the compound growth rates for earnings and dividends,

[4] [(Year 2 Earnings/Sh – Year 1 Earnings/Sh) ÷ Year 1 Earnings/Sh] = [($1.04 - $1.00) ÷ $1.00] = [$0.04 ÷ $1.00] = 4.00%

[5] [(1 – Payout Ratio) x Rate of Return] = [(1 - 0.60) x 15.00%] = 0.40 x 15.00% = 6.00%

displayed in the last column, are 16.20 percent. If this rate were to be used in the DCF model, the utility's return on common equity would be expected to increase by fifty percent every five years, [(15 percent ÷ 10 percent) – 1]. This is clearly an unrealistic expectation.

Although it is not illustrated in Mr. Hill's hypothetical example, a change in only the dividend payout ratio will eventually result in a utility paying out more in dividends than it earns. While it is not uncommon for a utility in the real world to have a dividend payout ratio that exceeds one hundred percent on occasion, it would be unrealistic to expect the practice to continue over a sustained long-term period of time.

Q. Other than the retention of internally generated funds, as illustrated in Mr. Hill's hypothetical example, are there any other sources of new equity capital that can influence an investor's growth expectations for a given company?

A. Yes, a company can raise new equity capital externally. The best example of external funding would be the sale of new shares of common stock. This would create additional equity for the issuer and is often the case with utilities that are either in the process of acquiring smaller systems or providing service to rapidly growing areas.

Q. How does external equity financing influence the growth expectations held by investors?

A. Rational investors will put their available funds into investments that will either meet or exceed their given cost of capital (i.e. the return earned on their investment). In the case of a utility, the book value of a company's stock usually mirrors the equity portion of its rate base (the utility's earning base). Because regulators allow utilities the opportunity to earn a reasonable rate of return on rate base, an investor would take into consideration the effect that a change in book value would have on the rate of return that he or she would expect the utility to earn. If an investor believes that a utility's book value (i.e. the utility's earning base) will increase, then he or she would expect the return on the utility's common stock to increase. If this positive trend in book value continues over an extended period of time, an investor would have a reasonable expectation for sustained long-term growth.

Q. Please provide an example of how external financing affects a utility's book value of equity.

A. As I explained earlier, one way that a utility can increase its equity is by selling new shares of common stock on the open market. If these new shares are purchased at prices that are higher than those shares sold previously, the utility's book value per share will increase in value. This would increase both the earnings base of the utility and the earnings

expectations of investors. However, if new shares sold at a price below the pre-sale book value per share, the after-sale book value per share declines in value. If this downward trend continues over time, investors might view this as a decline in the utility's sustainable growth rate and will have lower expectations regarding growth. Using this same logic, if a new stock issue sells at a price per share that is the same as the pre-sale book value per share, there would be no impact on either the utility's earnings base or investor expectations.

Q. Please explain how the external component of the DCF growth rate is determined.

A. In his book, The Cost of Capital to a Public Utility,[6] Dr. Myron Gordon, the individual responsible for the development of the DCF or constant growth model, identified a growth rate that includes both expected internal and external financing components. The mathematical expression for Dr. Gordon's growth rate is as follows:

$$g = (br) + (sv)$$

where: g = DCF expected growth rate,

b = the earnings retention ratio,

r = the return on common equity,

[6] Gordon, M.J., The Cost of Capital to a Public Utility, East Lansing, MI: Michigan State University, 1974, pp. 30-33.

	s	=	the fraction of new common stock sold that accrues to a current shareholder, and
	v	=	funds raised from the sale of stock as a fraction of existing equity.
and	v	=	1 - [(BV) ÷ (MP)]
where:	BV	=	book value per share of common stock, and
	MP	=	the market price per share of common stock.

Q. Did you include the effect of external equity financing on long-term growth rate expectations in your analysis of expected dividend growth for the DCF model?

A. Yes. The external growth rate estimate (sv) is displayed on Page 1 of Schedule WAR-5, where it is added to the internal growth rate estimate (br) to arrive at a final sustainable growth rate estimate.

Q. Please explain why your calculation of external growth on page 2 of Schedule WAR-5, is the current market-to-book ratio averaged with 1.0 in the equation [(M ÷ B) + 1] ÷ 2.

A. The market price of a utility's common stock will tend to move toward book value, or a market-to-book ratio of 1.0, if regulators allow a rate of return that is equal to the cost of capital (one of the desired effects of regulation). As a result of this situation, I used [(M ÷ B) + 1] ÷ 2 as opposed to the

current market-to-book ratio by itself to represent investor's expectations that, in the future, a given utility will achieve a market-to-book ratio of 1.0.

Q. In determining your dividend growth rate estimate, you analyzed the data on four telecommunications companies. Why did you use this methodology as opposed to a direct analysis of Qwest?

A. One of the problems in performing this type of analysis is that the utility applying for a rate increase is not always a publicly traded company. Although Qwest Communications International, Inc. is publicly traded on the New York Stock Exchange ("NYSE"), Qwest's Arizona operations are not. Because of this situation, I created a proxy which includes four publicly traded telecommunications companies that have similar risk characteristics to Qwest's Arizona subsidiary in order to derive a cost of common equity for the Company.

Q. Are there any other advantages to the use of a proxy?

A. Yes. As I noted earlier, the U.S. Supreme Court ruled in the Hope decision that a utility is entitled to earn a rate of return that is commensurate with the returns on investments of other firms with comparable risk. The proxy technique that I have used derives that rate of return. One other advantage to using a sample of companies is that it reduces the possible impact that any undetected biases, anomalies, or measurement errors may have on the DCF growth estimate.

Q. What criteria did you use in selecting the four telecommunications companies that make up your proxy for Qwest?

A. Each of the telecommunications companies used in the proxy are followed by The Value Line Investment Survey ("Value Line") and comprise Value Line's Telecommunications Utility Industry segment of the U.S. economy. All of the companies in the proxy are engaged in the provision of regulated wireline services as opposed to companies that provide solely competitive wireless or interstate long distance services. Two of the companies in my proxy have a presence in Arizona.

Q. Please describe the four telecommunications companies that you included in your proxy.

A. The four telecommunications companies that I included in my proxy are BellSouth Corp. ("BellSouth"), CenturyTel, Inc. ("CenturyTel"), SBC Communications, Inc. ("SBC") and Verizon Communications ("Verizon"). BellSouth and SBC are two of the original regional telephone holding companies, or, as I prefer to refer to them as, regional Bell operating companies ("RBOC") that resulted from the breakup of American Telephone & Telegraph's[7] ("AT&T") Bell System in 1984. Atlanta-based BellSouth provides regulated wireline services to customers in the

[7] The original seven RBOC's included Ameritech, Bell Atlantic, BellSouth, NYNEX, Pacific Bell, Southwestern Bell and US West. Southwestern Bell subsequently acquired both Pacific Bell and Ameritech and changed its name to SBC Communications, Inc. Bell Atlantic acquired NYNEX in 1996 and later merged with GTE to form Verizon in 2000. US West merged with Qwest Communications International, Inc. in 2000. BellSouth is the only RBOC that exists today as it was originally conceived following the AT&T divestiture.

southeastern U.S. and served 13.3 million residential access lines during the 2003 operating period. In addition to its home state of Texas, SBC provides telecommunications services throughout the Midwestern U.S. and California serving approximately 53.6 million access lines as of June 2004. In addition to their wireline operations, which provide a large portion of their operating revenues[8], BellSouth and SBC are engaged in a joint venture to operate Cingular Wireless[9] ("Cingular"), which recently completed a merger with AT&T Wireless Services Inc. to create the nation's largest wireless carrier.

Both CenturyTel and Verizon have a presence in Arizona. Louisiana-based CenturyTel, which operates in twenty-two states including Arizona, provides wireline service to rural customers living northeast of Flagstaff in portions of Coconino and Navajo counties. CenturyTel is the eighth largest local-telecom service provider in the U.S. with approximately 2.4 million access lines and 3 million customers located in twenty-two states. Verizon is the dominant ILEC in the northeastern U.S. with more than 140.3 million access lines. In addition to its wireless operations here in Arizona, Verizon also has a California subsidiary that provides wireline service to rural customers in and around Parker, along the Colorado River area of La Paz County.

[8] Operating revenue from wireline services comprise approximately 45.0% of BellSouth and Verizon's revenue mix.

[9] Verizon holds a 60.0% share in Cingular Wireless with the remaining 40.0% owned by BellSouth.

Q. Are these the same telecommunications companies that the Company cost of capital witness used in Qwest's application?

A. Yes, the Company's cost of capital witness, Mr. Peter C. Cummings, included all four of these companies in the telecommunications portion of both his DCF and CAPM analyses. In addition to these companies, Mr. Cummings also included ALLTEL Corp. ("ALLTEL") and Citizens Communications Company ("Citizens") in his telecom proxies.

Q. Why did you exclude ALLTEL and Citizens from your proxy?

A. Even though both of these telecom providers have a presence in Arizona, I decided not to include them in my proxy for various reasons. Although ALLTEL does provide rural wireline service to some parts of the country, it is predominately an unregulated wireless provider that derives about thirty percent of its revenues from wireline services. Based on information contained in its most recent 10-K filing to the Securities and Exchange Commission ("SEC") and the ACC's website, the Company does not provide wireline service in Arizona as either an ILEC or a competitive local exchange carrier ("CLEC"). For these reasons I believe that ALLTEL has less in common with Qwest than the four companies that I chose for my proxy. Although Citizens does provide local wireline service in both Mohave County and the White Mountain region of Arizona (and would appear to be a good company for my proxy at first glance) the level of financial information available on Citizens in Value Line is not as complete

as the information that was available on the four companies that I included in my proxy. The lack of Value Line data on past and estimated dividends on Citizens would have resulted in a lower DCF estimate and for this reason I decided not to include Citizens in my analysis. Mr. Cummings appears to have recognized this fact also, and only included Citizens data in his CAPM analysis.

Q. Please explain your DCF growth rate calculations for the sample companies used in your proxy.

A. Schedule WAR-5 provides retention ratios, returns on book equity, internal growth rates, book values per share, numbers of shares outstanding, and the compounded share growth for each of the utilities included in the sample for the period 1999 to 2003. Schedule WAR-5 also includes Value Line's projected 2004, 2005, and 2007-2009 values for the retention ratio, equity return, book value per share growth rate, and number of shares outstanding.

Q. Please describe how you used the information displayed in Schedule WAR-5 to estimate each comparable utility's dividend growth rate.

A. In explaining my analysis, I will use BellSouth, NYSE symbol BLS, as an example. The first dividend growth component that I evaluated was the internal growth rate. I used the "b x r" formula (page 10) to multiply BLS' earned return on common equity by its earnings retention ratio for each

year 1999 through 2003 to derive the utility's annual internal growth rates. I used the mean average of this five-year period as a benchmark against which I compared the 2004 internal growth rate and projected growth rate trends provided by Value Line. Because an investor is more likely to be influenced by recent growth trends, as opposed to historical averages, the five-year mean noted earlier was used only as a benchmark figure. As shown on Schedule WAR-5, BLS' average internal growth rate of 11.94% over the 1999–2003 time frame reflects an upward trend from 15.77% to 15.89% that occurred during the 1999 to 2000 observation period. This was followed by two years of decline, from 13.59% in 2001 to 3.61% in 2002. BLS' internal growth rate then rebounded upward to 10.83% in 2003. Value Line is forecasting a lower growth rate in dividends with declines of 7.07% in 2004, and 6.45% in 2005 followed by an increase to 7.55% during the 2007-2009 time frame. However, after weighing Value Line's 6.00% earnings and 8.50% dividend projections, I believe that an 8.00% rate of growth would appear to be more realistic.

