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BEFORE THE ARIZONA CORPORATION CC

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AZ CORP COMMISSION
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RICHARD GAYER,

COMPLAINANT,

V.

SOUTHWEST GAS CORPORATION,

RESPONDENT.

DOCKET NO. G-01551A-13-0327

NOTICE OF FILING
STAFF'S DIRECT TESTIMONY

Staff of the Arizona Corporation Commission ("Staff") hereby files the Direct Testimony of
Bob Gray, in the above-referenced matter.

RESPECTFULLY SUBMITTED this 27th day of May, 2014.

Charles H. Hains
Attorney, Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007
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Original and thirteen (13) copies of
the foregoing filed this 27th day of
May, 2014, with:

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

Arizona Corporation Commission
DOCKETED

MAY 27 2014

DOCKETED BY

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2 27th day of May, 2014, to:

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BEFORE THE ARIZONA CORPORATION COMMISSION

BOB STUMP

Chairman

GARY PIERCE

Commissioner

BRENDA BURNS

Commissioner

BOB BURNS

Commissioner

SUSAN BITTER SMITH

Commissioner

IN THE MATTER OF RICHARD GAYER,)
COMPLAINANT,)
V.)
SOUTHWEST GAS CORPORATION,)
RESPONDENT)
_____)

DOCKET NO. G-01551A-13-0327

DIRECT

TESTIMONY

OF

ROBERT G. GRAY

EXECUTIVE CONSULTANT III

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

MAY 27, 2014

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EXECUTIVE SUMMARY
SOUTHWEST GAS CORPORATION
DOCKET NO. G-01551A-13-0327

This case involves a number of allegations Mr. Gayer has made against Southwest Gas, primarily dealing with Southwest's simplification of customer bills and use of the weather normalization adjustment. Mr. Gayer identifies six specific areas of relief he seeks from Southwest Gas. Staff provides some broader perspectives on revenue decoupling and the move to a simplified bill, and makes recommendations regarding Mr. Gayer's requested areas of relief. Staff makes a number of recommendations which it believes help address Mr. Gayer's concerns and should improve communications with customers regarding revenue decoupling and simplified bills in the future. Staff is still gathering information and conducting its analysis in several areas. Staff anticipates making another filing in the future when it completes its analysis.

1 **INTRODUCTION**

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

3 A. My name is Robert G. Gray. I am an Executive Consultant III employed by the Arizona
4 Corporation Commission (“ACC” or “Commission”) in the Utilities Division (“Staff”). My
5 business address is 1200 West Washington Street, Phoenix, Arizona 85007.

6
7 **Q. Briefly describe your responsibilities as an Executive Consultant III.**

8 A. In my capacity as an Executive Consultant III, I conduct analysis and provide
9 recommendations to the Commission on a variety of electricity, natural gas, and
10 water/wastewater matters. A copy of my resume is attached as Exhibit RGG-1.

11
12 **Q. What is the scope of your testimony in this case?**

13 A. I will address the issues raised in Richard Gayer’s (“Mr. Gayer” or “Complainant”) complaint
14 against Southwest Gas Corporation (“Southwest” or “Company”). Given time constraints
15 and the need to collect and analyze further information, Staff is not fully addressing all the
16 details of Mr. Gayer’s requested relief in this filing. Staff will make a supplemental filing to
17 further address some of Mr. Gayer’s requested relief items. I will note the items to be
18 supplemented as necessary throughout this testimony.

19
20 **Q. Have you reviewed the formal complaint and direct testimony submitted by Mr.
21 Gayer in this proceeding?**

22 A. Yes. I reviewed the formal complaint form filed by Mr. Gayer on September 24, 2013, as
23 well as his Direct Testimony filed on April 17, 2014. Mr. Gayer does not identify specific
24 actions he is seeking in his Direct Testimony, but his formal complaint form requests that the
25 Commission order Southwest to undertake six actions related to Southwest’s billing and
26 weather normalization calculations.

1 **Q. Please provide a brief history of this complaint.**

2 A. On September 24, 2013, Mr. Gayer filed a formal complaint with the Commission, alleging a
3 variety of problems related to Southwest's billing and how it calculates the monthly
4 weatherization adjustment. On October 23, 2013, Southwest filed a response to the
5 complaint. Mr. Gayer, Southwest and Staff have held several unsuccessful mediation sessions
6 attempting to resolve the issues raised by Mr. Gayer. On April 17, 2014, Mr. Gayer filed his
7 Direct Testimony. The hearing is scheduled to be held on July 31, 2014.

