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31 August 2006

Lieutenant Colonel Karen S. White
Chief, Utility Litigation Team
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Tyndall AFB FL 32403

Docket Control Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, AZ 85007

Arizona Corporation Commission
DOCKETED
SEP -1 2006

Re: Docket No. E-01345A-05-0816

DOCKETED BY *NR*

Dear Sir/Ma'am

Enclosed please an original and fourteen copies of Testimony of Dr Dennis Goins, Testimony of Colonel Ronald Mozzillo and Testimony of Colonel Ben Hancock for filing in the above-captioned case. I've also enclosed a self-addressed, stamped envelope for return of one copy of each of the testimonies after you've stamped it.

Thank you for your assistance in this matter.

Sincerely,

Karen S. White

KAREN S. WHITE, Lt Col, USAF
Chief, Utility Litigation Team

3 Attach:

Testimony of Dr Dennis Goins
+ 14 copies

Testimony of Colonel Ronald J. Mozzillo
+ 14 copies

Testimony of Colonel Ben Hancock
+ 14 copies

**STATE OF ARIZONA
BEFORE THE
ARIZONA CORPORATION COMMISSION**

DOCKET NO. E-01345A-05-0816

**IN THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC
SERVICE COMPANY FOR A HEARING TO DETERMINE THE FAIR
VALUE OF THE UTILITY PROPERTY OF THE COMPANY FOR
RATEMAKING PURPOSES, TO FIX A JUST AND REASONABLE RETURN
THEREON, TO APPROVE RATE SCHEDULES DESIGNED TO DEVELOP
SUCH RETURN, AND TO AMEND DECISION NO. 67744**

**DIRECT TESTIMONY OF
DR. DENNIS W. GOINS
ON BEHALF OF THE
FEDERAL EXECUTIVE AGENCIES**

September 1, 2006

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**STATE OF ARIZONA
BEFORE THE
ARIZONA CORPORATION COMMISSION**

IN THE MATTER OF THE APPLICATION OF ARIZONA)
PUBLIC SERVICE COMPANY FOR A HEARING TO)
DETERMINE THE FAIR VALUE OF THE UTILITY)
PROPERTY OF THE COMPANY FOR RATEMAKING)
PURPOSES, TO FIX A JUST AND REASONABLE RATE)
OF RETURN THEREON, TO APPROVE RATE SCHEDULES)
DESIGNED TO DEVELOP SUCH RETURN, AND TO)
AMEND DECISION NO. 67744)

Docket No. E-01345A-05-0816

**DIRECT TESTIMONY OF
DR. DENNIS W. GOINS
ON BEHALF OF THE
FEDERAL EXECUTIVE AGENCIES**

1 INTRODUCTION AND QUALIFICATIONS

2 **Q. PLEASE STATE YOUR NAME, OCCUPATION, AND BUSINESS**
3 **ADDRESS.**

4 **A.** My name is Dennis W. Goins. I operate Potomac Management Group, an
5 economics and management consulting firm. My business address is 5801
6 Westchester Street, Alexandria, Virginia 22310.

7 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL**
8 **BACKGROUND.**

9 **A.** I received a Ph.D. degree in economics and a Master of Economics degree from
10 North Carolina State University. I also earned a B.A. degree with honors in
11 economics from Wake Forest University. Following graduate school I worked as
12 a staff economist at the North Carolina Utilities Commission. During my tenure

1 at the Commission I testified in numerous cases involving electric, gas, and
2 telephone utilities on such issues as cost of service, rate design, intercorporate
3 transactions, and load forecasting. I also served as a member of the Ratemaking
4 Task Force in the national Electric Utility Rate Design Study sponsored by the
5 Electric Power Research Institute (EPRI) and the National Association of
6 Regulatory Utility Commissioners (NARUC).

7 Since leaving the Commission, I have worked as an economic and management
8 consultant to firms and organizations in the private and public sectors. My
9 assignments focus primarily on market structure, planning, pricing, and policy
10 issues involving firms that operate in energy markets. For example, I have
11 conducted detailed analyses of product pricing, cost of service, rate design, and
12 interutility planning, operations, and pricing; prepared analyses related to utility
13 mergers, transmission access and pricing, and the emergence of competitive
14 markets; evaluated and developed regulatory incentive mechanisms applicable to
15 utility operations; and assisted clients in analyzing and negotiating interchange
16 agreements and power and fuel supply contracts. I have also assisted clients on
17 electric power market restructuring issues in Arkansas, New Jersey, New York,
18 South Carolina, Texas, and Virginia.

19 I have participated in more than 100 proceedings before state and federal
20 agencies as an expert in cost of service, rate design, utility restructuring, power
21 market planning and operations, utility mergers, utility planning and operating
22 practices, regulatory policy, management prudence, and competitive market
23 issues. These agencies include the Federal Energy Regulatory Commission
24 (FERC), the General Accounting Office, the United States Court of Federal
25 Claims, the First Judicial District Court of Montana, the Circuit Court of
26 Kanawha County, West Virginia, and regulatory agencies in Alabama, Arizona,
27 Arkansas, Colorado, Florida, Georgia, Idaho, Illinois, Kentucky, Louisiana,
28 Maine, Massachusetts, Minnesota, Mississippi, New Jersey, New York, North
29 Carolina, Ohio, Oklahoma, South Carolina, Texas, Utah, Vermont, Virginia, and

1 the District of Columbia. Details of my professional qualifications are presented
2 in Appendix A.

3 **Q. ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

4 **A.** I am appearing on behalf of the Federal Executive Agencies (FEA), which is
5 comprised of all Federal facilities served by Arizona Public Service Company
6 (APS). Two of the larger FEA facilities are Luke Air Force Base and the Marine
7 Corps Air Station in Yuma, both of which APS serves under Rate Schedule E-34
8 Extra Large General Service.

9 **Q. WHAT ASSIGNMENT WERE YOU GIVEN WHEN YOU WERE**
10 **RETAINED?**

11 **A.** I was asked to undertake two primary tasks:

- 12 1. Review APS' proposed cost-of-service analyses (including pro forma
13 adjustments) and related rates.
- 14 2. Identify any major deficiencies in the cost analyses and proposed rates and
15 suggest recommended changes.

16 **Q. WHAT SPECIFIC INFORMATION DID YOU REVIEW IN**
17 **CONDUCTING YOUR EVALUATION?**

18 **A.** I reviewed APS' application, testimony, exhibits, and responses to requests for
19 information. I also reviewed information found on web sites operated by the
20 Commission, and by APS and its parent company, PinnacleWest.

21 **CONCLUSIONS**

22 **Q. WHAT CONCLUSIONS HAVE YOU REACHED?**

23 **A.** On the basis of my review and evaluation, I have concluded the following:

1 1. Cost-of-Service. APS has proposed increasing base revenues by
2 approximately \$453.9 million (21.34 percent), which reflects a \$449.6-
3 million increase (21.14 percent) in base rates and APS' proposed \$4.3-
4 million Environmental Improvement Charge (EIC). In developing
5 proposed rates for its retail electric services, APS first conducted a cost-of-
6 service study for the test year ending September 30, 2005. In this cost
7 analysis, APS allocated and/or directly assigned its costs to functional
8 segments of its retail electric business. The test-year rate of return on
9 retail jurisdictional rate base is 2.59 percent under present rates and 8.73
10 percent under proposed rates.

11 In allocating demand-related production and transmission costs to
12 major customer classes, APS used the average of monthly system
13 coincident peaks for June-September in the test year—a 4CP
14 methodology. APS allocated costs related to distribution substations and
15 primary distribution lines on the basis of noncoincident peak (NCP)
16 demands. In contrast, APS allocated costs related to distribution
17 transformers and secondary distribution lines on the basis of the sum of
18 individual peak demands within a specific customer class.

19 2. Revenue Spread. APS spread its proposed revenue increase on a roughly
20 equal-percentage, across-the-board basis, for its two largest customer
21 groups (Residential and General Service).¹ Under APS' revenue spread,
22 the Residential class received a 21.14 percent increase (without the EIC),
23 while the General Service class got a 21.60 percent increase in base rates
24 (also excluding the EIC). The Irrigation class got only a 0.14 percent
25 increase, while the two Lighting classes got increases of 24.11 percent and
26 10.49 percent.

¹ Base rate revenues for these two classes comprise nearly 98 percent of total APS retail revenues.

1 Under APS' proposed revenue spread, rates for the Residential and
2 General Service classes move closer to cost of service (measured by
3 movement towards a unity rate of return index (RORI)). However,
4 interclass revenue subsidies under APS' revenue spread increase by more
5 than 50 percent—from around \$44.5 million under present rates to more
6 than \$67.2 million under proposed rates. Approximately \$64.3 million of
7 the interclass subsidies created under APS' proposed revenue spread goes
8 to Residential customers. That is, test-year revenues from APS' proposed
9 Residential rates are about \$64.3 million less than APS' costs (as
10 determined in its cost-of-service study) of serving this class. APS makes
11 up this shortfall—as well as the \$2.9 million in subsidies received by
12 Lighting customers—primarily by overcharging General Service
13 customers (more than \$66.9 million). These interclass subsidies are
14 unjustified and should be eliminated—or at a minimum, mitigated by
15 moving rates for each class much closer to cost of service than APS has
16 proposed.

17 3. Rates E-34 and E-35. With respect to the two rates under which it serves
18 most Extra Large General Service customers (those with average monthly
19 demands equal to or exceeding 3 MW), APS has:

- 20 ■ Overcharged these customers—that is, proposed Rates E-34 and E-35
21 produce test-year electric sales revenues that exceed APS' cost of
22 serving these large general service customers.²
- 23 ■ Increased the voltage discount for customers served at transmission
24 voltages (69 kV and higher) from \$4.30 per kW to \$4.52 per kW.
25 Discounts for customers served directly from a Primary Substation³ or

² According to APS' response to DEAA 2-2, the RORI for both rates is 1.08 under proposed rates.