Q. Please continue with the external growth rate component portion of your analysis.

A. Schedule WAR-5 demonstrates that despite an increase in BLS' sustainable internal growth rate in 2003, the pattern of share's outstanding declined from 1,883 million in 1999 to 1,830 million in 2002. Value Line is predicting that this level will remain stable in 2004 and increase to 1,850

during the 2007-2009 time frame. After studying these projections, I believe that a 0.29% growth in shares is not unreasonable for BLS.

My final dividend growth rate estimate for BLS is 8.29 percent (8.00 percent internal + 0.29 percent external) and is shown on Page 1 of Schedule WAR-4.

Q. What is your average dividend growth rate estimate using the DCF model for the sample telecommunications utilities?

A. Based on the DCF model, my average dividend growth rate estimate is 6.89 percent as displayed on Page 1 of Schedule WAR-4.

Q. How does your average dividend growth rate compare to the growth rate data of other publicly traded firms?

A. Overall my estimate is more optimistic than the projections of analysts at both Zacks Investment Research, Inc. ("Zacks") and Value Line. Schedule WAR-6 compares my sustainable growth estimates with the five-year projections of both Zacks and Value Line. The 6.89 percent estimate that I have calculated is 205 basis points higher than the projected 5-year EPS average of 4.84 percent for Zacks and 126 basis points higher than the 5.63 percent for Value Line (which is an average of EPS, DPS and BVPS). My 6.89 percent estimate is 215 basis points higher than the five-year compound historical average also displayed in Schedule WAR-6. This indicates that investors are expecting increased

performance from telecommunications utilities in the future. On balance, I would say my 6.89 percent estimate is a good representation of the growth projections that are available to the investing public.

Q. How did you calculate the dividend yields displayed in Schedule WAR-3?

A. I used the estimated annual dividends, for the next twelve-month period, that appeared in the October 1, 2004 Ratings and Reports telecommunications services industry update of The Value Line Investment Survey. I then divided that figure by the eight-week average price per share of the appropriate utility's common stock. The eight-week average price is based on the daily closing stock prices for each of the four companies in my proxy for the period September 3, 2004 to October 29, 2004.

Q. Based on the results of your DCF analysis, what is your cost of equity capital estimate for the telecommunications utilities included in your sample?

A. As shown in Schedule WAR-2, the cost of equity capital derived from my analysis is 10.20 percent.

Capital Asset Pricing Model (CAPM) Method

Q. Please explain the theory behind the capital asset pricing model ("CAPM") and why you decided to use it as an equity capital valuation method in this proceeding.

A. CAPM is a mathematical tool that was developed during the early 1960's by William F. Sharpe, Ph.D.[10] The CAPM model is used to analyze the relationships between rates of return on various assets and risk as measured by beta.[11] In this regard, CAPM can help an investor to determine how much risk is associated with a given investment so that he or she can decide if that investment meets their individual preferences. Finance theory has always held that as the risk associated with a given investment increases, so should the expected rate of return on that investment and vice versa. According to CAPM theory, risk can be classified into two specific forms: nonsystematic or diversifiable risk, and systematic or non-diversifiable risk. While nonsystematic risk can be virtually eliminated through diversification (i.e. by including stocks of various companies in various industries in a portfolio of securities), systematic risk, on the other hand, cannot be eliminated by diversification.

[10] William F. Sharpe, "A Simplified Model of Portfolio Analysis," Management Science, Vol. 9, No. 2 (January 1963), pp. 277-93.

[11] Beta is defined as an index of volatility, or risk, in the return of an asset relative to the return of a market portfolio of assets. It is a measure of systematic or non-diversifiable risk. The returns on a stock with a beta of 1.0 will mirror the returns of the overall stock market. The returns on stocks with betas greater than 1.0 are more volatile or riskier than those of the overall stock market; and if a stock's beta is less than 1.0, its returns are less volatile or riskier than the overall stock market.

Thus, systematic risk is the only risk of importance to investors. Simply stated, the underlying theory behind CAPM states that the expected return on a given investment is the sum of a risk-free rate of return plus a market risk premium that is proportional to the systematic (non-diversifiable risk) associated with that investment. In mathematical terms, the formula is as follows:

$$k = r_f + [\,ß\,(r_m - r_f)]$$

where:

k	=	cost of capital of a given security,
r_f	=	risk-free rate of return,
$ß$	=	beta coefficient, a statistical measurement of a security's systematic risk,
r_m	=	average market return (e.g. S&P 500), and
$r_m - r_f$	=	market risk premium.

Q. What security did you use for a risk-free rate of return in your CAPM analysis?

A. I used a six-week average on a 91-day Treasury Bill ("T-Bill") rate.[12] This resulted in a risk-free (r_f) rate of return of 1.66 percent.

[12] A six week average was computed for the current rate using 91-day T-Bill quotes listed in Value Line's Selection and Opinion newsletter from September 24, 2004 to October 29, 2004.

Q. Why did you use the short-term T-Bill rate as opposed to the yield on an intermediate 5-year Treasury note or a long-term 30-year Treasury bond?

A. Because a 91-day T-Bill presents the lowest possible total risk to an investor. As citizens and investors, we would like to believe that U.S. Treasury securities (which are backed by the full faith and credit of the United States Government) pose no threat of default no matter what their maturity dates are. However, a comparison of various Treasury instruments will reveal that those with longer maturity dates do have slightly higher yields. Treasury yields are comprised of two separate components,[13] a true rate of interest (believed to be approximately 2.00 percent) and an inflationary expectation. When the true rate of interest is subtracted from the total treasury yield, all that remains is the inflationary expectation. Because increased inflation represents a potential capital loss, or risk, to investors, a higher inflationary expectation by itself represents a degree of risk to an investor. Another way of looking at this is from an opportunity cost standpoint. When an investor locks up funds in long-term T-Bonds, compensation must be provided for future investment opportunities foregone. This is often described as maturity or interest rate risk and it can affect an investor adversely if market rates increase before the instrument matures (a rise in interest rates would decrease the value

[13] As a general rule of thumb, there are three components that make up a given interest rate or rate of return on a security: the true rate of interest, an inflationary expectation, and a risk premium. The approximate risk premium of a given security can be determined by simply subtracting a 91-day T-Bill rate from the yield on the security.

of the debt instrument). As discussed earlier in the DCF portion of my testimony, this compensation translates into higher rates of returns to the investor. Since a 91-day T-Bill presents the lowest possible total risk to an investor, it more closely meets the definition of a risk-free rate of return and is the more appropriate instrument to use in a CAPM analysis.

Q. How did you calculate the market risk premium used in your CAPM analysis?

A. I used both a geometric and an arithmetic mean of the historical returns on the S&P 500 index from 1926 to 2003 as the proxy for the market rate of return (r_m). The risk premium (r_m - r_f) that results by using the geometric mean calculation for r_m is equal to 8.68 percent (10.40% - 1.72% = 8.68%). The risk premium that results by using the arithmetic mean calculation for r_m is 10.68 percent (12.40% - 1.72% = 10.68%).

Q. How did you select the beta coefficients that were used in your CAPM analysis?

A. The beta coefficients (ß), for the individual utilities used in my sample, were calculated by Value Line and were current as of October 1, 2004. Value Line calculates its betas by using a regression analysis between weekly percentage changes in the market price of the security being analyzed and weekly percentage changes in the NYSE Composite Index over a five-year period. The betas are then adjusted by Value Line for

their long-term tendency to converge toward 1.00. The beta coefficients for the telecommunications utilities included in my sample ranged from 1.00 to 1.10 with an average beta of 1.04.

Q. What are the results of your CAPM analysis?

A. As shown on Pages 1 and 2 of Schedule WAR-7, my CAPM calculation using a geometric mean for r_m results in an average expected return of 10.73 percent. My calculation using the arithmetic mean results in an average expected return of 12.80 percent. Although there is some debate on this point, I believe that the consensus among financial analysts appears to be that the arithmetic mean is the better of the two averages. For this reason, I believe that the 12.80 percent figure is the better check on the result of my DCF analysis.

Q. Please summarize the results derived under each of the methodologies presented in your testimony.

A. The following is a summary of the cost of equity capital derived under each methodology used:

METHOD	RESULTS
DCF	10.20%
CAPM	10.73% – 12.80%

Based on these results, my best estimate of an appropriate range for the cost of equity is from 10.20 percent to 12.80 percent. My final recommendation is an 11.50 percent return for Qwest's cost of equity capital.

Q How did you arrive at your recommended 11.50 percent cost of common equity?

A. My recommended 11.50 percent cost of common equity was arrived at by taking a mean average of the results of my 10.20 percent DCF figure and the higher 12.80 percent result of my CAPM analysis which was calculated with an arithmetic mean.[14] This results in a 130 basis point upward adjustment to the 10.20 percent result derived from my DCF analysis.

Q. Is this the method that you have typically used to determine the cost of equity capital in prior rate case proceedings?

A. No. Typically, my recommended cost of equity is derived solely from my DCF analysis.

Q. Why have you departed from your typical practice in this proceeding?

A. My decision to average the results of my DCF analysis and my CAPM analysis (calculated with an arithmetic mean) was based on the fact that

[14] [(9.04 % + 8.62%) ÷ 2] = (17.66%) ÷ 2 = 8.83%

my recommended capital structure for Qwest is comprised of 25 percent common equity capital and 75 percent debt. This capital structure has much more debt than the capital structures of the four companies that I included in my DCF and CAPM proxies. Because Qwest is more heavily leveraged and faces a higher level of financial risk (i.e. the risk of not being able to meet debt service obligations) than the companies in my proxy, I believe that a return on common equity that is higher than my DCF result is warranted in this case.

Q. Have you made adjustments to your DCF results in prior cases?

A. Yes. I adjusted my DCF results in the last two rate cases that I testified in. In the first of those two cases, I increased my DCF result by 50 basis points to recognize the additional financial risk faced by Arizona-American Water Company, Inc. ("Arizona-American"). My 50 basis point adjustment in that case took into consideration Arizona-American's leveraged capital structure (which was comprised of 60.00 percent debt and 40.00 percent equity). The second case involved Rio Rico, Utilities, Inc. ("Rio Rico"), a water and wastewater provider with a capital structure comprised of 100 percent common equity. In Rio Rico's case, I averaged the results of my DCF and CAPM analyses (just as I have for Qwest) to arrive at a cost of equity of 8.83 percent. This adjustment resulted in a 42 basis point downward adjustment to my 9.04 percent DCF estimate. In the Rio Rico proceeding, the Commission eventually adopted a cost of common equity

that was slightly lower than the 8.83 percent that I recommended. Although my upward adjustment for Qwest in this case is somewhat larger than the two previous cases, I believe that the higher figure is reasonable given the fact that Qwest is more heavily leveraged (a point that I will discuss later in my direct testimony) and operates in a somewhat more competitive environment than the aforementioned water utilities (a point that is supported by Value Line assessment of the telecommunications services industry and the direct testimony of RUCO witness Ben Johnson).

Current Economic Environment

Q. Please explain why it is necessary to consider the current economic environment when performing a cost of equity capital analysis for a regulated utility.

A. Consideration of the economic environment is necessary because trends in interest rates, present and projected levels of inflation, and the overall state of the U.S. economy determine the rates of return that investors earn on their invested funds. Each of these factors represent potential risks that must be weighed when estimating the cost of equity capital for a regulated utility and are, most often, the same factors considered by individuals who are investing in non-regulated entities also.

Q. Please discuss your analysis of the current economic environment.

A. My analysis includes a review of the economic events that have occurred since 1990. Schedule WAR-9 displays various economic indicators and other data that I will refer to during this portion of my testimony.

In 1991, as measured by the most recently revised annual change in gross domestic product ("GDP"), the U.S. Economy experienced a rate of growth of negative 0.20 percent. This decline in GDP marked the beginning of a mild recession that ended sometime before the end of the first half of 1992. Reacting to this situation the Federal Reserve Board ("Federal Reserve" or "Fed"), chaired by noted economist Alan Greenspan, lowered its benchmark federal funds rate[15] in an effort to further loosen monetary constraints - an action that resulted in lower interest rates.

