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May 12, 2010

Public Utility Commission
Attn: Filing Center
550 Capitol Street NE #215
PO Box 2148
Salem, OR 97308

Re: **In the Matter PacifiCorp, dba Pacific Power, 2011 Transition Adjustment Mechanism, Docket UE 216**

Dear Filing Center:

Enclosed please find the Reply Testimony and Exhibits of Sempra Energy Solutions, LLC. Pursuant to O.A.R. 860-013-0060, I am providing the Commission with an original and five copies of the testimony and exhibits, which will be electronically filed today.

Thank you for your assistance.

Sincerely,

A handwritten signature in blue ink that reads "Greg Adams".

Greg Adams
Attorney for Sempra
Energy Solutions, LLC

Enclosure

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on the 12th day of May, 2010, a true and correct copy of the within and foregoing **REPLY TESTIMONY AND EXHIBITS OF SEMPRA ENERGY SOLUTIONS, LLC** was served as follows:

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Signed


Nina M. Curtis

BEFORE THE
PUBLIC UTILITY COMMISSION OF OREGON
UE 216

IN THE MATTER OF PACIFICORP, DBA)
PACIFIC POWER, 2011 TRANSITION)
ADJUSTMENT MECHANISM)
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**Reply Testimony of Kevin C. Higgins
Sempra Energy Solutions LLC**

May 12, 2010

1 **Introduction**

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

3 A. Kevin C. Higgins, 215 South State Street, Suite 200, Salt Lake City, Utah,
4 84111.

5 **Q. By whom are you employed and in what capacity?**

6 A. I am a Principal in the firm of Energy Strategies, LLC. Energy Strategies
7 is a private consulting firm specializing in economic and policy analysis
8 applicable to energy production, transportation, and consumption.

9 **Q. On whose behalf are you testifying in this phase of the proceeding?**

10 A. My testimony is being sponsored by Sempra Energy Solutions LLC
11 (“SES”). SES is a retail energy supplier that serves commercial and industrial
12 end-use customers in 15 states, the District of Columbia, and Baja California,
13 Mexico. SES serves more than 15,000 retail customer sites nationwide, with an
14 aggregate load in excess of 4,500 MW. SES’s retail customers are located in the
15 service territories of 55 utilities. In Oregon, SES is currently serving in excess of
16 300 customer meters in Portland General Electric’s service territory and
17 approximately 20 customer meters in PacifiCorp’s territory.

18 **Q. Please describe your professional experience and qualifications.**

19 A. My academic background is in economics, and I have completed all
20 coursework and field examinations toward a Ph.D. in Economics at the University
21 of Utah. In addition, I have served on the adjunct faculties of both the University
22 of Utah and Westminster College, where I taught undergraduate and graduate
23 courses in economics. I joined Energy Strategies in 1995, where I assist private

1 and public sector clients in the areas of energy-related economic and policy
2 analysis, including evaluation of electric and gas utility rate matters.

3 Prior to joining Energy Strategies, I held policy positions in state and local
4 government. From 1983 to 1990, I was economist, then assistant director, for the
5 Utah Energy Office, where I helped develop and implement state energy policy.
6 From 1991 to 1994, I was chief of staff to the chairman of the Salt Lake County
7 Commission, where I was responsible for development and implementation of a
8 broad spectrum of public policy at the local government level.

9 **Q. Have you ever testified before this Commission?**

10 A. Yes. I have testified in several prior proceedings in Oregon, including the
11 two previous PacifiCorp Transition Adjustment Mechanism (“TAM”) cases, UE-
12 199 (2008) and UE-207 (2009). I have also participated in four PacifiCorp
13 general rate cases, UE-210 (2009), UE-179 (2006), UE-170 (2005), and UE-147
14 (2003). In addition, I have testified in two Portland General Electric (“PGE”)
15 general rate cases, UE-197 (2008) and UE-180 (2006), as well as in the PGE
16 restructuring proceeding, UE-115 (2001).

17 **Q. Have you participated in any workshop processes sponsored by this**
18 **Commission?**

19 A. Yes. In 2003, I was an active participant in the collaborative process
20 initiated by the Commission to examine direct access issues in Oregon, UM-1081.

21 **Q. Have you testified before utility regulatory commissions in other states?**

22 A. Yes. I have testified in approximately 130 proceedings on the subjects of
23 utility rates and regulatory policy before state utility regulators in Alaska,

1 Arizona, Arkansas, Georgia, Idaho, Illinois, Indiana, Kansas, Kentucky,
2 Michigan, Minnesota, Missouri, Montana, Nevada, New Mexico, New York,
3 Ohio, Oklahoma, Pennsylvania, South Carolina, Texas, Utah, Virginia,
4 Washington, West Virginia, and Wyoming. I have also prepared affidavits that
5 have been filed with the Federal Energy Regulatory Commission.