³ This discount currently applies only to military bases taking primary service directly from an APS-owned substation.

1 from Primary voltage lines remain unchanged at \$3.40 per kW and
2 \$0.66 per kW, respectively.

3 ■ Results from APS' cost-of-service studies indicate that all voltage
4 discounts for Rate E-34 customers should be increased—particularly
5 the Primary Substation discount. Failing to set the voltage discounts
6 closer to cost of service subsidizes Secondary voltage customers
7 served under Rate E-34 at the expense of Transmission and Primary
8 service customers.

9 **RECOMMENDATIONS**

10 **Q. WHAT DO YOU RECOMMEND ON THE BASIS OF THESE**
11 **CONCLUSIONS?**

12 **A.** I recommend that the Commission:

13 1. Approve APS' average 4CP methodology to allocate demand-related
14 production and transmission costs. This methodology reflects the
15 principal factors—coincident summer peak demands—driving the need for
16 generation and transmission capacity on the APS system. Allocation
17 methods that dilute the impact of APS' summer peak demands (for
18 example, a 12CP methodology that reflects APS' test-year monthly peak
19 demands) ignore the dominant summer peaking characteristics of the APS
20 system and result in understating the cost responsibility of classes with
21 relatively low load factors and high summer peak demands.

22 2. Reject APS' proposed revenue spread. As I noted earlier, under APS'
23 proposal, General Service customers pay nearly \$67 million in interclass
24 revenue subsidies to Residential and Lighting customers. I recommend
25 spreading APS' allowed revenue increase using the following guidelines:

1 electric business. The return component of APS' costs reflects a requested 8.73
2 percent return on its Arizona retail jurisdictional rate base (compared to 2.59
3 percent earned return under present rates).

4 **Q. IS THE COST-OF-SERVICE METHODOLOGY THAT APS USED**
5 **REASONABLE?**

6 **A.** Yes. The methodology basically follows traditional cost classifications and
7 allocations for major functional categories of utility service.

8 **Q. HOW DID APS ALLOCATE DEMAND-RELATED PRODUCTION AND**
9 **TRANSMISSION COSTS?**

10 **A.** APS allocated demand-related production and transmission costs to major
11 customer classes using the average of its four test-year monthly summer (June-
12 September) coincident system peaks (a 4CP methodology). As APS noted,
13 "Production related and Transmission related assets, and their associated costs, are
14 generally designed and built to enable the Company to meet its system peak
15 load."⁵ APS is correct—system peaks are the principal drivers of generation and
16 transmission capacity requirements. The 4CP approach is reasonable and should
17 be approved since it reflects the key determinant of APS' need for bulk power
18 facilities.

19 **Q. WHY IS THE REASONABLENESS OF A COST-OF-SERVICE**
20 **METHODOLOGY IMPORTANT?**

21 **A.** Cost of service identifies and assigns cost responsibility to customer classes.
22 Specific rates can then be developed to recover each class' cost-based revenue
23 requirement, resulting in prices that recover the utility's cost of service in an
24 equitable and efficient manner. If the cost-of-service methodology does not

shown in Exhibit DWG-7.

⁵ David Rumulo, direct testimony at 7:1-3.

1 allocate and assign cost responsibility in a reasonable manner, then interclass
2 revenue subsidies are created and specific class rates are either over- or under-
3 priced—thereby causing customers to make inefficient electricity investment and
4 consumption decisions.

5 APS has employed a reasonable cost-of-service methodology in this case to
6 allocate and assign costs to customer classes. However, as I discuss in more detail
7 later, APS deviated from the results of its cost study in assigning its proposed
8 revenue increase to customer classes.

9 REVENUE SPREAD

10 **Q. SHOULD INTERCLASS REVENUE SUBSIDIES BE A PRINCIPAL**
11 **FACTOR IN EVALUATING THE REASONABLENESS OF APS'**
12 **REVENUE SPREAD?**

13 **A.** Yes. Interclass revenue subsidies reflect the amount by which revenue from a
14 customer class exceeds or falls short of the class' cost responsibility, which is
15 determined in APS' class cost-of-service study. In general, a class receives (pays)
16 an interclass subsidy if its rate revenue is less than (greater than) its assigned cost
17 of service at the system average rate of return. The existence of large class rate of
18 return differentials often indicates the presence of large interclass subsidies.

19 **Q. ARE RATE OF RETURN DIFFERENTIALS SIGNIFICANT UNDER**
20 **PRESENT RATES?**

21 **A.** Yes. As shown in Table 1 below and Exhibit DWG-1, of the five major customer
22 classes that APS serves, two classes—Residential and Outdoor (Street)
23 Lighting—currently pay rates that are well below cost of service. The rate of
24 return indexes for these classes range from 58 to 79. Their below-cost service is
25 subsidized by General Service customers (RORI of 151) whose present rates are
26 almost \$40.5 million higher than APS' cost of service. This \$40.5-million

1 subsidy goes to Residential customers (whose total subsidy is nearly \$44.1
2 million) and the Outdoor Lighting class.

Table 1. Interclass Subsidies Under Present Rates (\$000)

<u>Class</u>	<u>RORI</u>	<u>Subsidy</u>
Residential	58	44,069
General Service	151	(40,483)
Irrigation	359	(2,804)
Outdoor Lighting	79	453
Dusk to Dawn	223	(1,236)

Note: positive (negative) number reflects subsidy received (paid)
Source: Exhibit DWG-1.

3

4 **Q. WHAT INCREASE IN REVENUE IS APS REQUESTING?**

5 **A.** APS has requested a \$453.9-million increase (21.34 percent), which reflects a
6 \$449.6-million increase (21.14 percent) in base rates and APS' proposed \$4.3-
7 million Environmental Improvement Charge (EIC).

8 **Q. HOW DID APS SPREAD THE PROPOSED REVENUE INCREASE**
9 **AMONG CUSTOMER CLASSES?**

10 **A.** APS spread its proposed revenue increase on a roughly equal-percentage, across-
11 the-board basis, for Residential (21.14 percent increase excluding the EIC) and
12 General Service (21.60 percent increase) customers. Irrigation customers got only
13 a 0.14 percent increase, while the two Lighting classes got increases of 24.11
14 percent and 10.49 percent. (See Exhibit DWG-2, page 1.)

1 Q. DOES THE CURRENT INTERCLASS SUBSIDY PROBLEM GET
2 WORSE UNDER APS' PROPOSED REVENUE SPREAD?

3 A. Yes. Interclass subsidies under APS' proposed revenue spread increase by more
4 than 50 percent—from around \$44.5 million under present rates to more than
5 \$67.2 million under proposed rates. (See Table 2 below and Exhibit DWG-2,
6 page 2.) Approximately \$64.3 million of the interclass subsidies goes to
7 Residential customers. That is, test-year revenues from APS' proposed
8 Residential rates are about \$64.3 million less than APS' costs (as determined in its
9 cost-of-service study) of serving this class. APS makes up this shortfall—as well
10 as the \$2.9 million in subsidies received by Lighting customers—primarily by
11 overcharging General Service customers (more than \$66.9 million). These
12 interclass subsidies are unjustified and should be eliminated—or at a minimum,
13 mitigated by moving rates for each class much closer to cost of service than APS
14 has proposed.

Table 2. Interclass Subsidies Under APS Proposed Rates (\$000)

<u>Class</u>	<u>RORI</u>	<u>Subsidy</u>
Residential	82	64,345
General Service	125	(66,944)
Irrigation	108	(279)
Outdoor Lighting	67	2,409
Dusk to Dawn	86	469

Note: positive (negative) number reflects subsidy received (paid)
Source: Exhibit DWG-2.

15

16 Q. IS APS' REVENUE SPREAD REASONABLE?

17 A. No. I recognize that under APS' proposed revenue spread, rates for the
18 Residential and General Service classes (as well as the smaller Irrigation and
19 Lighting classes) move closer to cost of service (measured by movement towards

1 a unity RORI). However, because APS' revenue spread fails to move rates
2 sufficiently close to cost of service, the interclass revenue subsidy problem is
3 exacerbated. These interclass subsidies are unjustified and should be
4 eliminated—or at a minimum, mitigated by moving rates for each class much
5 closer to cost of service than APS has proposed.

6 **Q. WHAT INCREASES WOULD BE NECESSARY TO ELIMINATE THE**
7 **RESIDENTIAL AND GENERAL SERVICE INTERCLASS SUBSIDIES?**

8 **A.** My analysis indicates that Residential rates would have to increase by 27.05
9 percent (excluding the EIC), compared to the 21.14 percent increase
10 recommended by APS. In contrast, General Service rates would have to increase
11 by only 14.88 percent instead of APS' recommended 21.60 percent increase. (See
12 Exhibit DWG-3.)

13 **Q. HAVE YOU DEVELOPED AN ALTERNATIVE REVENUE SPREAD**
14 **THAT MOVES RATES CLOSER TO COST OF SERVICE?**

15 **A.** Yes. I recommend that the Commission reject APS' proposed revenue spread.
16 No set of reasonable and fair ratemaking objectives can include forcing General
17 Service customers to pay nearly \$67 million in interclass revenue subsidies to
18 Residential and Lighting customers. To address this problem, the Commission
19 should require APS to spread the allowed revenue increase using the following
20 guidelines:

21 ■ Interclass revenue subsidies under APS' proposed revenue spread
22 should be reduced by half. For example, the Residential subsidy
23 should be reduced by around \$32 million from the \$64.3 million
24 subsidy created under APS' revenue spread.

25 ■ The increase for any subsidized class under APS' proposed rates
26 should be limited to no more than 150 percent of the average system
27 rate increase (excluding the EIC). For example, if APS received its

1 requested 21.14 percent increase in base revenues, Residential rates
2 could increase by no more than 31.71 percent. However, as I noted
3 earlier, the increase required to bring Residential rates to cost of
4 service would only be 27.05 percent, well below the 150-percent
5 guideline limit.