During this same period, the nation's major money center banks followed the Federal Reserve's lead and began lowering their interest rates as well. By the end of the fourth quarter of 1993, the prime rate (the rate charged by banks to their best customers) had dropped to 6.00 percent from a 1990 level of 10.01 percent. In addition, the Federal Reserve's discount rate on loans to its member banks had fallen to 3.00 percent and short-

[15] The interest rate charged by banks with excess reserves at a Federal Reserve district bank to banks needing overnight loans to meet reserve requirements. The federal funds rate is the most sensitive indicator of the direction of interest rates, since it is set daily by the market, unlike the prime rate and the discount rate, which are periodically changed by banks and by the Federal Reserve Board, respectively.

term interest rates had declined to levels that had not been seen since 1972.

Although GDP increased in 1992 and 1993, the Federal Reserve took steps to increase interest rates beginning in February of 1994, in order to keep inflation under control. By the end of 1995, the Federal discount rate had risen to 5.21 percent. Once again, the banking community followed the Federal Reserve's moves. The Fed's strategy, during this period, was to engineer a "soft landing." That is to say that the Federal Reserve wanted to foster a situation in which economic growth would be stabilized without incurring either a prolonged recession or runaway inflation.

Q. Did the Federal Reserve achieve its goals during this period?

A. The Fed's strategy of decreasing interest rates to stimulate the economy worked. The annual change in GDP began an upward trend in 1991. A change of 4.50 percent and 4.20 percent were recorded at the end of 1997 and 1998 respectively. Based on daily reports that were presented in the mainstream print and broadcast media during most of 1999, there appeared to be little doubt among both economists and the public at large that the U.S. was experiencing a period of robust economic growth highlighted by low rates of unemployment and inflation. Investors, who believed that technology stocks and Internet company start-ups (with little or no history of earnings) had high growth potential, purchased these types of issues with enthusiasm. These types of investors, who exhibited

what Chairman Greenspan described as "irrational exuberance," pushed stock prices and market indexes to all time highs from 1997 to 2000.

Q. What has been the state of the economy over the last four years?

A. The U.S. economy entered into a recession around the end of the first quarter of 2001. The bullish trend, which had characterized the last half of the 1990's, had already run its course sometime during the third quarter of 2000. Economic data released since the beginning of 2001 had already been disappointing during the months preceding the September 11, 2001 terrorist attacks on the World Trade Center and the Pentagon. Slower growth figures, rising layoffs in the high technology manufacturing sector, and falling equity prices (due to lower earnings expectations) prompted the Fed to begin cutting interest rates as it had done in the early 1990's. The now infamous terrorist attacks on New York City and Washington D.C. marked a defining point in this economic slump and prompted the Federal Reserve to continue its rate cutting actions through December 2001. Prior to the 9/11 attacks, commentators, reporting in both the mainstream financial press and various economic publications including Value Line, believed that the Fed Chairman was cutting rates in the hope of avoiding the recession that the U.S. is still in the process of recovering from.

Despite several intervals during 2002 and 2003 in which the Federal Open Market Committee ("FOMC") decided not to change interest rates, moves

which indicated that the worst may be over and that the current recession might have bottomed out during the last quarter of 2001, a lackluster economy persisted. The continuing economic malaise and even fears of possible deflation prompted the FOMC to make a thirteenth rate cut on June 25, 2003. The quarter point cut reduced the federal funds rate to 1.00 percent, the lowest level in 45 years.

Even though some signs of economic strength, that were mainly attributed to consumer spending, began to crop up during the latter part of 2002 and into 2003, Chairman Greenspan appeared to be concerned with sharp declines in capital spending in the business sector.

During the latter part of 2003, the FOMC went on record as saying that it intended to leave interest rates low "for a considerable period." After its two-day meeting that ended on January 28, 2004, the FOMC stated "that with inflation 'quite low' and plenty of excess capacity in the economy, policy-makers 'can be patient in removing its policy accommodation.'"[16]

Q. What actions has the Federal Reserve taken in terms of interest rates since the beginning of 2001?

A. As noted earlier, from January 2001 to June 2003 the Federal Reserve cut interest rates a total of thirteen times. During this period, the federal funds rate fell from 6.50 percent to 1.00 percent. The FOMC reversed this trend on June 29, 2004 and raised the federal funds rate 25 basis points to 1.25

[16] Wolk, Martin, "Fed leaves short-term rates unchanged," MSNBC, January 28, 2004.

1 percent. Since June, 2004, the FOMC has raised the federal funds rate
2 three more times: from 1.25 percent to 1.50 percent on August 10, 2004,
3 from 1.50 percent to 1.75 percent on September 21, 2004, and from 1.75
4 percent to the current 2.00 percent level on November 10, 2004. As
5 expected, banks have followed the Fed's lead and have boosted the prime
6 rate to its current level of 5.00 percent[17]. According to an article that
7 appeared in the September 22, 2004 edition of the The Wall Street
8 Journal The FOMC's decision to begin raising rates was viewed as a
9 move to increase rates from emergency lows in order to avoid creating an
10 inflation problem in the future as opposed to slowing down the
11 strengthening economy[18]. In other words, the Fed is trying to head off
12 inflation *before* it becomes a problem.
13 Since it began increasing the federal funds rate in June 2004, the Federal
14 Reserve has stated that it would increase rates at a "measured" pace.
15 Many analysts and economists interpret this language to mean that
16 Chairman Greenspan will be cautious in increasing interest rates too
17 quickly in order to avoid what is considered to be one of the Fed's few
18 blunders during his tenure – a series of increases in 1994 that caught the
19 financial markets by surprise after a long period of low rates. The rapid

[17] As this testimony was being finalized, the changes in the federal funds rate, the federal discount rate and the prime rate, that occurred as a result of the FOMC's actions on November 10, 2004, were included in Schedule WAR-8.

[18] McKinnon, John D. and Greg IP, "Fed Raises Rates by a Quarter Point," The Wall Street Journal, September 22, 2004.

rise in rates resulted in financial turmoil, which contributed to the bankruptcy of Orange County, California and the Mexican peso crisis[19].

Q. Putting this all into perspective, how have the Fed's actions over the past four years affected benchmark rates?

A. Virtually all of the benchmark rates have fallen to levels not seen in over forty-five years. The Fed's actions have had the overall effect of reducing the cost of many types of business and consumer loans. Despite the recent increases in the federal funds rate, the federal discount rate (the rate charged to member banks) has fallen from 5.73 percent in 2000, to its present level of 3.00 percent (following the Fed's November 10, 2004 action). Despite the recent increases, rates are still at historically low levels.

Q. What has been the trend in other leading interest rates over the last year?

A. As of November 10, 2004, all of the leading interest rates have edged up. The prime rate has increased from 4.00 percent a year ago to a current level of 5.00 percent. The benchmark federal funds rate, just discussed, has increased from 1.00 percent, in October 2003, to its current level of 2.00 percent. As of the Week ended October 29, 2004, the yields on all maturities of U.S. Treasury instruments, with the exception of the 10-year and 30-year instruments and 30-year zero coupon bonds, which have

[19] Associated Press (AP), "Fed begins debating interest rates" USA Today, June 29, 2004.

fallen from 32 to 42 basis points since October 2003, have increased over the past year. The 91-day T-bill rate, used in my CAPM analysis, has increased from 0.94 percent, in October 2003, to 1.83 percent today. The 1-Year Treasury Constant Maturity rate, has also increased from 1.28 percent over the past year to 2.20 percent today. Again, these levels are still low when they are compared with the historical yields displayed on Schedule WAR-8.

Q. How have economists and members of the investment community viewed the Fed's recent actions and the current state of the economy in general?

A. The change in the Fed's language from "considerable period" to "patient" to "measured," that have been noted through the course of my testimony, has pretty much summed up the Fed's course of action during the economic recovery that is still in progress. In his October column for Wells Capital Management's Monthly Market Outlook publication, Senior Economist Gary E. Schlossberg sees the Fed's recent credit tightening action as a trend that is likely to continue barring an unraveling of the economic recovery, a major disruption in the financial markets or a renewed threat of declining prices. According to Mr. Schlossberg, the Fed appears to be determined to engineer a fundamental shift from its past policy of "aggressive accommodation" to what he considers to be a more "neutral" policy stance (determined by both the rate of inflation and an additional "premium" of possibly 1.00 percent to 1.50 percent) via a series

of rapid fire quarter-point increases that will result in a federal funds rate of 4.00 percent to 4.50 percent by the end of 2005. Mr. Schlossberg's expectation of future incremental increases in the federal funds rate is shared by Mickey Levy, Chief Economist for Bank of America, and by Value Line analysts. In the October 1, 2004 edition of Value Line's "Selection & Opinion" publication, Value Line's analysts stated that they believed that the Fed was following a prudent course. In their opinion the Fed's interest rate cutting helped to avoid a more serious recession and the Fed's present course of action will help to insure that the current upturn in the economy is sustained while keeping inflation low and under control at the same time. Although the recent increases in the federal funds rate have been viewed as a positive development (i.e. evidence of a strengthening economy), the recent increases in crude oil prices have not. Rising crude oil prices have become a serious concern to analysts and economists because of their potential adverse impact on corporate earnings. The recent price spike of $50 per barrel has been attributed to the war in Iraq, the recent hurricanes in the gulf coast region (which impacted production in Mexico) and an overall increase in world demand (primarily from emerging industrial powers such as China).

Q. How has the telecommunications segment of the U.S. economy fared recently?

A. In his October 1, 2004 update on the telecommunications services industry, Value Line analyst David Reimer stated that while the domestic stock market, as a whole, suffered much volatility (heightened by high fuel prices and political uncertainty) due to lingering concerns regarding the near-term prospects for the U.S. economy over the past three months, the telecommunications service industry held up well against the broader market over the same period. Noting that the major ratings agencies have become aware of improved finances within the industry, Mr. Reimer appears to be optimistic in his outlook, as evidenced by his expectation that Value Line's number of total financial strength rating upgrades in the telecommunications segment will be greater than total downgrades.

Q. Please summarize how the economic data just presented relates to Qwest.

A. The current low rate of inflation translates into stable and even possibly declining prices for goods and services, which in turn means that Qwest can expect its present operating expenses to either remain stable or possibly decline in the coming years. Lower interest rates would also benefit Qwest in regard to any short or long-term borrowing needs that the Company may have. Lower interest rates, would further help to accelerate growth in new construction projects and home developments

(which have been on an upward trend according to data presented in Value Line) in the Company's service territory, and may result in new revenue streams to Qwest.

Q. After weighing the economic information that you've just discussed, do you believe that the 10.20 percent to 12.80 percent cost of equity capital that you have estimated is reasonable for Qwest?

A. I believe that my estimate of equity costs will provide Qwest with a reasonable rate of return on the Company's invested capital when economic data on interest rates (that are still low by historical standards), continued growth in new housing construction (attributed to historically low interest rates), and the low and stable outlook for inflation are all taken into consideration. As I noted earlier, the Hope decision determined that a utility is entitled to earn a rate of return that is commensurate with the returns it would make on other investments with comparable risk. I believe that my DCF and CAPM analyses have produced such a return. The results that I have obtained are consistent with Value Line's view that, with the exception of Qwest, the RBOC's included in my proxy "offer high yields and favorable dividend growth prospects." In fact, my recommended 11.50 percent cost of common equity is the same as Value Line's forward looking long-term (i.e. 2007-2009) return on common equity expectation for the telecommunications industry.

CAPITAL STRUCTURE

Q. Have you reviewed Qwest's testimony regarding the Company's proposed capital structure?

A. Yes, I have.

Q. Please describe the Company's proposed capital structure.

A. The Company is proposing a capital structure comprised of approximately 24.80 percent common equity and 75.20 percent debt.