6 A more detailed description of my qualifications is contained in SES
7 Exhibit 101, attached to my direct testimony.

8

9 **Overview and Conclusions**

10 **Q. What is the purpose of your testimony in this proceeding?**

11 A. My testimony addresses the calculation of the Schedule 294 and 295
12 transition adjustments, including the treatment of line losses. I also offer a
13 recommendation regarding the billing information provided by PacifiCorp to
14 direct access customers.

15 **Q. What are the conclusions and recommendations in your testimony?**

16 A. I support the continued application of the modifications to the calculation
17 of Schedule 294 and 295 transition adjustments provided in the Stipulation
18 approved by the Commission in Docket No. UE-207. However, there is a
19 disparity between the line losses charged to an Oregon Electric Service Supplier
20 (“ESS”) in PacifiCorp’s Open Access Transmission Tariff (“OATT”) and the line
21 losses used in the calculation of the Schedule 294 and 295 transition adjustments.
22 It is essential that this disparity be rectified and the line losses applied on a
23 consistent basis. The current disparity is creating undue disadvantages and

1 advantages in the pricing of direct access service. I recommend that the
2 Commission direct PacifiCorp to update the line losses charged to Oregon ESS's
3 in the Company's OATT so that they are consistent with the line losses used in
4 determining the Schedule 294 and 295 transition adjustments.

5 Further, I recommend that the Schedule 294 and 295 transition adjustment
6 calculations be modified to provide for the inclusion of a credit for the resale of
7 25 MW of BPA transmission, corresponding to the amount of the load decrement
8 used in computing the transition adjustment.

9 In addition, I recommend that customers who switch to direct access
10 service be provided their bills in a format in which each component of each
11 charge is listed separately and identified by rate schedule number and unit charge,
12 using terminology that is consistent with the tariff. Standardizing a bill format of
13 this type will give direct access customers an opportunity to better comprehend
14 the new charges on their bills and to validate their accuracy.

15

16 **Calculation of the Transition Adjustment (Schedules 294 and 295)**

17 **Q. What is your understanding of the purpose of the transition adjustment?**

18 A. My understanding is that the purpose of the transition adjustment is to
19 provide the appropriate credit or charge for customers who choose direct access
20 service. The transition adjustment is applied either through Schedule 294 or
21 Schedule 295. The former is applied to customers who choose a one-year direct
22 access option, whereas the latter is applied to customers who choose a three-year
23 direct access option.

1 The logical premise behind the transition adjustment is to credit or charge
2 direct access customers the difference between PacifiCorp's net power cost (as
3 reflected in Schedule 201) and the estimated market value of the electricity that is
4 freed up when a customer chooses direct access service. This is calculated by
5 subtracting the former from the latter, after adjusting for line losses measured at
6 the point of retail delivery. If the result is a positive number, the difference is
7 applied as a credit to the direct access customer. If the result is a negative
8 number, the difference is applied as a charge to the direct access customer.

9 The current practice is to calculate the transition adjustment using
10 PacifiCorp's GRID model. According to PacifiCorp's tariff, the estimated market
11 value of the electricity that is freed up when a customer chooses direct access
12 service is determined by running two system simulations – one simulation with
13 PacifiCorp serving the direct access load and one simulation with the Company
14 not serving the direct access load. At the present time, these simulations are run
15 assuming direct access occurs in 25 MW decrements, which are shaped using the
16 load shape of the rate schedule being analyzed for purposes of determining its
17 Schedule 294 or 295 credit (charge). The difference between the two scenarios is
18 used to calculate the impact on PacifiCorp's total system, which is then used to
19 determine the Weighted Market Value of the energy freed-up due to direct access.
20 The Weighted Market Value of the energy is then compared to the customer's
21 price under Schedule 201 to determine the Schedule 294 or 295 credit (charge).

1 In each of the last two PacifiCorp TAM proceedings, there have been
2 refinements to the calculation of Schedules 294 and 295 that were included in
3 Stipulations approved by the Commission, most recently in Order No. 09-274.

4 **Q. What provision in the Stipulation approved in UE-207 applies to the**
5 **calculation of the Schedule 294 and 295 rates?**

6 A. In the previous TAM case, UE-207, Section 15 of the Stipulation
7 addresses the calculations of Schedule 294 and 295 rates. In particular, Section
8 15.c of the Stipulation provides that:

9 For purposes of calculating the transition adjustments in Schedules 294
10 and 295, losses will include primary and secondary line losses, as
11 applicable, in addition to the transmission losses already included in the
12 calculation.

13
14 The inclusion of primary and secondary line losses as required by this provision is
15 necessary to improve the accuracy of the line loss component in the calculation of
16 Schedules 294 and 295.