- 6 ■ No class should get a base rate decrease—even if a decrease is
7 indicated by results from cost-of-service analyses. This guideline is
8 merely one of general fairness—when rates may go up by more than
9 21 percent, everyone should share some of the pain. The only class
10 affected by this guideline is the Irrigation class—which should receive
11 about a 1 percent decrease in rates according to APS' cost studies.
12 (See Exhibit DWG-3.)

13 **Q. WHAT EFFECT WOULD YOUR RECOMMENDED REVENUE SPREAD**
14 **HAVE ON THE COST-TRACKING AND SUBSIDY PROBLEMS THAT**
15 **APS' PROPOSAL DOES ALMOST NOTHING TO MITIGATE?**

- 16 **A.** My proposed revenue spread would move rates for each class closer to cost of
17 service, and also create meaningful reductions in interclass revenue subsidies.
18 Moreover, my recommended revenue spread creates a more equitable and efficient
19 distribution of APS' proposed sales revenue increase without imposing unjust and
20 unreasonable increases on any class. (See Table 3 below and Exhibit DWG-4,
21 page 1.)

Table 3. Interclass Subsidies Under FEA Proposed Spread (\$000)

<u>Class</u>	<u>RORI</u>	<u>Subsidy</u>
Residential	90	32,170
General Service	114	(33,524)
Irrigation	108	(270)
Outdoor Lighting	79	1,391
Dusk to Dawn	92	233

Note: positive (negative) number reflects subsidy received (paid)
Source: Exhibit DWG-4.

1

2 **Q. DOES YOUR RECOMMENDED REVENUE SPREAD ELIMINATE**
3 **INTERCLASS SUBSIDIES?**

4 **A.** No. My recommended revenue spread only reduces the subsidies by about half.
5 As shown in Table 3 above, Residential customers would still receive a subsidy of
6 more than \$32 million, while General Service customers would still pay nearly
7 \$34 in revenue subsidies.

8 **Q. HOW DO BASE RATE INCREASES UNDER YOUR RECOMMENDED**
9 **REVENUE SPREAD COMPARE WITH APS' PROPOSED INCREASES?**

10 **A.** As shown in Table 4 below and Exhibit DWG-4, page 2, the increase for
11 Residential customers is only about 3 percentage points greater than the increase
12 under APS' proposed revenue spread.

Table 4. Base Rate Increases Under Alternative Spreads

<u>Class</u>	<u>APS</u>	<u>FEA</u>
Residential	21.14%	24.09%
General Service	21.60%	18.25%
Irrigation	0.14%	0.14%
Outdoor Lighting	24.11%	31.67%
Dusk to Dawn	10.49%	14.15%

1 Source: Exhibit DWG-4.

2 **Q. IF THE COMMISSION ALLOWS LESS THAN APS' REQUESTED**
3 **SALES REVENUE INCREASE, HOW SHOULD THE APPROVED**
4 **INCREASE BE SPREAD?**

5 **A.** If APS receives a total retail base revenue increase below 21.14 percent, I
6 recommend reducing the increase for each class while maintaining the relative
7 increases shown under the FEA revenue spread in Table 4 above. For example, if
8 the allowed increase is 10.57 percent (half of APS' request), the increase for
9 Residential customers should be 12.05 percent (half of 24.09 percent). Similarly,
10 the increase for General Service would be around 9.13 percent (or half of 18.25
11 percent).

12 **RATE DESIGN**

13 **Q. DID YOU EXAMINE EACH OF APS' PROPOSED RATES IN DETAIL?**

14 **A.** No. My analysis focused on Rates E-34 and E-35, the two rates under which APS
15 serves most Extra Large General Service customers (those with average monthly
16 demands equal to or exceeding 3 MW). However, at the present time, I am only
17 recommending specific changes to Rate E-34.

1 Q. ARE APS'-PROPOSED RATES E-34 AND E-35 SET ABOVE COST OF
2 SERVICE?

3 A. Yes. Data provided by APS indicate that RORIs for Rates E-34 and E-35
4 customers under proposed rates are 108—that is, both rates are above APS' cost
5 of service.⁶

6 Q. DO THE PROPOSED RATES REFLECT CHANGES IN THE VOLTAGE
7 DISCOUNTS THAT WERE ADOPTED IN APS' LAST GENERAL RATE
8 CASE?

9 A. Yes. In its last general rate case, APS introduced voltage discounts into Rates E-
10 34 and E-35 to track costs of serving customers at different voltages more
11 accurately. In this case, APS has increased the voltage discount for customers
12 served at transmission voltages (69 kV and higher) from \$4.30 per kW to \$4.52
13 per kW. However, discounts for customers served directly from a Primary
14 Substation⁷ or from Primary voltage lines remain unchanged at \$3.40 per kW and
15 \$0.66 per kW, respectively.

16 Q. DO THESE DISCOUNTS ACCURATELY REFLECT COST
17 DIFFERENTIALS IN SERVING RATE E-34 CUSTOMERS AT
18 DIFFERENT VOLTAGE LEVELS OF SERVICE?

19 A. No. Results from APS' cost-of-service studies indicate that all voltage discounts
20 for Rate E-34 customers should be increased—particularly the Primary Substation
21 discount. Failing to set the voltage discounts closer to cost of service creates an
22 intraclass subsidy for Secondary voltage customers served under Rate E-34 at the
23 expense of Transmission and Primary service customers. For example, as shown
24 in Table 5 below and Exhibit DWG-5, APS' cost of serving a Rate E-34

⁶ See APS response to DEAA 2-2 (APS09951).

⁷ This discount currently applies only to military bases taking primary service directly from an APS-owned substation.

1 transmission voltage customer is \$4.90 per kW less than its cost of serving a
 2 Secondary voltage customer. As a result, Rate E-34's transmission voltage
 3 discount should be \$4.90 per kW. However, APS has proposed a transmission
 4 voltage discount of only \$4.52 per kW—effectively forcing the transmission
 5 customer to pay \$0.38 per kW more than APS' lower cost of service. Similar cost
 6 differentials apply for primary voltage customers served either directly from an
 7 APS-owned substation or an APS primary line.

Table 5. APS Proposed Rate E-34 Voltage Discounts (\$/kW)

<u>Class</u>	<u>Cost of Service</u>	<u>APS Proposed</u>	<u>Difference</u>
Transmission	4.90	4.52	(0.38)
Primary Substation	4.16	3.40	(0.76)
Primary Line	0.88	0.66	(0.22)

8 Source: Exhibit DWG-5.

9 **Q. SHOULD THE VOLTAGE DISCOUNTS IN RATE E-34 BE INCREASED?**

10 **A.** Yes. Customers served under Rate E-34 take delivery service at transmission,
 11 primary, and secondary voltages as defined by APS. The cost of serving
 12 customers at different voltages varies because of differences in the types and cost
 13 of equipment needed to deliver service and energy losses that increase as the
 14 service delivery voltage decreases. The voltage discounts in Rate E-34 should
 15 reflect these cost-of-service differences as accurately as possible.

16 **Q. WHAT SPECIFIC CHANGES ARE YOU RECOMMENDING TO APS'**
 17 **PROPOSED RATE E-34?**

18 **A.** I recommend that the Commission reject APS' proposed voltage discounts for
 19 Rate 34. Instead, the Commission should approve my recommended voltage
 20 discounts shown in Table 6 below and Exhibit DWG-6. These discounts

1 represent a significant move to removing intraclass cost subsidies within Rate E-
2 34.

Table 6. FEA Proposed Rate E-34 Voltage Discounts (\$/kW)

<u>Class</u>	<u>Cost of Service</u>	<u>FEA Proposed</u>	<u>Difference</u>
Transmission	4.90	4.72	(0.18)
Primary Substation	4.16	4.04	(0.12)
Primary Line	0.88	0.79	(0.09)

3 Source: Exhibit DWG-6.

4 **Q. HAVE YOU DEVELOPED REVISIONS TO RATE E-34 THAT REFLECT**
5 **YOUR RECOMMENDED VOLTAGE DISCOUNTS?**

6 **A.** Yes. My recommended Rate E-34 is shown in Exhibit DWG-7. The rate reflects
7 the higher voltage discounts I am recommending. To incorporate these higher
8 discounts, I adjusted the unbundled demand-related delivery charges proposed by
9 APS and left the unbundled demand-related generation charge unchanged.

10 **Q. SHOULD THE COMMISSION APPROVE YOUR RECOMMENDED**
11 **RATE E-34?**

12 **A.** Yes. The Commission should approve revisions to APS' proposed Rate E-34 that
13 incorporate more cost-based voltage discounts. My recommended changes are
14 reasonable and justified on the basis of APS' cost of service.

15 **Q. DOES THIS COMPLETE YOUR DIRECT TESTIMONY?**

16 **A.** Yes.

**STATE OF ARIZONA
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ARIZONA CORPORATION COMMISSION**

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ON BEHALF OF THE
FEDERAL EXECUTIVE AGENCIES**

September 1, 2006

APPENDIX A

QUALIFICATIONS OF

DENNIS W. GOINS

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PRESENT POSITION

Economic Consultant, Potomac Management Group, Alexandria, Virginia.

AREAS OF QUALIFICATION

- Competitive Market Analysis
- Costing and Pricing Energy-Related Goods and Services
- Utility Planning and Operations
- Litigation Analysis, Strategy Development, Expert Testimony

PREVIOUS POSITIONS

- Vice President, Hagler, Bailly & Company, Washington, DC.
- Principal, Resource Consulting Group, Inc., Cambridge, Massachusetts.
- Senior Associate, Resource Planning Associates, Inc., Cambridge, Massachusetts.
- Economist, North Carolina Utilities Commission, Raleigh, North Carolina.