Q. What capital structure are you proposing for Qwest?

A. I have adopted the Company-proposed capital structure.

Q. How does your recommended cost of equity capital compare with the cost of equity capital proposed by the Company?

A. The 21.40 percent cost of equity capital proposed by the Company's cost of capital witness is 990 basis points higher than the 11.50 percent cost of equity capital that I am recommending.

Q. How does your recommended cost of debt compare with the cost of debt proposed by the Company?

A. I am recommending the same 7.89 percent cost of long-term debt and the same 7.24 percent cost of short-term debt that the Company has proposed. This was based on my review of Qwest's debt and lease obligations.

Q. How does the Company's proposed weighted cost of capital compare with your recommendation?

A. The Company-proposed weighted cost of capital of 11.18 percent is 245 basis points higher than the 8.73 percent weighted cost of capital that I am recommending.

Q. Is Qwest's capital structure in line with industry averages?

A. No. As can be seen in schedule WAR-9, Qwest's capital structure is much heavier in debt than the four telecommunications companies that I included in my DCF and CAPM proxy. The Value Line capital structures for the utilities included in my proxy averaged 29.90 percent for debt (4.00 percent short-term debt + 25.90 percent long-term debt) and 70.10 percent for equity (0.00 percent in preferred equity + 70.10 percent common equity). This is the primary reason why Value Line's analysts do not view Qwest as favorably as the other RBOC's that are in my sample.

Q. Why are you recommending the Company-proposed capital structure as opposed to a hypothetical capital structure that is more in line with the capital structures of the utilities included in your sample?

A. First, the capital structure that Qwest is proposing actually reflects the way in which the Company's Test Year assets were financed. Second, the use of the actual capital structure benefits Qwest's regulated services ratepayers because it produces a weighted cost of capital that is lower

than what a hypothetical capital structure would. This is because the Company's lower 7.81 percent cost of debt is weighted more heavily than the higher cost of common equity. For example, using my recommended 11.50 percent cost of common equity and 8.71 percent cost of debt, a hypothetical capital structure of 50 percent equity and 50 percent debt would result in a weighted cost of capital of 9.66 percent which is 93 basis points higher than my recommended weighted cost of 8.73 percent.

Q. In terms of risk, how does Qwest's capital structure compare to the telecommunications utilities in your sample?

A. Qwest would be perceived as having more risk. This is because of the higher level of debt in the Company's capital structure. As a result of this, the Company faces additional financial risk (i.e. the risk associated with debt repayment) than do the utilities in my sample. Since financial risk (due to debt leverage) is embedded in the cost of equity capital derived for those companies through the DCF analysis, the cost of equity derived in my DCF analysis is applicable to companies that are less leveraged and, theoretically speaking, have a lower level of risk than a utility with Qwest's level of debt. In the case of a publicly-traded company, such as those included in my proxy, a company with Qwest's level of debt would be perceived as having higher financial risk and would therefore have a higher expected return on common equity.

Q. Have you made an adjustment to your DCF estimate based on any perceptions of financial risk?

A. Yes, as I stated earlier in my testimony I have increased the result of my DCF estimate from 10.20 percent to 11.50 percent. I have made this 130 basis point upward adjustment to take into account the additional financial risk faced by the Company. This 130 basis point adjustment is 80 basis points higher than a previous 50 basis point increase that I made for water provider Arizona-American, which had a capital structure comprised of 60 percent debt and 40 percent common equity (page 30).

COMMENTS ON QWEST'S COST OF EQUITY CAPITAL TESTIMONY

Q. Please describe Qwest's cost of equity capital testimony.

A. As noted earlier in my testimony Qwest's cost of capital testimony was prepared by Mr. Peter C. Cummings. Mr. Cumming's testimony presents the results of his own DCF and CAPM analyses and offers his rationale as to why the Commission should authorize a 21.40 percent return on common equity for Qwest.

Q. Were there any differences in the way that you conducted your DCF analysis and the way that Mr. Cummings conducted his?

A. Yes, Mr. Cummings conducted two separate DCF analyses. His first DCF analysis is similar to mine and, as I explained earlier in my testimony, uses a proxy of six telecommunications providers. His second DCF analysis

uses a proxy that is comprised of a diversified sample of publicly traded companies that are not part of the telecommunications industry.

Q. What is the difference between your DCF results and Mr. Cummings's first DCF result?

A. The 10.20 percent cost of common equity derived in my DCF analysis (that uses four sample telecommunications companies) is 320 basis points higher than the 7.00 percent cost of common equity derived in Mr. Cummings's first DCF analysis.

Q. Why is your 10.20 percent DCF result, using telecommunications providers, higher than Mr. Cummings' 7.00 percent DCF results that also use telecommunications providers?

A. In the dividend yield portion ($D_1 \div P_0$) of the DCF formula ($k = (\mathbf{D_1 \div P_0}) + g$), Mr. Cummings ignored the results of Citizens (which I did not include in my sample) and divided the projected dividends (D_1) of the remaining five telecommunications companies in his sample by a 10-day average (P_0) of their closing stock prices in order to arrive at a 3.50 percent figure. This 3.50 percent dividend yield figure is 19 basis points higher than the 3.31 percent that I calculated by using the projected dividends of four telecommunications companies divided by a more recent 8-week average of their closing stock prices. When ALLTEL's projected dividend yield of 3.1 percent is taken out of the calculation, Mr. Cumming' model produces

a dividend yield of 3.60 percent that is 29 basis points higher than my 3.31 percent figure.

In the growth portion (g) of the DCF formula ($k = (D_1 \div P_0) + \mathbf{g}$), Mr. Cummings once again ignored a 7.00 percent growth projection on Citizens and used the projected growth rates (provided by Institutional Brokers Investor Service or I/B/E/S) on the remaining five telecommunications companies in his sample to arrive at a 3.46 percent growth figure. This 3.46 percent growth figure is 343 basis points lower than the more optimistic 6.89 percent growth figure that I estimated (pages 21 and 22) on the four telecommunications companies in my sample. When ALLTEL's I/B/E/S projected rate of growth is removed from the calculation, Mr. Cumming' model produces a growth rate of 3.08 percent which is 381 basis points lower than my 6.89 percent figure.

In arriving at his final DCF estimate of 7.00 percent, Mr. Cummings rounded up the 6.96 percent sum of the aforementioned 3.50 percent dividend yield and 3.46 growth averages that were calculated in his model. When ALLTEL is removed from the DCF calculation, Mr. Cummings' model produces a 6.68 percent cost of equity capital which is 352 basis points lower than my 10.20 percent estimate.

Q. You stated that Mr. Cummings used a 10-day average of closing stock prices in the "P_0" component of the DCF model as opposed to a more recent 8-week average that you used. What is the difference between the two average stock prices?

A. When ALLTEL, which had a closing average stock price of $49.81 (according to Mr. Cummings' workpapers), is included in the calculation, Mr. Cummings' 10-day average closing stock price is $33.03 or $1.09 higher than the more recent $31.94 8-week average that I used in my DCF model (which excluded ALLTEL). When ALLTEL's average closing price of $49.81 is eliminated from the calculation, Mr. Cummings 10-day average closing stock price is $28.84 or $3.10 less than the more recent 8-week average that I used in my DCF model. Since there was only a small difference in our estimated dividends per share ($0.07 for BLS and $0.01 for SBC), the lower $28.84 10-week average stock price (without ALLTEL) that would have existed when Mr. Cummings performed his DCF analysis produces a slightly higher yield of 3.50 percent than the 3.30 percent dividend yield that my model produces using a more recent 8-week average of $31.94. My comparison illustrates the fact that the stock prices for the four telecommunications companies included in both Mr. Cummings proxy and my proxy have increased in value since Mr. Cummings' testimony was filed.

Q. Based on the DCF comparisons that you have just presented, do you believe that your estimates for the growth component of the DCF model are too high?

A. No. As can be seen in Schedule WAR-6, my growth estimate is only 126 basis points higher than the average of Value Line's per share projections on earnings, dividends and book value. The I/B/E/S growth estimates that Mr. Cummings used in his model (at the time that he performed his analysis) are lower than both the Value Line and Zack's projections that I relied on as a check of my estimate. If anything, the recent increased value in stock prices that I just noted tends to validate my higher expectations for growth among the four telecommunications companies included in my sample. As I pointed out earlier in my testimony, Value Line analyst David Reimer stated that the telecommunications industry held up well against the broader market during the July – September period of 2004. According to Mr. Reimer the telecommunications services industry remains in the top half of Value Line's timeliness ranking system. This outlook bodes well for Qwest in my opinion, since increased earnings could be used to retire existing debt obligations and allow the Company to achieve a capital structure that is more in line with industry averages. According to rating agency reports provided by Qwest and Value Line analyst Reimer, the Company appears to be moving in this direction already. Recent federal court decisions, which have overturned Federal Communication Commission rules requiring the RBOC's to make their

1 facilities available to CLEC's through leasing agreements, have improved
2 Qwest's earning picture by easing competitive pressure. I would think that
3 Qwest's recent $250 million settlement with the SEC, over allegations that
4 Qwest recognized nearly $4 billion in revenue and excluded $231 million
5 in expenses "as part of a multi-faceted fraudulent scheme to meet
6 optimistic and unsupportable revenue and earnings projections," will also
7 help to ease investor uncertainties.
8
9 Q. Please compare the results of your DCF analysis with the results of Mr.
10 Cummings' second DCF analysis, which uses a proxy of publicly traded
11 companies that are not part of the telecommunications industry.
12 A. Mr. Cummings' DCF model using non-telecommunications companies
13 produced an estimate of 12.80 percent (which was a truncated average
14 that removed the high and low estimates). Mr. Cummings' estimate was
15 260 basis points higher than my 10.20 percent estimate that used a proxy
16 of four telecommunications companies. Mr. Cummings' result is more in
17 line with the results of my CAPM analysis that was calculated with an
18 arithmetic mean.
19
20 Q. Why did you choose not to perform a similar DCF analysis using non-
21 telecommunications companies?
22 A. Quite simply, I believe that my sample of telecommunications companies
23 are a better proxy than a sample of unregulated companies that are not

engaged in the business of providing telecommunication services. Although the companies in my sample have subsidiaries that compete in unregulated services, such as wireless communications, the same is true of Qwest, which provides wireless services through a resale agreement with Sprint.

Q. Please compare the results of your CAPM analysis with the results of Mr. Cummings' CAPM analysis?

A. As in the case of his DCF analysis, Mr. Cummings performed two CAPM analyses ($k = r_f + [ß (r_m - r_f)]$) – one that uses the aforementioned proxy of six telecommunications companies, and one that uses a proxy comprised of non-telecommunications companies. Mr. Cummings' CAPM analysis, using his telecommunications proxy that included results for Citizens, produced an expected return (k) of 12.10 percent, which is 70 basis points lower than my CAPM analysis using an arithmetic mean, and 137 basis points higher than my CAPM analysis using a geometric mean. Mr. Cummings' CAPM analysis, using his non-telecommunications proxy, produced an expected return of 10.20 percent (again using a truncated average) which is 260 basis points lower than my CAPM analysis using an arithmetic mean, and 53 basis points lower than my CAPM analysis using a geometric mean.

Q. What beta coefficient (ß) did you use in your CAPM model and what beta coefficient did Mr. Cummings's use in his telecommunications company CAPM analysis?

A. I used a beta coefficient of 1.04, which was an average of the applicable betas published by Value Line. Mr. Cummings used a beta coefficient of 1.01, which was derived from an average of the applicable betas published by both Value Line and Merrill Lynch.

Q. What was the beta coefficient used in Mr. Cummings's non-telecommunications company CAPM analysis?

A. Mr. Cummings used a beta coefficient of 0.78, which was also derived from an average of the applicable betas published by both Value Line and Merrill Lynch.