8
9 **RELIEF SOUGHT BY MR. GAYER**

10 **Q. Please discuss Mr. Gayer's concerns and the relief he seeks in this proceeding.**

11 A. Mr. Gayer has made a large number of allegations against Southwest generally revolving
12 around how Southwest bills its customers and calculates the weather normalization
13 adjustment ("WNA") component of its customers' bills. His April 17, 2014 Direct
14 Testimony does not identify any specific requests for relief, but his September 24, 2013
15 formal complaint filing requests that the Commission order Southwest to take six specific
16 actions. These actions are as follows:

- 17
- 18 1. For Southwest to follow foregoing Tariff provisions by calculating the Monthly
19 Weather Adjustment Charge ("Charge") in strict accordance with the Formula on
20 pages 92-93 and by applying every month the Annual Component shown by a
21 monthly list on page 94 with an annual true-up.
 - 22
 - 23 2. For Southwest to refrain from using any other method to calculate the Charge,
24 including but not limited to regressions, limiting the Charge to the terms actually
25 used by a customer, making the Charge zero when there are zero Heating Degree

1 Days ("HDDs"), or any other method whether or not it is or may be viewed as a
2 mitigator.

3
4 3. For Southwest to not discriminate in favor of or against any of its customers by using
5 different methods to calculate the bills of different customers or by providing,
6 withholding or denying any bill information whatsoever to any customer with or
7 without a request from the customer.

8
9 4. For Southwest to itemize all customer bills to include as a line item the Monthly
10 Weather Adjustment Charge, subject to actual individual customer requests for a
11 simplified bill.

12
13 5. For Southwest to publish on its website the ten-year averages it uses for Normal
14 HDDs in the Formula with a clear link to that data from the home page
15 (www.swgas.com).

16
17 6. For Southwest to use Actual HDDs in the Formula data that are publicly available
18 without charge from the National Weather Service/NOAA.

19
20 My testimony will discuss each of Mr. Gayer's requested matters for relief and Staff's
21 resulting recommendations, subject to further supplementation as discussed above.
22

1 *General Introductory Discussion*

2 **Q. Please provide a brief discussion of what you mean when you reference revenue**
3 **decoupling in your testimony.**

4 A. When I refer to revenue decoupling, it includes both decoupling via the WNA and
5 decoupling via the annual, non-weather component. Both of these aspects are part of the
6 overall revenue decoupling the Commission approved in Southwest's last rate proceeding.

7
8 **Q. Please discuss the impact of the adoption of revenue decoupling on the complexity of**
9 **customer bills and the ability of customers to easily replicate their bills.**

10 A. The Commission's adoption of revenue decoupling was the culmination of many years of rate
11 proceedings, workshops and other activities during which many features, benefits, costs, pros,
12 and cons of revenue decoupling were discussed and considered. On balance, the
13 Commission decided in Southwest's last rate proceeding that revenue decoupling should be
14 adopted for Southwest. One challenge inherent in revenue decoupling is that a customer's
15 bill is no longer simply calculated by multiplying the therms consumed by various approved
16 rates plus the monthly customer charge, as had been the case before. Adoption of revenue
17 decoupling breaks the direct and simple link between therms consumed and the amount the
18 customer pays per therm. The result is that customers who wish to calculate their bill using
19 the rates shown in Southwest's tariffs cannot fully replicate their bill due to the presence of
20 the WNA. This was a known issue at the time revenue decoupling was adopted in Arizona.

21
22 **Q. Please discuss the use of WNAs elsewhere.**

23 A. WNAs have been in existence for a long time. For example, Southwest has cited Questar
24 Gas's WNA mechanism as having been in place since the 1990s. Southwest provided Staff
25 with an estimate that approximately 58 other utilities in 25 states use WNAs, which is similar
26 to Staff's understanding of the widespread nature of WNAs in the United States. While Staff

1 has not reviewed WNAs in other states in detail, Staff's understanding is that Southwest's
2 mechanism functions similarly to the WNA mechanisms used in other states.