EDUCATION

College	Major	Degree
Wake Forest University	Economics	BA
North Carolina State University	Economics	ME
North Carolina State University	Economics	PhD

RELEVANT EXPERIENCE

Dr. Goins specializes in pricing, planning, and market structure issues affecting firms that buy and sell products in electricity and natural gas markets. He has extensive experience in evaluating competitive market conditions, analyzing power and fuel requirements, prices, market operations, and transactions, developing product pricing strategies, setting rates for energy-related products and services, and negotiating power supply and natural gas contracts for private and public entities. He has participated in more than 100 cases as an expert on competitive market issues, utility restructuring, power market planning and operations, utility mergers, rate design, cost of service, and management prudence before the Federal Energy Regulatory Commission, the General Accounting Office, the First Judicial District Court of Montana, the Circuit Court of Kanawha County, West Virginia, and regulatory commissions in Alabama, Arizona, Arkansas, Colorado, Florida, Georgia, Idaho, Illinois, Kentucky, Louisiana, Maine, Massachusetts, Minnesota, Mississippi, New Jersey, New York, North Carolina, Ohio,

Oklahoma, South Carolina, Texas, Utah, Vermont, Virginia, and the District of Columbia. He has also prepared an expert report on behalf of the United States regarding pricing and contract issues in a case before the United States Court of Federal Claims.

PARTICIPATION IN REGULATORY, ADMINISTRATIVE, AND COURT PROCEEDINGS

1. Entergy Gulf States Inc., before the Public Utilities Commission of Texas, PUC Docket No. 32907 (2006), on behalf of Texas Cities, re hurricane cost recovery.
2. Entergy Gulf States Inc., before the Public Utilities Commission of Texas, PUC Docket No. 32710/ SOAH Docket No. 473-06-2307 (2006), on behalf of Texas Cities, re reconciliation of fuel and purchased power costs.
3. Florida Power & Light Company, before the Florida Public Service Commission, Docket No. 060001-EI (2006), on behalf of the U.S. Air Force (Federal Executive Agencies), re fuel and purchased power cost recovery.
4. Arizona Public Service Company, before the Arizona Corporation Commission, Docket No. E-01345A-05-0816 (2006), on behalf of the U.S. Air Force (Federal Executive Agencies), re retail cost allocation and rate design issues.
5. PacifiCorp (dba Rocky Mountain Power), before the Utah Public Service Commission, Docket No. 06-035-21 (2006), on behalf of the U.S. Air Force (Federal Executive Agencies), re rate design issues.
6. South Carolina Electric & Gas Company, before the South Carolina Public Service Commission, Docket No. 2006-2-E (2006), on behalf of CMC Steel-SC, re fuel and purchased power cost recovery.
7. Entergy Gulf States Inc., before the Public Utilities Commission of Texas, PUC Docket No. 31544/ SOAH Docket No. 473-06-0092 (2006), on behalf of Texas Cities, re transition to competition rider.
8. Idaho Power Company, before the Idaho Public Utilities Commission, Case No. IPC-E-05-28 (2006), on behalf of the U.S. Department of Energy (Federal Executive Agencies), re cost-of-service and rate design issues.
9. Alabama Power Company, before the Alabama Public Service Commission, Docket No. 18148 (2005), on behalf of SMI Steel-Alabama, re energy cost recovery.
10. Florida Power & Light Company, before the Florida Public Service Commission, Docket No. 050001-EI (2005), on behalf of the U.S. Air Force (Federal Executive Agencies), re fuel and capacity cost recovery.
11. Entergy Gulf States Inc., before the Public Utilities Commission of Texas, PUC Docket No. 31315/ SOAH Docket No. 473-05-8446 (2005), on behalf of Texas Cities, re incremental purchased capacity cost rider.

12. Florida Power & Light Company, before the Florida Public Service Commission, Docket No. 050045-EI (2005), on behalf of the U.S. Air Force (Federal Executive Agencies), re cost-of-service and interruptible rate issues.
13. Arkansas Electric Cooperative Corporation, before the Arkansas Public Service Commission, Docket No. 05-042-U (2005), on behalf of Nucor Steel and Nucor-Yamato Steel, re power plant purchase.
14. Arkansas Electric Cooperative Corporation, before the Arkansas Public Service Commission, Docket No. 04-141-U (2005), on behalf of Nucor Steel and Nucor-Yamato Steel, re cost-of-service and rate design issues.
15. Dominion North Carolina Power, before the North Carolina Utilities Commission, Docket No. E-22, Sub 412 (2005), on behalf of Nucor Steel-Hertford, re cost-of-service and interruptible rate issues.
16. Public Service Company of Colorado, before the Colorado Public Utilities Commission, Docket No. 04S-164E (2004), on behalf of the U.S. Air Force (Federal Executive Agencies), re cost-of-service and interruptible rate issues.
17. CenterPoint Energy Houston Electric, LLC, *et al.*, before the Public Utility Commission of Texas, PUC Docket No. 29526 (2004), on behalf of the Coalition of Commercial Ratepayers, re stranded cost true-up balances.
18. PacifiCorp, before the Utah Public Service Commission, Docket No. 04-035-11 (2004), on behalf of the U.S. Air Force (United States Executive Agencies), re time-of-day rate design issues.
19. Arizona Public Service Company, before the Arizona Corporation Commission, Docket No. E-01345A-03-0347 (2004), on behalf of the U.S. Air Force (Federal Executive Agencies), re retail cost allocation and rate design issues.
20. Idaho Power Company, before the Idaho Public Utilities Commission, Case No. IPC-E-03-13 (2004), on behalf of the U.S. Department of Energy (Federal Executive Agencies), re retail cost allocation and rate design issues.
21. PacifiCorp, before the Utah Public Service Commission, Docket No. 03-2035-02 (2004), on behalf of the U.S. Air Force (United States Executive Agencies), re retail cost allocation and rate design issues.
22. Dominion Virginia Power, before the Virginia State Corporation Commission, Case No. PUE-2000-00285 (2003), on behalf of Chaparral (Virginia) Inc., re recovery of fuel costs.
23. Jersey Central Power & Light Company, before the New Jersey Board of Public Utilities, BPU Docket No. ER02080506, OAL Docket No. PUC-7894-02 (2002-2003), on behalf of New Jersey Commercial Users, re retail cost allocation and rate design issues.
24. Public Service Electric and Gas Company, before the New Jersey Board of Public Utilities, BPU Docket No. ER02050303, OAL Docket No. PUC-5744-02 (2002-2003), on behalf of New Jersey Commercial Users, re retail cost allocation and rate design issues.

25. South Carolina Electric & Gas Company, before the South Carolina Public Service Commission, Docket No. 2002-223-E (2002), on behalf of SMI Steel-SC, re retail cost allocation and rate design issues.
26. Montana Power Company, before the First Judicial District Court of Montana, *Great Falls Tribune et al. v. the Montana Public Service Commission*, Cause No. CDV2001-208 (2002), on behalf of a media consortium (*Great Falls Tribune, Billings Gazette, Montana Standard, Helena Independent Record, Missoulian*, Big Sky Publishing, Inc. dba *Bozeman Daily Chronicle*, the Montana Newspaper Association, *Miles City Star, Livingston Enterprise, Yellowstone Public Radio, the Associated Press, Inc., and the Montana Broadcasters Association*), re public disclosure of allegedly proprietary contract information.
27. Louisville Gas & Electric *et al.*, before the Kentucky Public Service Commission, Administrative Case No. 387 (2001), on behalf of Gallatin Steel Company, re adequacy of generation and transmission capacity in Kentucky.
28. PacifiCorp, before the Utah Public Service Commission, Docket No. 01-035-01 (2001), on behalf of Nucor Steel, re retail cost allocation and rate design issues.
29. TXU Electric Company, before the Public Utilities Commission of Texas, PUC Docket No. 23640/ SOAH Docket No. 473-01-1922 (2001), on behalf of Nucor Steel, re fuel cost recovery.
30. FPL Group *et al.*, before the Federal Energy Regulatory Commission, Docket No. EC01-33-000 (2001), on behalf of Arkansas Electric Cooperative Corporation, Inc., re merger-related market power issues.
31. Entergy Mississippi, Inc., *et al.*, before the Mississippi Public Service Commission, Docket No. 2000-UA-925 (2001), on behalf of Birmingham Steel-Mississippi, re appropriate regulatory conditions for merger approval.
32. TXU Electric Company, before the Public Utilities Commission of Texas, PUC Docket No. 22350/ SOAH Docket No. 473-00-1015 (2000), on behalf of Nucor Steel, re unbundled cost of service and rates.
33. PacifiCorp, before the Utah Public Service Commission, Docket No. 99-035-10 (2000), on behalf of Nucor Steel, re using system benefit charges to fund demand-side resource investments.
34. Entergy Arkansas, Inc. *et al.*, before the Arkansas Public Service Commission, Docket No. 00-190-U (2000), on behalf of Nucor-Yamato Steel and Nucor Steel-Arkansas, re the development of competitive electric power markets in Arkansas.
35. Entergy Arkansas, Inc. *et al.*, before the Arkansas Public Service Commission, Docket No. 00-048-R (2000), on behalf of Nucor-Yamato Steel and Nucor Steel-Arkansas, re generic filing requirements and guidelines for market power analyses.
36. ScottishPower and PacifiCorp, before the Utah Public Service Commission, Docket No. 98-2035-04 (1999), on behalf of Nucor Steel, re merger conditions to protect the public interest.