Q. Please compare the risk free rate of return (r_f) proxies used in both your and Mr. Cummings CAPM analyses.

A. As I explained earlier in my testimony (page 25), I used a six-week average on a 91-day T-Bill rate. This resulted in a risk-free rate of return of 1.66 percent. Mr. Cummings on the other hand, used an average of 10-year U.S. Treasury bond yields, which resulted in a higher risk-free rate of return of 3.80 percent. The difference between the two average yields is 214 basis points.

Q. What is the difference between your market risk premium (r_m) and the market risk premium used by Mr. Cummings?

A. Mr. Cummings derived his market risk premium figure of 8.20 percent by averaging the arithmetic mean risk premium for market results (over the 1926-2003 period) with an S&P 500 DCF equity estimate and then subtracting his risk free proxy. The 8.20 percent market risk premium used by Mr. Cummings is 248 basis points lower than my 10.68 percent market risk premium, using an arithmetic mean, and is 48 basis points lower than my 8.68 percent market risk premium, using a geometric mean.

Q. How does Mr. Cummings arrive at his 21.40 percent cost of common equity figure after presenting the results of his DCF and CAPM analyses that range from 7.00 percent to 12.80 percent?

A. Mr. Cummings uses a procedure that produces an adjusted beta coefficient, or "levered beta", that is substituted into the CAPM model to produce an expected return that reflects the level of debt and equity contained in a firm's capital structure.

Q. Please compare the levered beta used to produce the Company-proposed 21.40 percent cost of common equity with the other betas used in your and Mr. Cummings' CAPM analyses.

A. The procedure used by Mr. Cummings (on page 36 of his direct testimony) produces a levered beta of 2.15 that is more than twice as large as the

beta of 1.04, which I used in my CAPM model, and the betas of 1.01 and 0.78, which Mr. Cummings used in his telecommunications and non-telecommunications CAPM models respectively.

Q. Do you agree with Mr. Cummings' decision to rely solely on his CAPM analysis that uses a levered beta of 2.15?

A. No. As I stated at the beginning of my testimony, I place more emphasis on the results of the DCF model. The DCF model uses actual closing stock prices that reflect information, such as a firm's capital structure, that is available to the investing public. In short, I believe that the theoretical 2.15 beta that Mr. Cummings has calculated is not realistic when companies with similar betas are compared to Qwest.

Q. Are there any final remarks that you would like to make regarding your recommended cost of capital for Qwest?

A. Yes. I would like to reiterate my firm belief that the telecommunications utilities that were included in my DCF and CAPM sample fit the Hope decision definition of "other investments with comparable risk." I further believe that the telecommunications companies included in my sample closely resemble Qwest in terms of both an operating and risk standpoint.

Q. Does your silence on any of the issues, matters or findings addressed in the testimony of Mr. Cummings constitute your acceptance of his positions on such issues, matters or findings?

A. No, it does not.

Q. Does this conclude your testimony on Qwest?

A. Yes, it does.

Qualifications of William A. Rigsby

EDUCATION:

University of Phoenix
Master of Business Administration, Emphasis in Accounting, 1993

Arizona State University
College of Business
Bachelor of Science, Finance, 1990

Mesa Community College
Associate of Applied Science, Banking and Finance, 1986

Michigan State University
Institute of Public Utilities
N.A.R.U.C. Annual Regulatory Studies Program, 1997 &1999

Florida State University
Center for Professional Development & Public Service
N.A.R.U.C. Annual Western Utility Rate School, 1996

EXPERIENCE:

Public Utilities Analyst V
Residential Utility Consumer Office
Phoenix, Arizona
April 2001 – Present

Senior Rate Analyst
Accounting & Rates - Financial Analysis Unit
Arizona Corporation Commission, Utilities Division
Phoenix, Arizona
July 1999 – April 2001

Senior Rate Analyst
Residential Utility Consumer Office
Phoenix, Arizona
December 1997 – July 1999

Utilities Auditor II and III
Accounting & Rates – Revenue Requirements Analysis Unit
Arizona Corporation Commission, Utilities Division
Phoenix, Arizona
October 1994 – November 1997

Revenue Auditor II
Arizona Department of Revenue
Corporate Income Tax Audit Unit
Phoenix, Arizona
November 1993 – October 1994

Tax Examiner Technician I
Arizona Department of Revenue
Transaction Privilege Tax Audit Unit
Phoenix, Arizona
July 1991 – November 1993

RESUME OF RATE CASE AND REGULATORY PARTICIPATION

Utility Company	Docket No.	Type of Proceeding
ICR Water Users Association	U-2824-94-389	Original CC&N
Rincon Water Company	U-1723-95-122	Rate Increase
Ash Fork Development Association, Inc.	E-1004-95-124	Rate Increase
Parker Lakeview Estates Homeowners Association, Inc.	U-1853-95-328	Rate Increase
Mirabell Water Company, Inc.	U-2368-95-449	Rate Increase
Bonita Creek Land and Homeowner's Association	U-2195-95-494	Rate Increase
Pineview Land & Water Company	U-1676-96-161	Rate Increase
Pineview Land & Water Company	U-1676-96-352	Financing
Montezuma Estates Property Owners Association	U-2064-96-465	Rate Increase
Houghland Water Company	U-2338-96-603 et al	Rate Increase
Sunrise Vistas Utilities Company – Water Division	U-2625-97-074	Rate Increase
Sunrise Vistas Utilities Company – Sewer Division	U-2625-97-075	Rate Increase
Holiday Enterprises, Inc. dba Holiday Water Company	U-1896-97-302	Rate Increase
Gardener Water Company	U-2373-97-499	Rate Increase
Cienega Water Company	W-2034-97-473	Rate Increase
Rincon Water Company	W-1723-97-414	Financing/Auth. To Issue Stock
Vail Water Company	W-01651A-97-0539 et al	Rate Increase
Bermuda Water Company, Inc.	W-01812A-98-0390	Rate Increase
Bella Vista Water Company	W-02465A-98-0458	Rate Increase
Pima Utility Company	SW-02199A-98-0578	Rate Increase

RESUME OF RATE CASE AND REGULATORY PARTICIPATION (Cont.)

Utility Company	Docket No.	Type of Proceeding
Pineview Water Company	W-01676A-99-0261	WIFA Financing
I.M. Water Company, Inc.	W-02191A-99-0415	Financing
Marana Water Service, Inc.	W-01493A-99-0398	WIFA Financing
Tonto Hills Utility Company	W-02483A-99-0558	WIFA Financing
New Life Trust, Inc. dba Dateland Utilities	W-03537A-99-0530	Financing
GTE California, Inc.	T-01954B-99-0511	Sale of Assets
Citizens Utilities Rural Company, Inc.	T-01846B-99-0511	Sale of Assets
MCO Properties, Inc.	W-02113A-00-0233	Reorganization
American States Water Company	W-02113A-00-0233	Reorganization
Arizona American Water Company	W-01303A-00-0327	Financing
Arizona Electric Power Cooperative	E-01773A-00-0227	Financing
360networks (USA) Inc.	T-03777A-00-0575	Financing
Beardsley Water Company, Inc.	W-02074A-00-0482	WIFA Financing
Mirabell Water Company	W-02368A-00-0461	WIFA Financing
Rio Verde Utilities, Inc.	WS-02156A-00-0321 et al	Rate Increase/ Financing
Arizona Water Company	W-01445A-00-0749	Financing
Loma Linda Estates, Inc.	W-02211A-00-0975	Rate Increase
Arizona Water Company	W-01445A-00-0962	Rate Increase
Mountain Pass Utility Company	SW-03841A-01-0166	Financing
Picacho Sewer Company	SW-03709A-01-0165	Financing
Picacho Water Company	W-03528A-01-0169	Financing
Ridgeview Utility Company	W-03861A-01-0167	Financing
Green Valley Water Company	W-02025A-01-0559	Rate Increase
Bella Vista Water Company	W-02465A-01-0776	Rate Increase
Arizona Water Company	W-01445A-02-0619	Rate Increase

RESUME OF RATE CASE AND REGULATORY PARTICIPATION (Cont.)

Utility Company	Docket No.	Type of Proceeding
Arizona-American Water Company	W-01303A-02-0867 et al.	Rate Increase
Arizona Public Service Company	E-01345A-03-0437	Rate Increase
Rio Rico Utilities, Inc.	WS-02676A-03-0434	Rate Increase

QWEST CORPORATION
DOCKET NO. T-0105B-03-0454
DOCKET NO. T-00000D-00-0672

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DOCKET NO. T-0105B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE WAR - 1

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
COST OF CAPITAL SUMMARY (IN $000's)

LINE NO.	DESCRIPTION	(A) CAPITALIZATION PER COMPANY	(B) RUCO ADJUSTMENTS	(C) RUCO ADJUSTED CAPITALIZATION	(D) CAPITAL RATIO	(E) COST	(F) WEIGHTED COST
1	COMMON EQUITY	$ 410,503	$ -	$ 410,503	24.83%	11.50%	2.86%
2	LONG-TERM DEBT	1,098,801	-	1,098,801	66.45%	7.89%	5.24%
3	SHORT-TERM DEBT	144,202	-	144,202	8.72%	7.24%	0.63%
4	TOTAL CAPITALIZATION	$ 1,653,506	$ -	$ 1,653,506	100.00%		
5	COST OF CAPITAL						8.73%

REFERENCES:
COLUMN (A): COMPANY SCHEDULE D-1
COLUMN (B): TESTIMONY, WAR
COLUMN (C): COLUMN (A) + COLUMN (B)
COLUMN (D): COLUMN (C) + COLUMN (C), LINE 4
COLUMN (E): TESTIMONY, WAR
COLUMN (F): COLUMN (D) x COLUMN (E)

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
DCF COST OF EQUITY CAPITAL

DOCKET NO. T-0105B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE WAR - 2

LINE NO.	STOCK SYMBOL	COMPANY	(A) DIVIDEND YIELD	+	(B) GROWTH RATE (g)	=	(C) DCF COST OF EQUITY CAPITAL
1	BLS	BELLSOUTH CORP.	3.93%	+	8.29%	=	12.22%
2	CTL	CENTURYTEL, INC.	0.69%	+	7.11%	=	7.79%
3	SBC	SBC COMMUNICATIONS, INC.	4.77%	+	4.06%	=	8.83%
4	VZ	VERIZON COMMUNICATIONS	3.83%	+	8.11%	=	11.94%
5	TELECOMMUNICATIONS COMPANY AVERAGE						10.20%

REFERENCES:
COLUMN (A): SCHEDULE WAR - 3, COLUMN C
COLUMN (B): SCHEDULE WAR - 4, PAGE 1, COLUMN C
COLUMN (C): COLUMN (A) + COLUMN (B)

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
DIVIDEND YIELD CALCULATION

DOCKET NO. T-0105B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE WAR - 3

LINE NO.	STOCK SYMBOL	COMPANY	(A) ESTIMATED DIVIDEND (PER SHARE)	+	(B) AVERAGE STOCK PRICE (PER SHARE)	=	(C) DIVIDEND YIELD
1	BLS	BELLSOUTH CORP.	$1.08	+	$27.46	=	3.93%
2	CTL	CENTURYTEL, INC.	0.23	+	33.79	=	0.69%
3	SBC	SBC COMMUNICATIONS, INC.	1.25	+	26.26	=	4.77%
4	VZ	VERIZON COMMUNICATIONS	1.54	+	40.24	=	3.83%
5	TELECOMMUNICATIONS COMPANY AVERAGE						3.30%