3
4 *First and Second Relief Requests – Southwest Should Follow Its Tariffs and Refrain from Using Other Calculation*
5 *Methods*

6 **Q. Mr. Gayer's first and second requests for relief basically indicate that he believes that**
7 **Southwest is not following its tariffs and that the Company should be required to**
8 **follow its tariffs. Please provide Staff's perspective on this issue at this time.**

9 A. Regarding the annual component of revenue decoupling, Southwest makes a filing with the
10 Commission to reset that rate every year. Southwest's first filing came to the Commission on
11 April 30, 2013. Staff conducted an analysis of the filing and the Commission approved
12 Southwest's request to refund \$1,890,149 to customers via a credit of \$0.00387 per therm
13 beginning in January 2014. Staff's memo notes that Southwest reported to Staff that no
14 complaints had been received by the Company regarding the annual decoupling component.

15
16 On April 30, 2014, Southwest made a filing requesting to refund \$11,626,351 to customers
17 via a \$0.02626 per therm.

18
19 Staff does not believe that there is a systematic problem with how the annual decoupling
20 component is calculated. In Mr. Gayer's case, it does not appear that there is any individual
21 problem with the calculation of his bill either. To the extent Mr. Gayer or someone else
22 believes there could be a general calculation problem, Staff believes that the annual process
23 for approval of the annual decoupling component is the appropriate place to raise any
24 possible issues related to this component.

25

1 Regarding the issues related to the WNA, as well as the issue of Southwest applying other
2 calculation methods, Staff is still collecting information and conducting its analysis of this
3 matter and will make a supplemental filing when it concludes its analysis.
4

5 *Third Relief Request – Southwest Should Treat All Customers the Same in Calculating Their Bills and not Deny*
6 *Access to Customer Information*

7 **Q. Mr. Gayer alleges that Southwest has used different methods of calculating customer**
8 **bills. What is Staff's perspective on this allegation.**

9 A. Staff is still collecting information and conducting its analysis of this matter and will make a
10 supplemental filing when it concludes its analysis.
11

12 **Q. Mr. Gayer requests that Southwest be required to not deny access to customer**
13 **information. Please provide Staff's perspective on this allegation.**

14 A. It appears to Staff that while information has not been withheld from Mr. Gayer regarding his
15 usage and bill calculations in this proceeding, Southwest could improve on its methods to
16 provide information to customers in regard to revenue decoupling. Staff recommends that
17 within 60 days of the decision in this proceeding, Southwest make a filing in this proceeding,
18 indicating steps it will take to communicate more clearly and quickly with customers who
19 wish to understand how the details of the decoupling components of their bills have been
20 calculated. If Mr. Gayer wants access to customer information other than his own, that
21 would be problematic, given that customer information is generally considered confidential in
22 regard to the general public having access to such information.
23

1 *Fourth Relief Request – Southwest Should Itemize All Customer Bills, With the Option to Opt Into a Simplified Bill*

2 **Q. Please provide Staff's perspective on the shift from an itemized bill to a simplified bill**
3 **in March 2011.**

4 A. Southwest held a number of discussions with Staff, primarily the Commission's Consumer
5 Services Section ("Consumer Services") regarding the shift from an itemized bill to a
6 simplified bill. Consumer Services was supportive of the shift, as their experience over time
7 has been that certain Southwest customers who called Consumers Services with
8 questions/complaints about Southwest's bill had difficulty understanding the itemized bill
9 and would have preferred a simplified bill. Following the shift to the simplified customer bill,
10 there was very little communication or concern from Southwest's customers to Consumer
11 Services regarding the change.

12
13 Southwest provided a copy of a bill insert informing customers of the shift to a new
14 simplified bill format, in response to a data request from Staff.

15
16 In considering the shift to a simplified bill, Staff's perspective is that there are fewer
17 questions/complaints and confusion about Southwest's bill since the move to a simplified
18 bill. Staff is supportive of the continued use of the current simplified bill, with the option for
19 individual customers to request an itemized bill. Staff does believe that Southwest should
20 communicate to customers on regular basis that the itemized bill is an option.

21
22 **Q. Please discuss the timing of the implementation of the simplified bill and the later**
23 **approval of revenue decoupling by the ACC.**

24 A. When Southwest implemented the simplified bill, Southwest's rate proceeding (Docket No.
25 10-0458) was in the early stages of being processed at the Commission. In two previous rate
26 cases Southwest had requested approval of revenue decoupling, only to have its request be

1 rejected by the Commission. The adoption of revenue decoupling in Docket No. 10-0458
2 was in doubt and in question until the moment when the Commission voted 3-2 to approve it
3 at the end of the rate case process. Staff does not see any particular connection between
4 when simplified bills were introduced and when decoupling was initially approved for
5 Southwest. Staff supported the shift to simplified bills as the default bill format at the time it
6 was done and continues to support it. To the best of Staff's knowledge, there was no effort
7 to mask the adoption of revenue decoupling by simplifying customer bills before revenue
8 decoupling was eventually adopted.
9