37. Dominion Resources, Inc. and Consolidated Natural Gas Company, before the Virginia State Corporation Commission, Case No. PUA990020 (1999), on behalf of the City of Richmond, re market power and merger conditions to protect the public interest.
38. Houston Lighting & Power Company, before the Public Utility Commission of Texas, Docket No. 18465 (1998) on behalf of the Texas Commercial Customers, re excess earnings and stranded-cost recovery and mitigation.
39. PJM Interconnection, LLC, before the Federal Energy Regulatory Commission, Docket No. ER98-1384 (1998) on behalf of Wellsboro Electric Company, re pricing low-voltage distribution services.
40. DQE, Inc. and Allegheny Power System, Inc., before the Federal Energy Regulatory Commission, Docket Nos. ER97-4050-000, ER97-4051-000, and EC97-46-000 (1997) on behalf of the Borough of Chambersburg, re market power in relevant markets.
41. GPU Energy, before the New Jersey Board of Public Utilities, Docket No. EO97070458 (1997) on behalf of the New Jersey Commercial Users Group, re unbundled retail rates.
42. GPU Energy, before the New Jersey Board of Public Utilities, Docket No. EO97070459 (1997) on behalf of the New Jersey Commercial Users Group, re stranded costs.
43. Public Service Electric and Gas Company, before the New Jersey Board of Public Utilities, Docket No. EO97070461 (1997) on behalf of the New Jersey Commercial Users Group, re unbundled retail rates.
44. Public Service Electric and Gas Company, before the New Jersey Board of Public Utilities, Docket No. EO97070462 (1997) on behalf of the New Jersey Commercial Users Group, re stranded costs.
45. DQE, Inc. and Allegheny Power System, Inc., before the Federal Energy Regulatory Commission, Docket Nos. ER97-4050-000, ER97-4051-000, and EC97-46-000 (1997) on behalf of the Borough of Chambersburg, Allegheny Electric Cooperative, Inc., and Selected Municipalities, re market power in relevant markets.
46. CSW Power Marketing, Inc., before the Federal Energy Regulatory Commission, Docket No. ER97-1238-000 (1997) on behalf of the Transmission Dependent Utility Systems, re market power in relevant markets.
47. Central Hudson Gas & Electric Corporation *et al.*, before the New York Public Service Commission, Case Nos. 96-E-0891, 96-E-0897, 96-E-0898, 96-E-0900, 96-E-0909 (1997), on behalf of the Retail Council of New York, re stranded-cost recovery.
48. Central Hudson Gas & Electric Corporation, supplemental testimony, before the New York Public Service Commission, Case No. 96-E-0909 (1997) on behalf of the Retail Council of New York, re stranded-cost recovery.
49. Consolidated Edison Company of New York, Inc., supplemental testimony, before the New York Public Service Commission, Case No. 96-E-0897 (1997) on behalf of the Retail Council of New York, re stranded-cost recovery.

50. New York State Electric & Gas Corporation, supplemental testimony, before the New York Public Service Commission, Case No. 96-E-0891 (1997) on behalf of the Retail Council of New York, re stranded-cost recovery.
51. Rochester Gas and Electric Corporation, supplemental testimony, before the New York Public Service Commission, Case No. 96-E-0898 (1997) on behalf of the Retail Council of New York, re stranded-cost recovery.
52. Texas Utilities Electric Company, before the Public Utility Commission of Texas, Docket No. 15015 (1996), on behalf of Nucor Steel-Texas, re real-time electricity pricing.
53. Central Power and Light Company, before the Public Utility Commission of Texas, Docket No. 14965 (1996), on behalf of the Texas Retailers Association, re cost of service and rate design.
54. Carolina Power & Light Company, before the South Carolina Public Service Commission, Docket No. 95-1076-E (1996), on behalf of Nucor Steel-Darlington, re integrated resource planning.
55. Texas Utilities Electric Company, before the Public Utility Commission of Texas, Docket No. 13575 (1995), on behalf of Nucor Steel-Texas, re integrated resource planning, DSM options, and real-time pricing.
56. Arkansas Power & Light Company, *et al.*, Notice of Inquiry to Consider Section 111 of the Energy Policy Act of 1992, before the Arkansas Public Service Commission, Docket No. 94-342-4 (1995), Initial Comments on behalf of Nucor-Yamato Steel Company, re integrated resource planning standards.
57. Arkansas Power & Light Company, *et al.*, Notice of Inquiry to Consider Section 111 of the Energy Policy Act of 1992, before the Arkansas Public Service Commission, Docket No. 94-342-4 (1995), Reply Comments on behalf of Nucor-Yamato Steel Company, re integrated resource planning standards.
58. Arkansas Power & Light Company, *et al.*, Notice of Inquiry to Consider Section 111 of the Energy Policy Act of 1992, before the Arkansas Public Service Commission, Docket No. 94-342-4 (1995), Final Comments on behalf of Nucor-Yamato Steel Company, re integrated resource planning standards.
59. South Carolina Pipeline Corporation, before the South Carolina Public Service Commission, Docket No. 94-202-G (1995), on behalf of Nucor Steel, re integrated resource planning and rate caps.
60. Gulf States Utilities Company, before the United States Court of Federal Claims, *Gulf States Utilities Company v. the United States*, Docket No. 91-1118C (1994, 1995), on behalf of the United States, re electricity rate and contract dispute litigation.
61. American Electric Power Corporation, before the Federal Energy Regulatory Commission, Docket No. ER93-540-000 (1994), on behalf of DC Tie, Inc., re costing and pricing electricity transmission services.
62. Texas Utilities Electric Company, before the Public Utility Commission of Texas, Docket No. 13100 (1994), on behalf of Nucor Steel-Texas, re real-time electricity pricing.

63. Carolina Power & Light Company, *et al.*, Proposed Regulation Governing the Recovery of Fuel Costs by Electric Utilities, before the South Carolina Public Service Commission, Docket No. 93-238-E (1994), on behalf of Nucor Steel-Darlington, re fuel-cost recovery.
64. Southern Natural Gas Company, before the Federal Energy Regulatory Commission, Docket No. RP93-15-000 (1993-1995), on behalf of Nucor Steel-Darlington, re costing and pricing natural gas transportation services.
65. West Penn Power Company, *et al.*, v. State Tax Department of West Virginia, *et al.*, Civil Action No. 89-C-3056 (1993), before the Circuit Court of Kanawha County, West Virginia, on behalf of the West Virginia Department of Tax and Revenue, re electricity generation tax.
66. Carolina Power & Light Company, *et al.*, Proceeding Regarding Consideration of Certain Standards Pertaining to Wholesale Power Purchases Pursuant to Section 712 of the 1992 Energy Policy Act, before the South Carolina Public Service Commission, Docket No. 92-231-E (1993), on behalf of Nucor Steel-Darlington, re Section 712 regulations.
67. Mountain Fuel Supply Company, before the Public Service Commission of Utah, Docket No. 93-057-01 (1993), on behalf of Nucor Steel-Utah, re costing and pricing retail natural gas firm, interruptible, and transportation services.
68. Texas Utilities Electric Company, before the Public Utility Commission of Texas, Docket No. 11735 (1993), on behalf of the Texas Retailers Association, re retail cost-of-service and rate design.
69. Virginia Electric and Power Company, before the Virginia State Corporation Commission, Case No. PUE920041 (1993), on behalf of Philip Morris USA, re cost of service and retail rate design.
70. Carolina Power & Light Company, before the South Carolina Public Service Commission, Docket No. 92-209-E (1992), on behalf of Nucor Steel-Darlington.
71. Gulf States Utilities Company, before the Louisiana Public Service Commission, Docket No. U-17282, Rate Design (1992), on behalf of the Department of Energy, Strategic Petroleum Reserve.
72. Georgia Power Company, before the Georgia Public Service Commission, Docket Nos. 4091-U and 4146-U (1992), on behalf of Amicalola Electric Membership Corporation.
73. PacifiCorp, Inc., before the Federal Energy Regulatory Commission, Docket No. EC88-2-007 (1992), on behalf of Nucor Steel-Utah.
74. South Carolina Pipeline Corporation, before the South Carolina Public Service Commission, Docket No. 90-452-G (1991), on behalf of Nucor Steel-Darlington.
75. Carolina Power & Light Company, before the South Carolina Public Service Commission, Docket No. 91-4-E, 1991 Fall Hearing, on behalf of Nucor Steel-Darlington.
76. Sonat, Inc., and North Carolina Natural Gas Corporation, before the North Carolina Utilities Commission, Docket No. G-21, Sub 291 (1991), on behalf of Nucor Corporation, Inc.

77. Northern States Power Company, before the Minnesota Public Utilities Commission, Docket No. E002/GR-91-001 (1991), on behalf of North Star Steel-Minnesota.
78. Gulf States Utilities Company, before the Louisiana Public Service Commission, Docket No. U-17282, Phase IV-Rate Design (1991), on behalf of the Department of Energy, Strategic Petroleum Reserve.
79. Houston Lighting & Power Company, before the Public Utility Commission of Texas, Docket No. 9850 (1990), on behalf of the Department of Energy, Strategic Petroleum Reserve.
80. General Services Administration, before the United States General Accounting Office, Contract Award Protest (1990), Solicitation No. GS-00P-AC87-91, Contract No. GS-00D-89-B5D-0032, on behalf of Satilla Rural Electric Membership Corporation, re cost of service and rate design.
81. Carolina Power & Light Company, before the South Carolina Public Service Commission, Docket No. 90-4-E (1990 Fall Hearing), on behalf of Nucor Steel-Darlington, re fuel-cost recovery.
82. Gulf States Utilities Company, before the Louisiana Public Service Commission, Docket No. U-17282, Phase III-Rate Design (1990), on behalf of the Department of Energy, Strategic Petroleum Reserve, re cost of service and rate design.
83. Atlanta Gas Light Company, before the Georgia Public Service Commission, Docket No. 3923-U (1990), on behalf of Herbert G. Burris and Oglethorpe Power Corporation, re anticompetitive pricing schemes.
84. Ohio Edison Company, before the Ohio Public Utilities Commission, Case No. 89-1001-EL-AIR (1990), on behalf of North Star Steel-Ohio, re cost of service and rate design.
85. Gulf States Utilities Company, before the Louisiana Public Service Commission, Docket No. U-17282, Phase III-Cost of Service/Revenue Spread (1989), on behalf of the Department of Energy, Strategic Petroleum Reserve.
86. Northern States Power Company, before the Minnesota Public Utilities Commission, Docket No. E002/GR-89-865 (1989), on behalf of North Star Steel-Minnesota.
87. Gulf States Utilities Company, before the Louisiana Public Service Commission, Docket No. U-17282, Phase III-Rate Design (1989), on behalf of the Department of Energy, Strategic Petroleum Reserve.
88. Utah Power & Light Company, before the Utah Public Service Commission, Case No. 89-039-10 (1989), on behalf of Nucor Steel-Utah and Vulcraft, a division of Nucor Steel.
89. Soyland Power Cooperative, Inc. v. Central Illinois Public Service Company, Docket No. EL89-30-000 (1989), before the Federal Energy Regulatory Commission, on behalf of Soyland Power Cooperative, Inc., re wholesale contract pricing provisions
90. Gulf States Utilities Company, before the Public Utility Commission of Texas, Docket No. 8702 (1989), on behalf of the Department of Energy, Strategic Petroleum Reserve.