REFERENCES:
COLUMN (A): ESTIMATED 12 MONTH DIVIDEND REPORTED IN VALUE LINE INVESTMENT SURVEY - SUMMARY AND INDEX DATED 10/01/04.
COLUMN (B): EIGHT WEEK AVERAGE OF CLOSING PRICES FROM 09/03/04 TO 10/29/04 STOCK QUOTES OBTAINED THROUGH BIG CHARTS WEB SITE - HISTORICAL QUOTES (www.bigcharts.com).
COLUMN (C): COLUMN (A) + COLUMN (B)

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
DIVIDEND GROWTH RATE CALCULATION

DOCKET NO. T-0105B-03-0454
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SCHEDULE WAR - 4
PAGE 1 OF 2

LINE NO.	STOCK SYMBOL	COMPANY	(A) INTERNAL GROWTH (br)	+	(B) EXTERNAL GROWTH (sv)	=	(C) DIVIDEND GROWTH (g)
1	BLS	BELLSOUTH CORP.	8.00%	+	0.29%	=	8.29%
2	CTL	CENTURYTEL, INC.	8.00%	+	-0.89%	=	7.11%
3	SBC	SBC COMMUNICATIONS, INC.	4.00%	+	0.06%	=	4.06%
4	VZ	VERIZON COMMUNICATIONS	8.00%	+	0.11%	=	8.11%
5	TELECOMMUNICATIONS COMPANY AVERAGE						6.89%

REFERENCES:
COLUMN (A): TESTIMONY, WAR
COLUMN (B): SCHEDULE WAR - 4, PAGE 2, COLUMN C
COLUMN (C): COLUMN (A) + COLUMN (B)

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
DIVIDEND GROWTH RATE CALCULATION

DOCKET NO. T-0105B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE WAR - 4

LINE NO.	STOCK SYMBOL	COMPANY	(A) SHARE GROWTH	x	(B) { [((M ÷ B) + 1) ÷ 2] - 1 }	=	(C) EXTERNAL GROWTH (sv)
1	BLS	BELLSOUTH CORP.	0.50%	x	{ [((2.16) + 1) ÷ 2] - 1 }	=	0.29%
2	CTL	CENTURYTEL, INC.	-5.00%	x	{ [((1.36) + 1) ÷ 2] - 1 }	=	-0.89%
3	SBC	SBC COMMUNICATIONS, INC.	0.10%	x	{ [((2.22) + 1) ÷ 2] - 1 }	=	0.06%
4	VZ	VERIZON COMMUNICATIONS	0.10%	x	{ [((3.16) + 1) ÷ 2] - 1 }	=	0.11%

REFERENCES:
COLUMN (A): TESTIMONY, WAR
COLUMN (B): VALUE LINE INVESTMENT SURVEY, 10/01/04
COLUMN (C): COLUMN (A) x COLUMN (B)

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
DIVIDEND GROWTH COMPONENTS

DOCKET NO. T-0105B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE WAR - 5

LINE NO.	STOCK SYMBOL	COMPANY	OPERATING PERIOD	(A) RETENTION RATIO (b)	x	(B) RETURN ON BOOK EQUITY (r)	=	(C) DIVIDEND GROWTH (g)	(D) BOOK VALUE ($/SHARE)	(E) SHARES OUTST. (MILLIONS)	(F) SHARE GROWTH
1	BLS	BELLSOUTH CORP.	1999	0.6162		25.60%		15.77%	7.87	1,883.00	
2			2000	0.6514		24.40%		15.89%	9.03	1,872.50	
3			2001	0.6381		21.30%		13.59%	9.90	1,878.30	
4			2002	0.3009		12.00%		3.61%	9.51	1,860.00	
5			2003	0.5556		19.50%		10.83%	10.77	1,830.00	
6			AVG. GROWTH 1999 - 2003					11.94%	6.00%		-0.71%
7			2004	0.4564		15.50%		7.07%		1,830.00	0.00%
8			2005	0.4300		15.00%		6.45%		1,835.00	0.14%
9			2007-09	0.4720		16.00%		7.55%	7.50%	1,850.00	0.22%
10											
11	CTL	CENTURYTEL, INC.	1999	0.8909		12.60%		11.23%	13.15	139.95	
12			2000	0.8774		10.80%		9.48%	14.39	140.67	
13			2001	0.8571		8.50%		7.29%	16.49	141.23	
14			2002	0.9075		10.50%		9.53%	21.55	142.96	
15			2003	0.9079		10.00%		9.08%	24.04	144.36	
16			AVG. GROWTH 1999 - 2003					9.32%	17.00%		0.78%
17			2004	0.9042		10.00%		9.04%		130.00	-9.95%
18			2005	0.8720		9.00%		7.85%		130.00	-5.10%
19			2007-09	0.8476		9.50%		8.05%	9.00%	115.00	-4.45%
20											
21	SBC	SBC COMMUNICATIONS, INC.	1999	0.5488		27.80%		15.26%	7.87	3,395.40	
22			2000	0.5531		25.40%		14.05%	9.00	3,386.00	
23			2001	0.5660		24.50%		13.87%	9.69	3,354.20	
24			2002	0.5046		21.70%		10.95%	10.01	3,317.60	
25			2003	0.0987		13.20%		1.30%	11.57	3,305.20	
26			AVG. GROWTH 1999 - 2003					11.09%	12.00%		-0.67%
27			2004	0.1935		13.00%		2.52%		3,315.00	0.30%
28			2005	0.1875		13.00%		2.44%		3,315.00	0.15%
29			2007-09	0.2632		14.00%		3.68%	4.50%	3,315.00	0.06%
30											
31	VZ	VERIZON COMMUNICATIONS	1999	0.4884		29.10%		14.21%	10.24	1,550.70	
32			2000	0.4726		23.40%		11.06%	12.79	2,703.60	
33			2001	0.4867		25.80%		12.56%	11.98	2,717.20	
34			2002	0.4951		25.60%		12.67%	11.88	2,745.80	
35			2003	0.4122		21.80%		8.99%	12.08	2,769.40	
36			AVG. GROWTH 1999 - 2003					11.90%	7.50%		15.60%
37			2004	0.3840		16.00%		6.14%		2,785.00	0.56%
38			2005	0.4296		17.00%		7.30%		2,780.00	0.19%
39			2007-09	0.4839		16.50%		7.98%	5.50%	2,770.00	0.00%

REFERENCES:
COLUMNS (A) & (B): VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 10/01/04
COLUMN (C): COLUMN (A) x COLUMN (B)
COLUMN (C): LINES 6, 16, 26 & 36, SIMPLE AVERAGE GROWTH, 1998 - 2002

COLUMN (D): VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 10/01/04
COLUMN (D): LINES 6, 16, 26 & 36, COMPOUND GROWTH RATE
COLUMN (E): VALUE LINE INVESTMENT SURVEY
COLUMN (F): COMPOUND GROWTH RATES OF DATES SHOWN

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
GROWTH RATE COMPARISON

DOCKET NO. T-0105B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE WAR - 6

LINE NO.	STOCK SYMBOL	(A) (br) + (sv)	(B) ZACKS EPS	(C) VALUE LINE PROJECTED EPS	(C) DPS	(C) BVPS	(D) VALUE LINE HISTORIC EPS	(D) DPS	(D) BVPS	(E) VALUE LINE & ZACKS AVGS.	(F) 5 - YEAR COMPOUND HISTORY EPS	(F) DPS	(F) BVPS
1	BLS	8.29%	5.50%	6.00%	8.50%	7.50%	4.00%	2.50%	6.00%	5.71%	1.12%	4.89%	8.16%
2	CTL	7.11%	4.31%	7.50%	15.00%	9.00%	12.00%	5.00%	17.00%	9.97%	9.71%	5.14%	16.28%
3	SBC	4.06%	4.32%	-1.00%	3.50%	4.50%	1.50%	5.00%	12.00%	4.26%	-8.30%	9.02%	10.11%
4	VZ	8.11%	5.23%	1.00%	0.50%	5.50%	4.00%	0.50%	7.50%	3.46%	-3.41%	0.00%	4.22%
5				3.38%	6.88%	6.63%	5.38%	3.25%	10.63%		-0.22%	4.76%	9.69%
6	AVERAGES	6.89%	4.84%		5.63%			6.42%		5.85%		4.74%	

REFERENCES:
COLUMN (A): SCHEDULE WAR - 4, PAGE 1, COLUMN C
COLUMN (B): ZACKS INVESTMENT RESEARCH (www.zacks.com)
COLUMN (C): VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 10/01/04
COLUMN (D): VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 10/01/04
COLUMN (E): SIMPLE AVERAGE OF COLUMNS (B) THRU (D) LINES 1, 3, 5 AND 7
COLUMN (F): 5-YEAR ANNUAL GROWTH RATE CALCULATED WITH DATA COMPILED FROM
- VALUE LINE INVESTMENT SURVEY - RATINGS & REPORTS DATED 10/01/04

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
CAPM COST OF EQUITY CAPITAL

DOCKET NO. T-0105B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE WAR - 7

BASED ON A GEOMETRIC MEAN:

LINE NO.	STOCK SYMBOL	k	=	r_f	+	[	ß	x	(	r_m	-	r_f	)]	=	(A)	(B) EXPECTED RETURN
1	BLS	k	=	1.72%		[	1.00	x	(	10.40%	-	1.72%	)]	=		10.40%
2	CTL	k	=	1.72%	+	[	1.10	x	(	10.40%	-	1.72%	)]	=		11.27%
3	SBC	k	=	1.72%	+	[	1.05	x	(	10.40%	-	1.72%	)]	=		10.83%
3	VZ	k	=	1.72%	+	[	1.00	x	(	10.40%	-	1.72%	)]	=		10.40%
5	AVERAGE						1.04									10.73%

REFERENCES:
COLUMN (A): GENERAL CAPITAL ASSET PRICING MODEL (CAPM) FORMULA

$$k = r_f + [ß (r_m - r_f)]$$

WHERE: k = THE EXPECTED RETURN ON A GIVEN SECURITY
r_f = RATE OF RETURN ON A RISK FREE ASSET PROXY (a)
ß = THE BETA COEFFICIENT OF A GIVEN SECURITY
r_m = PROXY FOR THE MARKET RATE OF RETURN (b)

COLUMN (B): EXPECTED RATE OF RETURN USING THE CAPM FORMULA

NOTES

(a) A 6-WEEK AVERAGE OF THE 91-DAY T-BILL RATES THAT APPEARED IN VALUE LINE INVESTMENT SURVEY'S "SELECTION & OPINIONS" PUBLICATION FROM 09/24/04 THROUGH 10/29/04 WAS USED AS A RISK FREE RATE OF RETURN.

(b) THE MARKET RATE PROXY USED WAS THE GEOMETRIC MEAN FOR S&P 500 RETURNS OVER THE 1926 - 2003 PERIOD. THE DATA WAS OBTAINED FROM IBBOTSON ASSOCIATES' STOCKS, BONDS, BILLS AND INFLATION: 2004 YEARBOOK.

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
CAPM COST OF EQUITY CAPITAL

DOCKET NO. T-0105B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE WAR - 7
PAGE 2 OF 2

BASED ON AN ARITHMETIC MEAN:

LINE NO.	STOCK SYMBOL	k	=	r_f	+ [	(A) ß	x	(	r_m	-	r_f	)]	=	(B) EXPECTED RETURN
1	BLS	k	=	1.72%	+ [	1.00	x	(	12.40%	-	1.72%	)]	=	12.40%
2	CTL	k	=	1.72%	+ [	1.10	x	(	12.40%	-	1.72%	)]	=	13.47%
3	SBC	k	=	1.72%	+ [	1.05	x	(	12.40%	-	1.72%	)]	=	12.93%
4	VZ	k	=	1.72%	+ [	1.00	x	(	12.40%	-	1.72%	)]	=	12.40%
5	AVERAGE					1.04								12.80%

REFERENCES:
COLUMN (A): GENERAL CAPITAL ASSET PRICING MODEL (CAPM) FORMULA

$$k = r_f + [\, ß\, (r_m - r_f)\,]$$

WHERE: k = THE EXPECTED RETURN ON A GIVEN SECURITY
r_f = RATE OF RETURN ON A RISK FREE ASSET PROXY (a)
ß = THE BETA COEFFICIENT OF A GIVEN SECURITY
r_m = PROXY FOR THE MARKET RATE OF RETURN (b)

COLUMN (B): EXPECTED RATE OF RETURN USING THE CAPM FORMULA

NOTES

(a) A 6-WEEK AVERAGE OF THE 91-DAY T-BILL RATES THAT APPEARED IN VALUE LINE INVESTMENT SURVEY'S "SELECTION & OPINIONS" PUBLICATION FROM 09/24/04 THROUGH 10/29/04 WAS USED AS A RISK FREE RATE OF RETURN.