10 **Q. What is Staff's recommendation regarding this issue.**

11 A. Staff does not support Mr. Gayer's request that Southwest be required to switch to an
12 itemized bill for all Arizona customers as the default. If there was a significant expression of
13 interest in such a shift back to an itemized bill by Southwest's customer base in Arizona, Staff
14 would reconsider its position. Staff does recommend that Southwest, at least once in each
15 calendar year, include information in a bill insert advising customers of their option to request
16 an itemized bill.
17

18 *Fifth and Sixth Relief Requests – Southwest Should Make All WNA-Related Weather Data Publicly Available*

19 **Q. Please describe your understanding of Mr. Gayer's concerns regarding Southwest's**
20 **use of weather data.**

21 A. Mr. Gayer requests that Southwest be required to post the normal HDDs used in calculating
22 the WNA on Southwest's website. Mr. Gayer also asks that Southwest be required to use
23 actual HDDs in calculating the WNA that are publicly available from the National Weather
24 Service/NOAA.
25

1 **Q. Is it your understanding that Southwest uses National Weather Service/NOAA**
2 **weather data?**

3 A. Yes. In response to a Staff data request, Southwest indicated that all weather data used for
4 the WNA is from NOAA stations.

5
6 **Q. Why does Southwest use a vendor to get weather data for its WNA calculations?**

7 A. Southwest has indicated that because it makes the WNA calculations on a day to day basis,
8 the Company cannot rely on data being posted on-time on the NOAA website in time for
9 Southwest to use it. Thus the third party vendor assists Southwest in acquiring and
10 processing the weather data on a timely basis.

11
12 **Q. What is Staff's perspective on Mr. Gayer's requests for relief in regard to the weather**
13 **data?**

14 A. Staff believes that customers who wish to verify the calculation of their Southwest bill should
15 be able to do so and that Southwest should retain all weather data necessary to do so and to
16 make it available to customers in a timely and easy for the customer to understand fashion.
17 However, Staff does not support requiring Southwest to post the weather data on its website.
18 Staff believes that Southwest should indicate on its website that weather data is available to
19 customers who wish to calculate their bills. Staff is still in the process of reviewing the issue
20 of weather data and may have further comment in a later filing.

21

22 **CONCLUDING PERSPECTIVES**

23 **Q. Please provide Staff's overall perspective on Mr. Gayer's requests for relief in this**
24 **complaint.**

25 A. To this point, Staff has not seen evidence that customer bills have been miscalculated or that
26 Southwest has purposefully misled Mr. Gayer or other customers regarding calculation of the

1 WNA or simplification of customer bills. Rather, it appears that there has been confusion
2 regarding how calculations are made, how weather data has been used, when and why bills
3 were simplified, and other matters. Staff does believe that, inherent in having a revenue
4 decoupling mechanism such as Southwest has, the burden is on the Company to provide
5 information on a timely and simple as possible basis to customers who wish to know the
6 details of how their monthly bill is calculated.

7
8 **Q. Does Southwest have information on decoupling on its Arizona rates and regulation**
9 **page on its website, http://www.swgas.com/tariffs/arizona_rates_and_tariffs.php ?**

10 A. Yes.

11
12 **Q. Is the information on Southwest's Arizona rates and regulation page useful for**
13 **customers who wish to understand how the decoupling portion of their bill is**
14 **calculated?**

15 A. Not really. While there are several links on this page that discuss decoupling, the information
16 in these links seems more geared toward advocating for adoption of revenue decoupling than
17 toward explaining the now adopted revenue decoupling to its Arizona customers. For
18 example, one link is entitled "What is Decoupling and Why is it in the Southwest Gas
19 General Rate Case?" Regarding Southwest's WNA, there is little or no discussion of it in
20 these links.

21
22 **Q. Does Staff believe that Southwest should rework this page significantly to provide**
23 **resources for Arizona customers to understand how Southwest's adopted revenue**
24 **decoupling mechanism works?**

25 A. Yes.

26

1 **Q. Please give some examples of information Southwest could provide on this web page.**

2 A. Southwest could provide documents that explain how both the annual decoupling adjustor
3 and the WNA work. Southwest could provide a document walking through each step of the
4 decoupling related calculations and provide a sample bill calculation showing the steps it
5 undertakes to calculate the decoupling components of a customer's bill. For data, such as
6 weather data, that would not be available directly on Southwest's website, the web page could
7 indicate how customers could acquire this data. These are examples of information that
8 would be useful to Arizona customers seeking to understand the decoupling portion of their
9 Arizona bill.