91. Houston Lighting and Power Company, before the Public Utility Commission of Texas, Docket No. 8425 (1989), on behalf of the Department of Energy, Strategic Petroleum Reserve.
92. Northern Illinois Gas Company, before the Illinois Commerce Commission, Docket No. 88-0277 (1989), on behalf of the Coalition for Fair and Equitable Transportation, re retail gas transportation rates.
93. Carolina Power & Light Company, before the South Carolina Public Service Commission, Docket No. 79-7-E, 1988 Fall Hearing, on behalf of Nucor Steel-Darlington, re fuel-cost recovery.
94. Potomac Electric Power Company, before the District of Columbia Public Service Commission, Formal Case No. 869 (1988), on behalf of Peoples Drug Stores, Inc., re cost of service and rate design.
95. Carolina Power & Light Company, before the South Carolina Public Service Commission, Docket No. 88-11-E (1988), on behalf of Nucor Steel-Darlington.
96. Northern States Power Company, before the Minnesota Public Utilities Commission, Docket No. E-002/GR-87-670 (1988), on behalf of the Metalcasters of Minnesota.
97. Ohio Edison Company, before the Ohio Public Utilities Commission, Case No. 87-689-EL-AIR (1987), on behalf of North Star Steel-Ohio.
98. Carolina Power & Light Company, before the South Carolina Public Service Commission, Docket No. 87-7-E (1987), on behalf of Nucor Steel-Darlington.
99. Gulf States Utilities Company, before the Louisiana Public Service Commission, Docket No. U-17282, Phase I (1987), on behalf of the Strategic Petroleum Reserve.
100. Gulf States Utilities Company, before the Public Utility Commission of Texas, Docket No. 7195 (1987), on behalf of the Strategic Petroleum Reserve.
101. Gulf States Utilities Company, before the Federal Energy Regulatory Commission, Docket No. ER86-558-006 (1987), on behalf of Sam Rayburn G&T Cooperative.
102. Utah Power & Light Company, before the Utah Public Service Commission, Case No. 85-035-06 (1986), on behalf of the U.S. Air Force.
103. Houston Lighting & Power Company, before the Public Utility Commission of Texas, Docket No. 6765 (1986), on behalf of the Strategic Petroleum Reserve.
104. Central Maine Power Company, before the Maine Public Utilities Commission, Docket No. 85-212 (1986), on behalf of the U.S. Air Force.
105. Gulf States Utilities Company, before the Public Utility Commission of Texas, Docket Nos. 6477 and 6525 (1985), on behalf of North Star Steel-Texas.
106. Ohio Edison Company, before the Ohio Public Utilities Commission, Docket No. 84-1359-EL-AIR (1985), on behalf of North Star Steel-Ohio.
107. Utah Power & Light Company, before the Utah Public Service Commission, Case No. 84-035-01 (1985), on behalf of the U.S. Air Force.

108. Central Vermont Public Service Corporation, before the Vermont Public Service Board, Docket No. 4782 (1984), on behalf of Central Vermont Public Service Corporation.
109. Gulf States Utilities Company, before the Louisiana Public Service Commission, Docket No. U-15641 (1983), on behalf of the Strategic Petroleum Reserve.
110. Southwestern Power Administration, before the Federal Energy Regulatory Commission, Rate Order SWPA-9 (1982), on behalf of the Department of Defense.
111. Public Service Company of Oklahoma, before the Federal Energy Regulatory Commission, Docket Nos. ER82-80-000 and ER82-389-000 (1982), on behalf of the Department of Defense.
112. Central Maine Power Company, before the Maine Public Utilities Commission, Docket No. 80-66 (1981), on behalf of the Commission Staff.
113. Bangor Hydro-Electric Company, before the Maine Public Utilities Commission, Docket No. 80-108 (1981), on behalf of the Commission Staff.
114. Oklahoma Gas & Electric, before the Oklahoma Corporation Commission, Docket No. 27275 (1981), on behalf of the Commission Staff.
115. Green Mountain Power, before the Vermont Public Service Board, Docket No. 4418 (1980), on behalf of the PSB Staff.
116. Williams Pipe Line, before the Federal Energy Regulatory Commission, Docket No. OR79-1 (1979), on behalf of Mapco, Inc.
117. Boston Edison Company, before the Massachusetts Department of Public Utilities, Docket No. 19494 (1978), on behalf of Boston Edison Company.
118. Duke Power Company, before the North Carolina Utilities Commission, Docket No. E-7, Sub 173, on behalf of the Commission Staff.
119. Duke Power Company, before the North Carolina Utilities Commission, Docket No. E-100, Sub 32, on behalf of the Commission Staff.
120. Virginia Electric & Power Company, before the North Carolina Utilities Commission, Docket No. E-22, Sub 203, on behalf of the Commission Staff.
121. Virginia Electric & Power Company, before the North Carolina Utilities Commission, Docket No. E-22, Sub 170, on behalf of the Commission Staff.
122. Southern Bell Telephone Company, before the North Carolina Utilities Commission, Docket No. P-5, Sub 48, on behalf of the Commission Staff.
123. Western Carolina Telephone Company, before the North Carolina Utilities Commission, Docket No. P-58, Sub 93, on behalf of the Commission Staff.
124. Natural Gas Ratemaking, before the North Carolina Utilities Commission, Docket No. G-100, Sub 29, on behalf of the Commission Staff.
125. General Telephone Company of the Southeast, before the North Carolina Utilities Commission, Docket No. P-19, Sub 163, on behalf of the Commission Staff.

126. Carolina Power and Light Company, before the North Carolina Utilities Commission, Docket No. E-2, Sub 264, on behalf of the Commission Staff.
127. Carolina Power and Light Company, before the North Carolina Utilities Commission, Docket No. E-2, Sub 297, on behalf of the Commission Staff.
128. Duke Power Company, *et al.*, Investigation of Peak-Load Pricing, before the North Carolina Utilities Commission, Docket No. E-100, Sub 21, on behalf of the Commission Staff.
129. Investigation of Intrastate Long Distance Rates, before the North Carolina Utilities Commission, Docket No. P-100, Sub 45, on behalf of the Commission Staff.

ARIZONA PUBLIC SERVICE COMPANY
Cost of Service Summary - APS Present Rates
Rates of Return by Customer Classification
Adjusted Test Year Ending September 30, 2005
(\$000)

	Total Company (A)	Total ACC Jurisdiction (B)	All Other (C)	Residential (D)	General Service (E)	Water Pumping (F)	Outdoor Lighting (G)	Dusk to Dawn (H)
1.a. Revenues from Rates	2,164,812	2,127,322 (a)	37,490	1,089,551 (a)	997,139 (a)	20,864 (a)	13,345 (a)	6,423 (a)
1.b. Other Revenues	1,344,909	1,313,268	31,641	624,903	662,982	15,739	8,074	1,570
2. Expenses	3,345,022	3,324,291 (b)	20,731	1,690,974 (b)	1,573,339 (b)	33,299 (b)	20,478 (b)	6,201 (b)
3. Operating Income Before Income Taxes	164,699	116,299	48,400	23,240	86,782	3,304	941	1,792
4. Income Taxes	9,952	395	9,557	(14,265)	13,414	934	(114)	426
5. Net Operating Income	154,747	115,904	38,843	37,745	73,368	2,370	1,055	1,366
6. Rate Base	5,327,833	4,466,697 (c)	861,136	2,489,740 (c)	1,876,564 (c)	25,475 (c)	51,298 (c)	23,620 (c)
7. Rate of Return	2.90%	2.59%	4.51%	1.52%	3.91%	9.30%	2.06%	5.78%
			ROR Index	58	151	359	79	223
			Subsidy* Received(Paid)	44,069	(40,483)	(2,804)	453	(1,236)

Source: Schedule G-1
Supporting APS Schedules:
(a) H-1
(b) G-4
(c) G-3

* Subsidy indicates change in Rate Revenue required to earn 2.597% return on rate base.
Gross Revenue Conversion Factor = 1.6407
COS ROR = 2.5948%

ARIZONA PUBLIC SERVICE COMPANY
SUMMARY OF BASE REVENUES BY CUSTOMER CLASSIFICATION
APS PRESENT AND PROPOSED RATES
TEST YEAR ENDING SEPTEMBER 30, 2005, ADJUSTED

Line No.	Customer Classification	Base Revenues in the Test Year (a)		APS Proposed Increase (b)		Proposed EIC ²⁾ (\$000)	Proposed Increase with EIC %	Line No.
		(A) Present Rates ¹⁾ (\$000)	(B) Proposed Rates ^{3,4)} (\$000)	(C) Amount (\$000)	(D) %			
1	Residential	1,089,551	1,319,891	230,340	21.14%	2,012	21.33%	1
2	General Service	997,139	1,212,494	215,355	21.60%	2,233	21.82%	2
3	Irrigation/Water Pumping	20,864	20,894	30	0.14%	47	0.37%	3
4	Outdoor Lighting	13,345	16,562	3,217	24.11%	19	24.25%	4
5	Dusk to Dawn Lighting Service	6,423	7,097	674	10.49%	4	10.56%	5
6	Total Sales to Ultimate Retail Customers	2,127,322	2,576,938	449,616	21.14%	4,315	21.34%	6

Source: APS Schedule H-1
(a) Supporting Schedules: H-2

(b) Recap Schedules: A-1

NOTES TO SCHEDULE:

- 1) Base Revenues under Present Rates reflect adjusted test year revenues including applicable proforma adjustments.
- 2) The EIC is the proposed Environmental Improvement Charge.