(b) THE MARKET RATE PROXY USED WAS THE ARITHMETIC MEAN FOR S&P 500 RETURNS OVER THE 1926 - 2003 PERIOD. THE DATA WAS OBTAINED FROM IBBOTSON ASSOCIATES' STOCKS, BONDS, BILLS AND INFLATION: 2004 YEARBOOK.

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
ECONOMIC INDICATORS - 1990 TO PRESENT

DOCKET NO. T-0105B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE WAR - 8

LINE NO.	YEAR	(A) CHANGE IN CPI	(B) CHANGE IN GDP (1996 $)	(C) PRIME RATE	(D) FED. DISC. RATE	(E) FED. FUNDS RATE	(F) 91-DAY T-BILLS	(G) 30-YR T-BONDS	(H) A-RATED UTIL. BOND YIELD	(I) Baa-RATED UTIL. BOND YIELD
1	1990	5.40%	1.90%	10.01%	6.98%	8.10%	7.49%	8.61%	9.86%	10.06%
2	1991	4.21%	-0.20%	8.46%	5.45%	5.69%	5.38%	8.14%	9.36%	9.55%
3	1992	3.01%	3.30%	6.25%	3.25%	3.52%	3.43%	7.67%	8.69%	8.86%
4	1993	2.99%	2.70%	6.00%	3.00%	3.02%	3.00%	6.60%	7.59%	7.91%
5	1994	2.56%	4.00%	7.14%	3.60%	4.20%	4.25%	7.37%	8.31%	8.63%
6	1995	2.83%	2.50%	8.83%	5.21%	5.84%	5.49%	6.88%	7.89%	8.29%
7	1996	2.95%	3.70%	8.27%	5.02%	5.30%	5.01%	6.70%	7.75%	8.17%
8	1997	1.70%	4.50%	8.44%	5.00%	5.46%	5.06%	6.61%	7.60%	8.12%
9	1998	1.60%	4.20%	8.35%	4.92%	5.35%	4.78%	5.58%	7.04%	7.27%
10	1999	2.70%	4.50%	7.99%	4.62%	4.97%	4.64%	5.86%	7.62%	7.88%
11	2000	3.40%	3.70%	9.23%	5.73%	6.24%	5.82%	5.94%	8.24%	8.36%
12	2001	1.60%	0.80%	6.92%	3.41%	3.88%	3.38%	5.95%	7.59%	8.02%
13	2002	2.40%	1.90%	4.67%	1.17%	1.66%	1.60%	5.38%	7.41%	7.98%
14	2003	1.90%	3.00%	0.00%	0.00%	0.00%	0.00%	4.92%	6.18%	6.64%
15	CURRENT	3.50%	3.70%	5.00%	3.00%	2.00%	1.83%	4.77%	5.51%	5.92%

REFERENCES:
COLUMN (A): 1990 - CURRENT, U.S. DEPARTMENT OF LABOR, BUREAU OF LABOR STATISTICS WEB SITE
COLUMN (B): 1990 - CURRENT, U.S. DEPARTMENT OF COMMERCE, BUREAU OF ECONOMIC ANALYSIS WEB SITE
COLUMN (C) THROUGH (G): 1990 - 2003, FEDERAL RESERVE BANK OF ST. LOUIS WEB SITE
COLUMN (C) THROUGH (E): CURRENT, TESTIMONY, WAR
COLUMN (F) THROUGH (G): CURRENT, THE VALUE LINE INVESTMENT SURVEY, DATED 10/29/04
COLUMN (H) THROUGH (I): 1990 - 2000, MOODY'S PUBLIC UTILITY REPORTS
COLUMN (H) THROUGH (I): 2001, MERGENT 2002 PUBLIC UTILITY MANUAL
COLUMN (G) THROUGH (I): 2003, ANNUAL AVERAGE OF WEEKLY RESULTS PUBLISHED IN THE VALUE LINE INVESTMENT SURVEY
COLUMN (C) THROUGH (I): CURRENT, THE VALUE LINE INVESTMENT SURVEY, DATED 10/29/04

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
CAPITAL STRUCTURES OF PUBLICLY TRADED TELECOMMUNICATIONS COMPANIES (IN $000's)

DOCKET NO. T-0105B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE WAR - 9

LINE NO.		BLS	PCT.	CTL	PCT.	SBC	PCT.	VZ	PCT.	AVERAGE	PCT.
1	SHORT-TERM DEBT	$ 3,262,000	6.5%	$ 72,000	1.6%	$ 2,460,000	2.8%	$ 4,439,000	4.0%	$ 3,411,000	4.0%
2	LONG-TERM DEBT *	10,341,000	20.6%	2,884,000	64.1%	15,162,000	17.4%	37,449,000	33.4%	21,945,333	25.9%
3	PREFERRED STOCK	-	0.0%	8,000	0.2%	-	0.0%	-	0.0%	2,667	0.0%
4	COMMON EQUITY	36,697,000	73.0%	1,536,000	34.1%	69,678,000	79.8%	70,112,000	62.6%	59,341,000	70.1%
5	TOTALS	$ 50,300,000	100%	$ 4,500,000	100%	$ 87,300,000	100%	$ 112,000,000	100%	$ 84,700,000	100%

NOTE:
* INCLUDES CURRENT PORTION OF LONG-TERM DEBT

REFERENCE:
THE VALUE LINE INVESTMENT SURVEY, DATED 10/01/04

EXHIBIT
RUCO-16
admitted

IN THE MATTER OF QWEST CORPORATION'S
FILING OF RENEWED PRICE REGULATION PLAN

DOCKET NO. T-01051B-03-0454

and

IN THE MATTER OF THE INVESTIGATION OF
THE COST OF TELECOMMUNICATIONS ACCESS

DOCKET NO. T-00000D-00-0672

SURREBUTTAL TESTIMONY

OF

WILLIAM A. RIGSBY

ON BEHALF OF THE

RESIDENTIAL UTILITY CONSUMER OFFICE

JANUARY 12, 2005

1 **INTRODUCTION** 1

2 **SUMMARY OF QWEST'S REBUTTAL TESTIMONY** 2

3 **COST OF EQUITY CAPITAL** 3

4

INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My name is William A. Rigsby. I am a Public Utilities Analyst V employed by the Residential Utility Consumer Office ("RUCO") located at 1110 W. Washington, Suite 220, Phoenix, Arizona 85007.

Q. Please state the purpose of your testimony.

A. The purpose of my testimony is to respond to Qwest Corporation's ("Qwest" or "Company") rebuttal testimony on RUCO's recommended rate of return on invested capital for the Company's telecommunications operations in the state of Arizona.

Q. Have you filed any prior testimony in this case on behalf of RUCO?

A. Yes, I filed direct testimony with the Arizona Corporation Commission ("ACC" or "Commission") on November 18, 2004. My direct testimony addressed the cost of capital issues that were raised in Qwest's application for a permanent rate increase for certain regulated services available to ratepayers under a revised price cap plan ("Application").

Q. How is your surrebuttal testimony organized?

A. My surrebuttal testimony contains three parts: the introduction that I have just presented, a summary of Qwest's rebuttal testimony and a section on

the cost of equity capital in which I will defend my recommended cost of capital.

SUMMARY OF QWEST'S REBUTTAL TESTIMONY

Q. Have you reviewed the rebuttal testimony of Company witness Peter C. Cummings?

A. Yes, I have reviewed Mr. Cummings's rebuttal testimony, which was filed with the Commission on December 20, 2004.

Q. Please summarize the Company's rebuttal testimony that addresses the cost of capital issues in this case.

A. Mr. Cummings's rebuttal testimony provides a comparison of his recommendations with the cost of capital recommendations of ACC Staff witnesses Joel M. Reiker and Alejandro Ramirez, and the cost of capital recommendations presented in my direct testimony. Mr. Cummings points out in his testimony that there are no arguments or disagreements among the witnesses on either the Company's proposed capital structure, or cost of debt. Mr. Cummings rebuttal testimony then concentrates on the main point of contention in this case which is a cost of equity capital that takes Qwest's level of debt into consideration. The remainder of Mr. Cummings' testimony criticizes the approaches employed by Mr. Reiker and myself to arrive at our final recommended costs of common equity of 14.6 percent and 11.5 percent respectively, and argues why his 21.4 percent cost of

equity capital, derived by using a levered beta in the capital asset pricing model ("CAPM"), should be adopted by the Commission.

COST OF EQUITY CAPITAL

Q. Have you made any changes to your recommended 11.5 percent cost of common equity based on information presented in Mr. Cummings' rebuttal testimony?

A. No, I have not.

Q. Do you believe that the Commission should adopt Mr. Cummings's recommended 21.4 percent cost of equity capital for Qwest?

A. No. As I stated on page 54 of my direct testimony, I do not believe that the 21.5 percent cost of equity, produced by the theoretical 2.15 beta calculated by Mr. Cummings, is realistic when companies with similar betas are compared with Qwest. Mr. Cummings has accepted the results of his CAPM analysis with a levered beta without question. In short, he has failed to put any type of sanity check on the results produced by the CAPM model.

Q. Have you performed such a sanity check?

A. Yes, I have. Schedule WAR-10 contains a list of publicly traded companies followed by The Value Line Investment Survey ("Value Line"), which have betas that range from 2.00 to 2.50. I will use the information

presented in the schedule[1] to explain why I believe Mr. Cummings' recommended 21.4 percent cost of equity capital is not reasonable.

Q. Please describe Schedule WAR-10.

A. Schedule WAR-10 lists thirty-three publicly traded companies that have betas that range from 2.00 to 2.50. Their combined average beta is 2.15 (the same beta calculated for Qwest by Mr. Cummings). Approximately seventy-three percent of the companies are traded on the technology heavy NASDAQ exchange as opposed to the NYSE. All of the companies, with the exception of three, are unregulated and operate in a competitive environment. The three regulated entities include E*Trade Financial, an on-line Internet brokerage service that is subject to certain state and federal securities regulations, and two firms in the diversified natural gas industry; Williams Companies (which spun off its telecommunications subsidiary in April 2001) and Dynegy whose interstate natural gas transportation operations are subject to FERC oversight. The most dominant industry represented in the list is the semiconductor industry. A total of eight semiconductor firms such as LSI Logic Corp. and Atmel Corp., had betas that ranged from 2.0 to 2.25.

[1] Data was compiled from The Value Line Investment Survey's December 24, 2004 Summary & Index publication.

Q. Were any of the companies in your compilation telecommunications service providers such as Qwest?

A. Only one unregulated company, American Tower, is exhibited in Schedule WAR-10. None of the other companies that comprise Value Line's telecommunications service industry segment, including the RBOC's, had betas that fell in the 2.00 to 2.50 range.

Q. Please describe American Tower.

A. According to Value Line, American Tower operates approximately 15,000 wireless communications and broadcast towers that are primarily leased to wireless providers of personal communications services. The Company has a beta of 2.0 and has a capital structure comprised of approximately 66.0 percent debt and 34.0 percent equity. Value Line has estimated a long-term (2007-09) return of common equity of 2.50 percent for American Tower.