10

11 **Q. What is Staff's recommendation in this regard?**

12 A. Staff recommends that Southwest be required to rework its Arizona rates and regulation page
13 of its website to provide additional content to help customers. One hundred twenty (120)
14 days from the date of the decision in this proceeding, Southwest would file a report in this
15 docket, indicating the changes it has made to its website to better inform Arizona customers
16 regarding revenue decoupling. Staff would then have 30 days to file a letter in this docket
17 indicating the extent to which Staff believes the reworked Arizona rates and regulation page
18 of Southwest's website provides the necessary information for Arizona customers to
19 understand revenue decoupling and how the calculations work.

20

21 **SUMMARY OF TESTIMONY AND RECOMMENDATIONS**

22 **Q. Please summarize your recommendations.**

23 A. Staff makes the following recommendations:

24 1. Staff recommends that within 60 days of the decision in this proceeding, Southwest
25 make a filing in this proceeding, indicating steps it will take to communicate more

1 clearly and quickly with customers who wish to understand how the details of the
2 decoupling components of their bills have been calculated.

3

4 2. Staff recommends that Southwest, at least once in each calendar year, include
5 information in a bill insert advising customers of their option to request an itemized
6 bill.

7

8 3. Staff recommends that Southwest be required to rework its Arizona rates and
9 regulation page of its website to provide additional content to help customers. One
10 hundred twenty (120) days from the date of the decision in this proceeding,
11 Southwest would file a report in this docket, indicating the changes it has made to its
12 website to better inform Arizona customers regarding revenue decoupling. Staff
13 would then have 30 days to file a letter in this docket indicating the extent to which
14 Staff believes the reworked Arizona rates and regulation page of Southwest's website
15 provides the necessary information for Arizona customers to understand revenue
16 decoupling and how the calculations work.

17

18 **Q. Does this conclude your direct testimony?**

19 **A. Yes, it does.**

Exhibit RGG-1

RESUME

ROBERT G. GRAY

Education

- B.A. Geography, University of Minnesota-Duluth (1988)
M.A. Geography, Arizona State University (1990) Thesis: *A Model for Optimizing the Federal Express Overnight Delivery Aircraft Network.*

Employment History

Arizona Corporation Commission, Utilities Division, Phoenix, Arizona: Executive Consultant III (November 2007 – present), Public Utility Analyst V (October 2001 – November 2007), Senior Economist (August 1997 – October 2001), Economist II (June 1991 - July 1997), Economist I (June 1990 - June 1991). Conduct economic and policy analyses on a variety of natural gas issues in Arizona, including gas procurement, rate design, interstate pipeline issues, revenue decoupling, energy conservation, low income issues, natural gas research and development funding, customer services issues, special contracts, various tariff matters, and other natural gas issues. Conduct economic and policy analyses on a variety of electricity issues in Arizona, power plant and transmission line siting cases, energy efficiency, renewable energy standards, rate design, time-of-use service, and low income issues. Prepare recommendations and present written and oral testimony before the Commission and organize workshops and other proceedings on various utility industry issues. Represent the ACC in natural gas proceedings at the Federal Energy Regulatory Commission, at the North American Energy Standards Board, and on the National Association of Regulatory Utility Commissioners' Staff Subcommittee on Gas, including serving as a past Vice-Chair and Chair of the NARUC Staff Subcommittee on Gas.

Testimony

- Resource Planning for Electric Utilities, (Docket No. 0000-90-088), Arizona Corporation Commission, 1990.
- Citizens Utilities Company, Electric Rate Case (Docket No. E-1032-92-073), Arizona Corporation Commission, 1993.
- Resource Planning for Electric Utilities, (Docket No. 0000-93-052), Arizona Corporation Commission, 1993.

Arizona Public Service Company, Rate Settlement (Docket No. E-1345-94-120), Arizona Corporation Commission, 1994.

U S West Communications, Rate Case (Docket No. E-1051-93-183), Arizona Corporation Commission, 1995.

Citizens Utilities Company, Electric Rate Case (Docket No. E-1032-95-433), Arizona Corporation Commission, 1996.

Resource Planning for Electric Utilities (Docket No. U-000-95-506), Arizona Corporation Commission, 1996.