ARIZONA PUBLIC SERVICE COMPANY
SUMMARY OF BASE REVENUES BY CUSTOMER CLASSIFICATION
APS PRESENT AND PROPOSED COST-OF-SERVICE RATES
TEST YEAR ENDING SEPTEMBER 30, 2005, ADJUSTED

Line No.	Customer Classification	Base Revenues in the Test Year (a)			Cost-of-Service Increase (b)		Line No.	
		(A) Present Rates ¹⁾ (\$000)	(B) Proposed Rates @ COS ³⁾ (\$000)	(C) Amount (\$000) (B) - (A)	(D) COS Increase % (C) / (A)	(E) Proposed EIC ²⁾ (\$000)		(F) COS Increase with EIC % [(E) + (C)] / (A)
1	Residential	1,089,551	1,384,233	294,682	27.05%	2,012	27.23%	1
2	General Service	997,139	1,145,549	148,410	14.88%	2,233	15.11%	2
3	Irrigation/Water Pumping	20,864	20,624	(240)	-1.15%	47	-0.93%	3
4	Outdoor Lighting	13,345	18,963	5,618	42.10%	19	42.24%	4
5	Dusk to Dawn Lighting Service	6,423	7,564	1,141	17.77%	4	17.83%	5
6	Total Sales to Ultimate Retail Customers	2,127,322	2,576,933	449,611	21.14%	4,315	21.34%	6

Source: APS response to FEA 1-3
See APS Schedule H-1
(a) Supporting Schedules: H-2

(b) See APS response to FEA 1-3

NOTES TO SCHEDULE:

- 1) Base Revenues under Present Rates reflect adjusted test year revenues including applicable proforma adjustments...
- 2) The EIC is the proposed Environmental Improvement Charge.
- 3) Revenues at APS proposed ROR = 8.73%

ARIZONA PUBLIC SERVICE COMPANY
Cost of Service Summary - Proposed Rates @ 8.73% Rate of Return
Rates of Return by Customer Classification
Adjusted Test Year Ending September 30, 2005
 (\$000)

	Total Company (A)	Total ACC Jurisdiction (B)	All Other (C)	Total ACC Jurisdiction				
				Residential (D)	General Service (E)	Irrigation (F)	Outdoor Lighting (G)	Dusk to Dawn (H)
1.a. Revenues from Rates	2,614,428	2,576,938 (a)	37,490	1,384,233 (a)	1,145,549 (e)	20,624 (a)	18,963 (a)	7,564 (a)
1.b. Other Revenues	1,344,909	1,313,288	31,641	624,903	662,982	15,739	8,074	1,570
2. Expenses	3,345,022	3,324,291 (b)	20,731	1,690,974 (b)	1,573,339 (b)	33,299 (b)	20,478 (b)	6,201 (b)
3. Operating Income Before Income Taxes	614,315	565,915	48,400	317,345	239,189	3,247	6,539	3,010
4. Income Taxes	185,528	175,971	9,557	99,991	75,365	1,023	2,060	948
5. Net Operating Income	428,787	389,944	38,843	217,354	163,824	2,224	4,479	2,061
6. Rate Base	5,327,833	4,486,697 (c)	861,136	2,489,740 (c)	1,876,564 (c)	25,475 (c)	51,298 (c)	23,620 (c)
7. Rate of Return	8.05%	8.73%	4.51%	8.73%	8.73%	8.73%	8.73%	8.73%
			ROR Index	100	100	100	100	100
			Subsidy* Received(Paid)	0	0	0	0	0

Source: APS response to FEA 1-3
See APS Schedules G-1 and G-2

Supporting APS Schedules:

- (a) Revenue Requirement @ 8.73% from DJR_WP3 (Line 22)
- (b) G-4
- (c) G-3

* Subsidy indicates change in Rate Revenue required to earn 8.73% return on rate base.

ARIZONA PUBLIC SERVICE COMPANY
SUMMARY OF BASE REVENUES BY CUSTOMER CLASSIFICATION
APS PRESENT RATES AND FEA PROPOSED REVENUE SPREAD
TEST YEAR ENDING SEPTEMBER 30, 2005, ADJUSTED

Exhibit DWG-4
Page 1 of 2

Line No.	Customer Classification	Base Revenues in the Test Year (a)				FEA Proposed Spread		Proposed Increase with EIC % $\frac{(F)}{[(E) + (C)] / (A)}$	Line No.
		(A) Present Rates ¹⁾ (\$000)	(B) FEA Proposed Spread (\$000)	(C) Amount (\$000) $(B) - (A)$	(D) % $(C) / (A)$	(E) Proposed EIC ²⁾ (\$000)			
1	Residential	1,089,551	1,352,064	262,513	24.09%	2,012	24.28%	1	
2	General Service	997,139	1,179,073	181,934	18.25%	2,233	18.47%	2	
3	Irrigation/Water Pumping	20,864	20,894	30	0.14%	47	0.37%	3	
4	Outdoor Lighting	13,345	17,572	4,227	31.67%	19	31.81%	4	
5	Dusk to Dawn Lighting Service	6,423	7,332	909	14.15%	4	14.21%	5	
6	Total Sales to Ultimate Retail Customers	2,127,322	2,576,933	449,611	21.14%	4,315	21.34%	6	

Source: APS response to FEA 1-3
See APS Schedule H-1
(a) Supporting Schedules: H-2

Guidelines:
Limit on class increase = 150% system avg
Reduce Subsidies by 50%
No class gets decrease

NOTES TO SCHEDULE:

- 1) Base Revenues under Present Rates reflect adjusted test year revenues including applicable proforma adjustments.
- 2) The EIC is the proposed Environmental Improvement Charge.

ARIZONA PUBLIC SERVICE COMPANY
Cost of Service Summary - FEA Proposed Revenue Spread
Rates of Return by Customer Classification
Adjusted Test Year Ending September 30, 2005
(\$000)

	Total Company (A)	Total ACC Jurisdiction				Total ACC Jurisdiction			
		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
1.a. Revenues from Rates	2,614,428	2,576,938 (a)	37,490	1,352,064	1,179,073	20,894	17,572	7,332	
1.b. Other Revenues	1,344,909	1,313,268	31,641	624,903	662,982	15,739	8,074	1,570	
2. Expenses	3,345,022	3,324,291 (b)	20,731	1,690,974 (a)	1,573,339 (a)	33,299 (a)	20,478 (a)	6,201 (a)	
3. Operating Income Before Income Taxes	614,315	565,915	48,400	285,175	272,713	3,517	5,148	2,777	
4. Income Taxes	185,528	175,971	9,557	89,855	85,928	1,108	1,622	875	
5. Net Operating Income	428,787	389,944	38,843	195,321	186,785	2,409	3,526	1,902	
6. Rate Base	5,327,833	4,466,697	861,136	2,489,740 (b)	1,876,564 (b)	25,475 (b)	51,298 (b)	23,620 (b)	
7. Rate of Return	8.05%	8.73%	4.51%	7.85%	9.95%	9.45%	6.87%	8.05%	
			ROR Index	90	114	108	79	92	
			Subsidy* Received(Paid)	32,170	(33,524)	(270)	1,391	233	

Source: APS response to FEA 1-3
See APS Schedule G-2

Supporting APS Schedules:

- (a) G-4
- (b) G-3

* Subsidy indicates change in Rate Revenue required to earn 8.73% return on rate base.
Class Revenue Requirement at 8.73% ROR from APS response to FEA 1-3
COS ROR = 8.73%

Incremental tax rate = 39.50% AFS07406 Sch C-3

E-34
GENERAL SERVICE

	Distribution (Substations)	Distribution (Primary Lines)	Distribution (Transformers, Secondary & Services)
Rate Base			
1) Rate Base (excluding Cust. Advances & Deposits)	\$5,852,168	\$32,444,141	\$3,470,512
2) Regulatory Assets			
3) Customer Accounts			
4) Cust. Service & Info and Sales Expense			
5) Customer Deposits	(\$238,963)	(\$1,324,799)	(\$141,712)
6) Customer Advances	(\$133,876)	(\$742,204)	(\$79,393)
7) Total Rate Base	\$5,479,329	\$30,377,138	\$3,249,407
8) Retail Earned ROR @ 8.73%			
9) Return on Rate Base (Line 8 * Line 7)	\$478,345	\$2,651,924	\$283,673
Computation of Income Taxes			
10) Weighted Cost of Long Term Debt @ 2.46%			
11) Tax Rate @ 39.05%			
12) Income Taxes ((Line 8-Line10)/(Line 7)(Line 11))(1-Line 11)	\$220,057	\$1,219,985	\$130,500
Expenses			
13) Expenses			
14) Regulatory Assets	\$1,064,176	\$3,587,716	\$362,995
15) Customer Accounts			
16) Cust. Service & Info and Sales Expense			
17) Total Expenses	\$1,064,176	\$3,587,716	\$362,995
Revenue Requirement			
18) Return, Income Taxes, and Expenses (Line 9 + Line 12 + Line 17)	\$1,752,578	\$7,459,625	\$777,169
19) Less: Revenue Credits	\$74,060	\$311,853	\$31,610
20) Production Related Income Tax Adjustment	\$0	\$0	\$0
21) Out of Period Income Tax Adjustment	\$12,993	\$72,033	\$7,705
22) REVENUE REQUIREMENT @ 8.73%	\$1,691,511	\$7,219,805	\$753,264
E-34 Test-Year Billing kW			
23) Secondary	858,509	858,509	858,509
24) Primary Lines	1,339,788	1,339,788	0
25) Substations	77,594	0	0
26) Total	2,275,891	2,198,297	858,509
27) Unit Cost by Function (\$/kW)	\$0.74	\$3.28	\$0.88
Voltage Discounts (\$/kW)			
28) Transmission	\$4.90	\$4.62	(\$0.38)
29) Primary Substation	\$4.16	\$3.40	(\$0.76)
30) Primary Line	\$0.88	\$0.66	(\$0.22)