Q. What was the average capital structure of these firms?

A. The average capital structure for the companies listed on Schedule WAR-10 was roughly 38.0 percent debt and 62.0 percent common equity as compared to Qwest's 75.0 percent debt and 25.0 percent common equity. However the level of equity among the listed companies ranged from a high of 99.97 for Applied Micro, an unregulated semiconductor firm with a

beta of 2.05, to a low of 0.33 for AMR Corp., the parent of American Airlines with a beta of 2.30.

Q. Did Value Line's analysts estimate higher returns on common equity for companies with higher levels of debt in their capital structures?

A. Not necessarily. For example, Williams Companies with approximately 81.0 percent debt had an estimated long-term (2007-09) return on common equity of 10.50 percent while Continental Airlines (whose industry has been plagued with high oil costs and reduced travel since 9/11) with approximately 88.0 percent debt had an estimated return on common equity of 20.0 percent.

Q. What was the range and average of Value Line's estimated returns on common equity for the Companies listed in Schedule WAR-10?

A. The range (high and low) and average of Value Line's estimated returns on common equity by operating period were as follows:

	2004	2005	2007-09
High	17.0%	24.0%	23.5%
Low	1.50%	1.50%	2.50%
Average	8.16%	9.09%	12.93%

Q. Which companies had the high and low estimated returns on common equity for the long-term (2007-09) period?

A. The high estimated return on common equity of 23.5 percent was for Avanex Corp., a manufacturer of fiber optic products with a beta of 2.35 and a capital structure of 10.0 percent debt and 90.0 percent equity. The low estimate of 2.50 percent was for American Tower, which I described earlier.

Q. What other information is provided in Schedule WAR-10

A. The remainder of Schedule WAR-10 contains Value Line's estimates for returns on common equity for the various industries (i.e. advertising, semiconductor etc.) that are listed in the schedule.

Q. What is the main point of the information contained in Schedule WAR-10?

A. The main point is that the majority of companies operating in competitive environments, with betas ranging from 2.00 to 2.50, that are listed in schedule WAR-10 have nothing in common with Qwest. Qwest is not in the semiconductor industry, the air transport industry or for that matter, the Internet industry such as E*Trade Financial or Priceline.com. Nor is Qwest a manufacturer of telecommunications equipment such as Avanex, Corp. Qwest is, for all practical purposes, a regulated phone company, which, based on the testimony provided by RUCO witness Ben Johnson, is not facing the level of competitive pressure claimed in its filing.

Q. Does Mr. Cummings's rebuttal testimony offer any new or compelling reasons why your recommended 8.73 percent rate of return on invested capital does not meet the *Bluefield Water Works* and *Hope Natural Gas* decisions that established the basic criteria for establishing a fair and reasonable rate of return?

A. No. Mr. Cummings does not offer any new or compelling reasons as to why my 8.73 percent return on invested capital fails to meet the standard established in those landmark decisions.

Q. Does your silence on any of the issues or positions addressed in the rebuttal testimony of the Company's witnesses constitute acceptance?

A. No, it does not.

Q. Does this conclude your surrebuttal testimony?

A. Yes, it does.

QWEST CORPORATION
DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
TABLE OF CONTENTS TO SCHEDULES WAR

SCHEDULE #	
WAR - 10	PUBLICLY TRADED COMPANIES WITH BETAS OF 2.00 TO 2.50

QWEST CORPORATION
TEST YEAR ENDED DECEMBER 31, 2003
PUBLICLY TRADED COMPANIES WITH BETAS OF 2.00 TO 2.50

DOCKET NO. T-01051B-03-0454
DOCKET NO. T-00000D-00-0672
SCHEDULE WAR - 10

LINE NO.	(A) NAME OF COMPANY	(B) BETA	(C) TICKER SYMBOL	(D) TRADING EXCHANGE	(E) INDUSTRY	(F) REGULATED COMPANY YES/NO	(G) PCT. OF DEBT 2003	(H) PCT. OF COMMON EQUITY 2003	(I) VALUE LINE ESTIMATED ROE 2004	(J) VALUE LINE ESTIMATED ROE 2005	(K) VALUE LINE ESTIMATED ROE 2007-09	(L) VALUE LINE ESTIMATED ROE FOR INDUSTRY 2004	(M) VALUE LINE ESTIMATED ROE FOR INDUSTRY 2005	(N) VALUE LINE ESTIMATED ROE FOR INDUSTRY 2007-09
1	MONSTER WORLDWIDE	2.00	MNST	NASDAQ	ADVERTISING	NO	1.00%	99.00%	13.50%	16.00%	13.50%	11.00%	11.50%	9.50%
2	EXTREME NETWORKS	2.00	EXTR	NASDAQ	COMPUTER PERIPHERALS	NO	46.81%	53.19%	NMF	7.50%	9.00%	14.50%	15.00%	16.00%
3	E*TRADE FINANCIAL	2.00	ET	NYSE	INTERNET	YES	79.10%	20.90%	17.00%	16.00%	13.50%	9.00%	9.50%	12.50%
4	BROOKS AUTOMATION	2.00	BRKS	NASDAQ	MACHINERY	NO	38.36%	61.64%	8.50%	13.00%	13.00%	16.50%	19.50%	25.50%
5	LSI LOGIC CORP.	2.00	LSI	NYSE	SEMICONDUCTOR	NO	29.77%	70.23%	1.50%	2.50%	16.50%	8.50%	9.00%	14.00%
6	JUNIPER NETWORKS	2.00	JNPR	NASDAQ	TELECOM. EQUIPMENT	NO	26.31%	73.69%	3.50%	5.00%	9.00%	5.00%	6.00%	6.50%
7	AMERICAN TOWER	2.00	AMT	NYSE	TELECOM. SERVICES	NO	66.26%	33.74%	NMF	NMF	2.50%	12.50%	13.00%	11.50%
8	EXELIXIS, INC.	2.05	EXEL	NASDAQ	BIOTECHNOLOGY	NO	40.75%	59.25%	NMF	NMF	NMF	6.50%	8.50%	13.00%
9	WEBMETHODS, INC.	2.05	WEBME	NASDAQ	E-COMMERCE	NO	1.07%	98.93%	NMF	8.00%	14.00%	2.00%	6.50%	12.50%
10	MANUGISTICS GROUP	2.05	MANU	NASDAQ	E-COMMERCE	NO	57.07%	42.93%	NMF	NMF	17.50%	2.00%	6.50%	12.50%
11	POWER-ONE	2.05	PWER	NASDAQ	ELECTRICAL EQUIPMENT	NO	3.90%	96.10%	NMF	NMF	5.50%	19.50%	20.00%	23.00%
12	CNET NETWORKS	2.05	CNET	NASDAQ	INTERNET	NO	41.00%	59.00%	8.00%	14.00%	20.00%	9.00%	9.50%	12.50%
13	APPLIED MICRO	2.05	AMCC	NASDAQ	SEMICONDUCTOR	NO	0.03%	99.97%	NMF	1.50%	7.50%	8.50%	9.00%	14.00%
14	INTERWOVEN, INC.	2.10	IWOV	NASDAQ	E-COMMERCE	NO	0.40%	99.60%	1.50%	2.00%	7.00%	2.00%	6.50%	12.50%
15	ADVANCED ENERGY	2.10	AEIS	NASDAQ	SEMICONDUCTOR	NO	57.15%	42.85%	3.50%	1.50%	10.00%	8.50%	9.00%	14.00%
16	RF MICRO DEVICES	2.10	RFMD	NASDAQ	WIRELESS NETWORKING	NO	35.11%	64.89%	1.50%	4.50%	8.50%	1.50%	4.50%	6.50%
17	SAFEGUARD SCIENTIFICS	2.15	SFE	NYSE	COMPUTER SOFTWARE	NO	44.46%	55.54%	NMF	NMF	10.50%	16.50%	16.00%	15.50%
18	MEDARIX, INC.	2.15	MEDX	NASDAQ	DRUG	NO	56.18%	43.82%	NMF	NMF	NMF	25.00%	24.00%	23.00%
19	CALPINE CORP.	2.15	CPN	NYSE	POWER	NO	80.29%	19.71%	NMF	NMF	6.00%	3.00%	3.50%	4.00%
20	CREE, INC.	2.15	CREE	NASDAQ	SEMICONDUCTOR	NO	0.00%	100.00%	10.00%	13.50%	15.00%	8.50%	9.00%	14.00%
21	VITESSE SEMICONDUCTOR	2.15	VTSS	NASDAQ	SEMICONDUCTOR	NO	34.58%	65.42%	NMF	6.00%	16.50%	8.50%	9.00%	14.00%
22	FOUNDRY NETWORKS	2.15	FDRY	NASDAQ	TELECOM. EQUIPMENT	NO	0.00%	100.00%	11.00%	11.50%	14.50%	5.00%	6.00%	6.50%
23	PMC-SIERRA, INC.	2.20	PMCS	NASDAQ	SEMICONDUCTOR	NO	43.61%	56.39%	14.00%	15.00%	23.00%	8.50%	9.00%	14.00%
24	CONTINENTAL AIRLINES	2.25	CAL	NYSE	AIR TRANSPORT	NO	88.30%	11.70%	NMF	NMF	20.00%	NMF	NMF	50.00%
25	NUANCE COMMUNICATIONS	2.25	NUAN	NASDAQ	COMPUTER SOFTWARE	NO	0.05%	99.95%	NMF	3.00%	9.00%	16.50%	16.00%	15.50%
26	SILICON STORAGE	2.25	SSTI	NASDAQ	COMPUTER PERIPHERALS	NO	0.12%	99.88%	16.00%	13.50%	13.50%	14.50%	15.00%	16.00%
27	ATMEL CORP.	2.25	ATML	NASDAQ	SEMICONDUCTOR	NO	33.52%	66.48%	1.50%	8.50%	17.50%	8.50%	9.00%	14.00%
28	AMR CORP.	2.30	AMR	NYSE	AIR TRANSPORT	NO	99.67%	0.33%	NMF	NMF	NMF	NMF	NMF	50.00%
29	PRICELINE.COM	2.30	PCLN	NASDAQ	INTERNET	NO	45.51%	54.49%	14.50%	24.00%	23.00%	9.00%	9.50%	12.50%
30	OPENWAVE SYSTEMS	2.30	OPWV	NASDAQ	WIRELESS NETWORKING	NO	46.49%	53.51%	NMF	4.00%	13.00%	1.50%	4.50%	6.50%
31	AVANEX CORP.	2.35	AVNX	NASDAQ	TELECOM. EQUIPMENT	NO	9.79%	90.21%	NMF	NMF	23.50%	5.00%	6.00%	6.50%
32	WILLIAMS COMPANIES	2.40	WMB	NYSE	NATURAL GAS (DIV.)	YES	80.71%	19.29%	5.00%	9.50%	10.50%	11.50%	11.00%	13.00%
33	DYNEGY, INC.	2.50	DYN	NYSE	NATURAL GAS (DIV.)	YES	75.27%	24.73%	NMF	NMF	5.50%	11.50%	11.00%	13.00%
34														
35	AVERAGES	2.15					38.26%	61.74%	8.16%	9.09%	12.93%	9.34%	10.39%	15.27%

REFERENCE:
VALUE LINE INVESTMENT SURVEY - SUMMARY & INDEX DATED 12/24/04

ERRATA SHEET

for the

Responsive Testimony

of

Ben Johnson, Ph.D.

on behalf of the

Residential Utility Consumer Office

Docket Numbers: T-01051B-03-0454 and T-00000D-00-0672

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10	17	increase by	
10	21	Similarly, under the current plan, exchange zone increment	
10	22	charges on additional lines are capped	
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11	1	and caller ID	
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13	12	and caller ID block	
19	22	higher	higher rates
24	6	had	had an

EXHIBIT

tabbies

Rugo 17
admitted