Southwest Gas Corporation, Natural Gas Rate Case (Docket No. U-1551-96-596), Arizona Corporation Commission, 1997.

Black Mountain Gas Company - Northern States Power Company, Merger (Docket Nos. G-03493A-98-0017, G-01970A-98-0017), Arizona Corporation Commission, 1998.

Black Mountain Gas Company – Page Division Rate Case (Docket Nos. G-03493A-98-0695, G-03493A-98-0705), Arizona Corporation Commission, 1999.

Graham County Utilities Company Rate Case (Docket No. G-02527A-00-0378), Arizona Corporation Commission, 2000.

Black Mountain Gas Company – Cave Creek Division Rate Case (Docket No. G-03703A-00-0283), Arizona Corporation Commission, 2000.

Southwest Gas Corporation, Natural Gas Rate Case (Docket No. G-01551A-00-0309), Arizona Corporation Commission, 2000.

Black Mountain Gas Company – Page Division Rate Case (Docket Nos. G-03493A-01-0263), Arizona Corporation Commission, 2001.

Duncan Rural Services – Natural Gas Rate Case (Docket No. G-02528A-01-0561), Arizona Corporation Commission, 2001.

Toltec Generating Facility Application Before the Arizona Power Plant and Line Siting Committee (Docket No. L-00000Y-01-0112), September 2001.

Lap Paz Generating Facility Application Before the Arizona Power Plant and Line Siting Committee (Docket No. L-00000AA-01-0116), December 2001.

Bowie Generating Facility Application Before the Arizona Power Plant and Line Siting Committee (Docket No. L-00000BB-01-0118), December 2001.

Southwest Gas Corporation, Acquisition of Black Mountain Gas Company (Docket No. G-01551A-02-0425), Arizona Corporation Commission, 2002.

Wellton-Mohawk Generating Facility Application Before the Arizona Power Plant and Line Siting Committee (Docket No. L-00000Z-01-0114), February 2003.

Arizona Public Service Company, Rate Proceeding (Docket No. E-01345A-03-0437), Arizona Corporation Commission, 2004.

Graham County Utilities Company Rate Case (Docket No. G-02527A-04-0301), Arizona Corporation Commission, 2004.

Southwest Gas Corporation, Rate Proceeding (Docket No. G-01551A-04-0876), Arizona Corporation Commission, 2004.

Southern California Edison, Devers – Palo Verde 2 Transmission Line Application before the Arizona Power Plant and Line Siting Committee, (L-00000A-06-0295-00130), 2006.

Semstream Arizona Propane Acquisition of Energy West (Docket G-02696A-06-0515), Arizona Corporation Commission, 2006.

UNS Gas Inc., Rate Proceeding (Docket No. G-04204A-06-0463), Arizona Corporation Commission, 2007.

Semstream Arizona Propane Acquisition of Black Mountain Gas Company – Page Division (Docket G-03703A-06-0694), Arizona Corporation Commission, 2007.

Northern Arizona Energy, LLC, Northern Arizona Energy Project Application before the Arizona Power Plant and Line Siting Committee, (L-00000FF-07-0134-00133), 2007.

Arizona Public Service, Palo Verde Hub to North Gila 500 kV Transmission Lint Project Application before the Arizona Power Plant and Line Siting Committee, (L-00000D-07-0566-00135), 2007.

Southwest Gas Corporation, Rate Proceeding (Docket No. G-01551A-07-0504), Arizona Corporation Commission, 2008.

Arizona Solar One, LLC, Solana Generating Station and Gen-Tie Application before the Arizona Power Plant and Line Siting Committee, (L-00000GG-08-0407-00139 and L-00000GG-08-0408-00140), 2008.

Coolidge Power Corporation, Coolidge Power Project Application before the Arizona Power Plant and Line Siting Committee, (L-00000HH-08-0422-00141), 2008.

UNS Gas Inc., Rate Proceeding (Docket No. G-04204A-08-0571), Arizona Corporation Commission, 2009.

El Paso Natural Gas Company, Rate Proceeding (Docket No. RP08-426), Federal Energy Regulatory Commission, 2009.

Arizona Water/Global Water CC&N Extension/Acquisition Proceeding (Docket Nos. W-01445A-06-0199, etc.), Arizona Corporation Commission, 2009.

Graham County Utilities Company Rate Proceeding (Docket No. G-02527A-09-0088), Arizona Corporation Commission, 2009.