Sources:
APS0265_Workpaper DJR_WP-1&WP-3.xls
APS0262_Workpaper DJR_WP-09.xls

E-34
GENERAL SERVICE

	Rate Base	Distribution (Substations)	Distribution (Primary Lines)	Distribution (Transformers, Secondary & Services)
1) Rate Base (excluding Cust. Advances & Deposits)	\$5,852,168		\$32,444,141	\$3,470,512
2) Regulatory Assets				
3) Customer Accounts				
4) Cust. Service & Info and Sales Expense				
5) Customer Deposits	(\$238,963)		(\$1,324,799)	(\$141,712)
6) Customer Advances	(\$133,876)		(\$742,204)	(\$79,393)
7) Total Rate Base	\$5,479,329		\$30,377,138	\$3,249,407
8) Retail Earned ROR @ 8.73%				
9) Return on Rate Base (Line 8 * Line 7)	\$478,345		\$2,651,924	\$283,673
Computation of Income Taxes				
10) Weighted Cost of Long Term Debt @ 2.46%				
11) Tax Rate @ 39.05%				
12) Income Taxes ((Line 8-Line10)(Line 7)(Line 11))/(1-Line 11)	\$220,057		\$1,219,965	\$130,500
Expenses				
13) Expenses				
14) Regulatory Assets	\$1,054,176		\$3,587,716	\$362,995
15) Customer Accounts				
16) Cust. Service & Info and Sales Expense				
17) Total Expenses	\$1,054,176		\$3,587,716	\$362,995
Revenue Requirement				
18) Return, Income Taxes, and Expenses (Line 9 + Line 12 + Line 17)	\$1,752,578		\$7,459,625	\$777,169
19) Less: Revenue Credits	\$74,060		\$311,853	\$31,610
20) Production Related Income Tax Adjustment	\$0		\$0	\$0
21) Out of Period Income Tax Adjustment	\$12,993		\$72,033	\$7,705
22) REVENUE REQUIREMENT @8.73%	\$1,691,511		\$7,219,805	\$753,264
E-34 Test-Year Billing kW				
23) Secondary	858,509		858,509	858,509
24) Primary Lines	1,339,788		1,339,788	0
25) Substations	77,594		0	0
26) Total	2,275,891		2,198,297	858,509
27) Unit Cost by Function (\$/kW)	\$0.74		\$3.28	\$0.88
Voltage Discounts (\$/kW)				
28) Transmission	\$4.90		\$4.72	(\$0.18)
29) Primary Substation	\$4.16		\$4.04	(\$0.12)
30) Primary Line	\$0.88		\$0.79	(\$0.09)

Sources:
APS09265_Workpaper DJR_WP-1&WP-3.xls
APS09262_Workpaper DJR_WP-09.xls

Arizona Public Service
Docket No. E-01345A-05-0816

Rate E-34 Options

Rate E-34 Present - Bundled

BSC	Charge (\$/unit)
SCM	0.575 per day
IRM	1.134 per day
Pri	2.926 per day
Trans	22.422 per day
Demand	
Sec	12.343 per kW
Pri	11.683 per kW
PriSub	8.943 per kW
Trans	8.043 per kW
Energy	0.03183 per kWh

Discounts (\$/kW)	
Primary	(0.66)
PriSub	(3.40)
Trans	(4.30)

Rate E-34 APS Proposed - Bundled

BSC	Charge (\$/unit)
SCM	0.575 per day
IRM	1.134 per day
Pri	2.926 per day
Trans	22.422 per day
Demand	
Sec	13.415 per kW
Pri	12.755 per kW
PriSub	10.015 per kW
Trans	8.895 per kW
Energy	0.04482 per kWh

Discounts (\$/kW)	
Primary	(0.66)
PriSub	(3.40)
Trans	(4.52)

Rate E-34 FEA Proposed - Bundled

BSC	Charge (\$/unit)
SCM	0.575 per day
IRM	1.134 per day
Pri	2.926 per day
Trans	22.422 per day
Demand	
Sec	13.515 per kW
Pri	12.725 per kW
PriSub	9.475 per kW
Trans	8.795 per kW
Energy	0.04482 per kWh

Discounts (\$/kW)	
Primary	(0.79)
PriSub	(4.04)
Trans	(4.72)

BEFORE THE ARIZONA CORPORATION COMMISSION

In the Matter of the Application of Arizona)
Public Service Company for a Hearing to)
Determine the Fair Value of the Utility)
Property of the Company for Ratemaking)
Purposes, to Fix a Just and Reasonable Rate)
of Return Thereon, to Approve Rate)
Schedules Designed to Develop Such Return,)
and to Amend Decision No. 67744)

Docket No. E-01345A-05-0816

Testimony
Of
Colonel Ronald J. Mozzillo
On behalf of
Federal Executive Agencies

September 1, 2006

1 **Testimony of Colonel Ronald J. Mozzillo, USAF**

2
3 **Q. Please state your name and position:**

4
5 A. I am Colonel Ronald J. Mozzillo, Commander, 56th Mission Support Group, Luke
6 Air Force Base, Arizona. I lead seven squadrons encompassing over 1,800 personnel
7 with responsibilities for engineering, construction, and infrastructure maintenance;
8 explosive ordinance management; fire protection; housing management;
9 telecommunications and computer support; security and law enforcement; contracting;
10 supply; transportation; human resources management; professional academic education
11 schools; family support center; youth and child care programs; mortuary and casualty
12 services.

13
14 **Q. Would you please summarize your education and professional background?**

15
16 A. I have a Bachelor of Science degree in Business Administration from Youngtown
17 State University, Ohio, and a Master of Business Administration degree from Embry
18 Riddle University, Florida.

19
20 I am a Master Navigator with more than 2,700 flying hours in the B-52. Some of my
21 previous assignments include: Director of Executive Support for the Deputy Chief of
22 Staff, Air and Space Operations, and Support Group Commander, United States Military
23 Training Mission to Saudi Arabia, Eskan Village, Kingdom of Saudi Arabia. In these
24 positions I have become familiar with how the Air Force funds military operations,
25 including infrastructure and utility service.

26
27 **Q. What is the purpose of your testimony?**

28
29 A. The purpose of my testimony is to identify the economic impact of Luke Air Force
30 Base on the Arizona economy, and highlight the impact of increased utility bills on Luke
31 Air Force Base.

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Q. What is the military mission of Luke Air Force Base?

A. Luke Air Force Base is the Air Force's training ground for F-16 fighter pilots and maintainers. Last year Luke Air Force pilots flew over 50,000 flying hours supporting 36,997 sorties. In addition to our mission of training mission-ready fighter pilots and maintenance personnel, in 2005 Luke Air Force Base deployed 573 Airmen worldwide in support of contingency operations and the Global War on Terror. In Fiscal Year 2005, Luke graduated 367 mission-ready F-16 pilots, 76 intelligence specialists and 489 crew chiefs, who are now serving worldwide. As part of the Luke training mission, we provide training for two foreign military fighter squadrons for the countries of Taiwan and Singapore squadrons (425 FS & 21 FS). They are not "student" pilots. They are fully qualified F-16 pilots going through continuation training here taking advantage of our airspace, great flying weather and great ranges

Luke Air Force personnel are good community members, donating more than 100,000 volunteer hours in the local communities.

Q. What is the size of the workforce at Luke Air Force Base?

A. Luke Air Force Base supports 5377 active duty Air Force members, 1699 Air Force Reserve members and 1248 Department of the Air Force civilian employees..

Q. What is the impact of Luke Air Force Base on the Arizona economy?

A. In addition to the \$ 358 million payroll, Luke Air Force Base impacts the state's economy with construction projects, major contracts and daily procurements, education requirements, health necessities, and commissary and exchange expenditures. In addition to Luke's work force, there are more than 100,000 base retirees, both civilian and military, who continue to have a large impact on the state's economy. Base employees, as well as nearly 4399 secondary jobs in the local communities in such fields as housing,

1 food and the services industries, have an economic impact on Arizona of approximately
2 \$1 billion per year.

3
4 Luke Air Force Base executed \$347 million in annual contract awards in Fiscal Year
5 2005. Of this amount, \$10.452 million was awarded within the state of Arizona and
6 \$35.2 million was awarded to small and disadvantaged businesses, including \$9.6 million
7 to Arizona small and disadvantaged businesses.

8
9 **Q. Where does Luke Air Force Base purchase its electric utility service?**

10
11 A. We purchase our electric utility services from Arizona Public Service Company
12 (APS). Luke Air Force Base takes utility service on the E-32 and E-34 Rate Schedules.
13 In fiscal year 2005, Luke Air Force Base paid APS about \$4.2 million for electric utility
14 service.

15
16 **Q. What funds are used to pay Air Force utility bills?**

17
18 A. The funds used to pay for the utility service provided by OG&E are operations and
19 maintenance (O&M) funds. Operations and Maintenance funds are also used to fund
20 military operations and maintenance. Utility bills are "must pay" bills, meaning they are
21 among the first requirements funded and paid by the government. Any cost avoidance or
22 reduction in costs Luke pays for utilities ensures funds could be utilized elsewhere for
23 essential military operations and maintenance.

24
25 **Q. What happens to Luke's O&M funds when there is a large increase in utility
26 bills?**

27
28 A. Since the funding used to pay utility bills is the same funding used to fund military
29 operations and maintenance, when utility bills increase, reductions in other areas of our
30 military operations and maintenance must be reduced. The only mechanism we have to

1 increase our overall funding level is to request additional appropriations from
2 Headquarters Air Force and ultimately, Congress.

3

4 **Q. Does this conclude your testimony?**

5 A. Yes it does.