Southwest Gas Corporation Rate Proceeding (Docket No. G-01551A-10-0458), Arizona Corporation Commission, 2010.

UNS Gas Inc., Rate Proceeding (Docket No. G-04204A-11-0158), Arizona Corporation Commission, 2011.

Semstream Arizona Propane, LLC Rate Proceeding, (Docket No. G-20471A-11-0150), Arizona Corporation Commission, 2011.

El Paso Natural Gas Company, Rate Proceeding, (Docket No. RP10-1398), Federal Energy Regulatory Commission, 2011.

Graham County Utilities Company Rate Proceeding (Docket No. G-02527A-12-0321), Arizona Corporation Commission, 2013.

ACC Track and Record Renewable Energy Proceeding (Docket Nos. E-01345A-10-0394, E-01345A-12-0290, E-01933A-12-0296, and E-04204A-12-0297), Arizona Corporation Commission, 2013.

Johnson Utilities Application for Approval of the Sale and Transfer of Assets and Conditional Cancellation of its Certificate of Convenience and Necessity (Docket No. WS-02987-13-0477), Arizona Corporation Commission, 2014.

Publications

(with David Berry, Kim Clark, Lewis Gale, Barbara Keene, and Harry Sauthoff) Staff Report on Resource Planning. (Docket No. U-0000-90-088) Arizona Corporation Commission, 1990.

(with Prem Bahl) "Transmission Access Issues: Present and Future," October, 1991.

(with David Berry) Substitution of Photovoltaics for Line Extensions: Creating Consumer Choices. Arizona Corporation Commission, 1992.

(with Barbara Keene and Kim Clark) Report of the Task Force on the Feasibility of Implementing Sliding Scale Hookup Fees, December, 1992.

(with Mike Kuby) "The Hub and Network Design Problem With Stopovers and Feeders: The Case of Federal Express," Transportation Research A., Vol. 27A, 1993, pp. 1-12.

(with David Berry) Staff Guidelines on Photovoltaics Versus Line Extensions. Arizona Corporation Commission, January 28, 1993.

(with Ray Williamson, Robert Hammond, Frank Mancini, and James Arwood) The Solar Electric Option (Instead of Power Line Extension). A joint publication of the Arizona Corporation Commission and the Arizona Department of Commerce Energy Office, August, 1993.

(with David Berry, Kim Clark, Barbara Keene, Jesse Tsao, Ray Williamson, Randall Sable, Roni Washington, Wilfred Shand, and Prem Bahl) Staff Report on Resource Planning. (Docket No. U-0000-93-052) Arizona Corporation Commission, 1993.

Staff Report On Rural Local Calling Areas. (Docket No. E-1051-93-183) Arizona Corporation Commission, March, 1994.

(with David Berry, Kim Clark, Barbara Keene, Glenn Shippee, Julia Tsao, and Ray Williamson) Staff Report on Resource Planning. (Docket No. U-000-95-506) Arizona Corporation Commission, 1996.

(with Barbara Keene) "Customer Selection Issues," NRRI Quarterly Bulletin, Vol. 19, No. 1, Spring 1998, National Regulatory Research Institute.

Staff Report on Purchased Gas Adjustor Mechanisms, (Docket No. G-00000C-98-0568) Arizona Corporation Commission, October 19, 1998.

Staff Report on the Rolling Average PGA Mechanism, (Docket No. G-00000C-98-0568), Arizona Corporation Commission, September 6, 2000.

Staff Report on the Use of a Circuit-Breaker in Adjustor Mechanisms, Arizona Corporation Commission, September 3, 2003.

Staff Report on Southwest Gas Filing for Pre-Approval of Cost Recovery for Participation in the Kinder Morgan Silver Canyon Pipeline Project, (Docket No. G-01551A-04-0192), Arizona Corporation Commission, June 2, 2004.

Staff Report on Arizona Public Service Company Filing for Pre-Approval of Cost Recovery for Participation in the Kinder Morgan Silver Canyon Pipeline Project, (Docket No. E-01345A-04-0273), Arizona Corporation Commission, August 16, 2004.

Staff Report on Arizona Public Service Company Filing for Pre-Approval of Cost Recovery for Participation in the Transwestern Pipeline Phoenix Project, (Docket No. E-01345A-05-0895), Arizona Corporation Commission, March 2, 2006.

Staff Report on Southwest Gas Filing for Pre-Approval of Cost Recovery for Participation in the Transwestern Pipeline Phoenix Project, (Docket No. G-01551A-06-0107), Arizona Corporation Commission, May 16, 2006.

Staff Report on UNS Gas Filing for Pre-Approval of Cost Recovery for Participation in the Transwestern Pipeline Phoenix Project, (Docket No. G-04204A-06-0627), Arizona Corporation Commission, January 30, 2007.

Staff Review of UNS Electric 2008 Renewable Energy Standard Tariff and Implementation Plan, (Docket No. E-04204A-07-0593), Arizona Corporation Commission, March 25, 2008.

Staff Report on Semstream Arizona Propane, Payson Division Bankruptcy, Reorganization, and other issues, Arizona Corporation Commission, June 6, 2008.

Staff Review of UNS Electric 2009 Renewable Energy Standard Tariff and Implementation Plan, (Docket No. E-04204A-07-0593), Arizona Corporation Commission, November 26, 2008.

Staff Review of Tucson Electric Power 2009 Renewable Energy Standard Tariff and Implementation Plan, (Docket No. E-01933A-07-0594), Arizona Corporation Commission, November 26, 2008.

Staff Report for Arizona Water Company and Global Water Resources LLC's Consolidated Docket Addressing Numerous Requests for Extensions of Certificates of Convenience and Necessity

for Water and Wastewater Service as Well as the Transfer of Assets, (Docket No. W01445A-06-0199, etc.), Arizona Corporation Commission, May 10, 2009.

Staff Review of UNS Electric 2010 Renewable Energy Standard Tariff and Implementation Plan, (Docket No. E-04204A-09-0347), Arizona Corporation Commission, January 5, 2010.

Staff Review of Tucson Electric Power 2010 Renewable Energy Standard Tariff and Implementation Plan, (Docket No. E-01933A-09-0340), Arizona Corporation Commission, January 5, 2010.

Staff Review of UNS Electric 2011 Renewable Energy Standard Tariff and Implementation Plan, (Docket No. E-04204A-10-0265), Arizona Corporation Commission, November 8, 2010.

Staff Review of Tucson Electric Power 2011 Renewable Energy Standard Tariff and Implementation Plan, (Docket No. E-01933A-10-0266), Arizona Corporation Commission, November 9, 2010.

Staff Review of UNS Electric 2012 Renewable Energy Standard Tariff and Implementation Plan, (Docket No. E-04204A-11-0267), Arizona Corporation Commission, October 25, 2011.

Staff Review of Tucson Electric Power 2012 Renewable Energy Standard Tariff and Implementation Plan, (Docket No. E-01933A-11-0269), Arizona Corporation Commission, October 25, 2011.

Staff Review of UNS Electric 2013 Renewable Energy Standard Tariff and Implementation Plan, (Docket No. E-04204A-12-0297), Arizona Corporation Commission, October 18, 2012.

Staff Review of Tucson Electric Power 2013 Renewable Energy Standard Tariff and Implementation Plan, (Docket No. E-01933A-12-0296), Arizona Corporation Commission, October 18, 2012.

Staff Review of UNS Electric 2014 Renewable Energy Standard Tariff and Implementation Plan, (Docket No. E-04204A-13-0225), Arizona Corporation Commission, September 30, 2013.

Staff Review of Tucson Electric Power 2014 Renewable Energy Standard Tariff and Implementation Plan, (Docket No. E-01933A-13-0224), Arizona Corporation Commission, September 30, 2013.

Additional Training

1990	Seminars on Regulatory Economics
1993	PURTI course on Public Utilities and the Environment

1996	Center for Public Utilities Workshop on Gas Unbundling and Retail Competition
1997	NARUC 6 th Annual Natural Gas Conference
1998	Local Distribution Company Restructuring and Retail Access and Competition Conference
1998	NARUC 7 th Annual Natural Gas Conference
1999 – 2007, 2010, 2012	NARUC Summer Committee Meetings
2001	Center for Public Utilities Workshop on Risk Management in Gas Purchasing
2003-2008	NARUC Winter Committee Meetings
2004-2007	NARUC Annual Convention

Memberships

NARUC – Staff Subcommittee on Gas – member, 1998 - present
 NARUC – Staff Subcommittee on Gas – Vice-Chair - 2002 - 2004
 NARUC – Staff Subcommittee on Gas – Chair - 2005 - 2007
 Michigan State Institute for Public Utilities – NARUC Advisory Committee – 2005-2007
 NARUC – North American Energy Standards Board Advisory Council – 2006 - present
 NARUC – DOE LNG Partnership – 2003 - present