17 In addition, Section 15.a of the UE-207 Stipulation provides that the
18 calculation of Schedules 294 and 295 rates will be consistent with the
19 modifications in Section 15 of the UE-199 Stipulation approved by the
20 Commission in Order No. 08-543. This provision states:

21 15. Transition Adjustment: The Parties agree to modify the calculation of
22 the Transition Adjustment for direct access in two ways: (1) the Company
23 will relax the market cap limitations in the GRID model by 15MW at Mid-
24 Columbia and 10MW at COB to determine the value of the freed up
25 power; and (2) any remaining monthly thermal generation that is backed
26 down for assumed direct access load will be priced at the simple monthly
27 average of the COB price, the Mid-Columbia price, and the avoided cost
28 of thermal generation as determined by GRID. The monthly COB and
29 Mid-Columbia prices will be applied to the heavy load hours or light load
30 hours separately. The existing balancing account mechanisms will remain
31 in effect.

1

2 This provision provides an improved measurement of Weighted Market Value of
3 the energy freed-up due to direct access compared to prior measurements.

4 **Q. Has PacifiCorp continued to apply the provisions of Section 15 in the UE-207**
5 **Stipulation in performing the sample TAM calculations for Schedules 30-**
6 **Secondary and 48-Primary filed in this docket?**

7 A. Yes. PacifiCorp's calculation of sample TAM calculations for Schedules
8 30-Secondary and 48-Primary filed in this docket continues to apply the Section
9 15 provisions of the UE-207 Stipulation.

10 **Q. Do you support the continued application the Section 15 provisions from the**
11 **UE-207 Stipulation?**

12 A. Yes, I do. As I stated above, the Section 15 provisions improve the
13 measurement of the Weighted Market Value of the energy freed-up due to direct
14 access. Consequently, I support the continued application of the Section 15
15 provisions in this docket.

16 **Q. Do you have any comments on the line loss percentages used in the**
17 **calculation of the Schedule 294 and 295 transition adjustments?**

18 A. Yes. The line loss percentages used in the calculation of the Schedule 294
19 and 295 transition adjustments are:

20	Transmission Delivery Voltage	3.605%
21	Primary Delivery Voltage	5.771%
22	Secondary Delivery Voltage	9.180%.
23		

1 These line loss percentages are consistent with the percentages used in
2 Schedule 220 - Standard Offer Supply Service. They are also consistent with the
3 line losses used in PacifiCorp's current rate case, UE-217.

4 However, these line loss percentages are not consistent with the line losses
5 that PacifiCorp charges to an Electric Service Supplier ("ESS") for delivery to the
6 PacifiCorp system. Schedule 10 of PacifiCorp's Open Access Transmission
7 Tariff ("OATT") (7th Rev Volume No. 11), Original Sheet no. 300, provides that
8 any use of the PacifiCorp's transmission system shall be assessed Real Power
9 Losses in the following amounts:

10 Use of any portion of the Transmission System at a voltage of 46 kV or greater:	4.48%
11 Use of any portion of the Distribution System at a voltage of 34.5 kV or less:	<u>3.56%</u>
12 Use of a combination of PacifiCorp Transmission and Distribution System:	8.04%
13	

14 I have attached this schedule as SES Exhibit 102. Thus, an ESS is charged 8.04%
15 for losses (measured at input) for delivery to a primary voltage customer, but the
16 customer is credited only 5.771% (measured at retail delivery) for line losses in
17 the calculation of the transition adjustment. This disparity creates a material
18 pricing disadvantage for the ESS serving a primary voltage (or transmission
19 voltage) customer, which is the result of the inconsistent application of line loss
20 factors between the retail rate schedule and PacifiCorp's OATT. This disparity
21 also creates a small advantage to the ESS in the case of line losses applied to
22 secondary delivery. While one expects a small difference between line loss
23 percentages measured at retail delivery (e.g., transition adjustment calculation)
24 and at input (e.g., OATT charge to ESS's), it is clear that the disparity between
25 the line losses used in calculating the transition adjustment and the line losses

1 charged to ESS's in the PacifiCorp OATT is due to a fundamental difference in
2 the line loss calculation itself.

3 **Q. What is your recommendation to the Commission?**

4 A. It is essential that the line losses charged to Oregon ESS's in PacifiCorp's
5 OATT be the same as those used in the calculation of the transition adjustment
6 (after adjusting for the fact that the former is measured at input and the latter is
7 measured at retail delivery). The current disparity is creating undue
8 disadvantages and advantages in the pricing of direct access service. I
9 recommend that the Commission direct PacifiCorp to update the line losses
10 charged to Oregon ESS's in the Company's OATT so that they are consistent
11 with the line losses used in Schedule 220 and in determining the Schedule 294
12 and 295 transition adjustments.

13 **Q. Are there additional issues concerning the calculation of the Schedule 294**
14 **and 295 transition adjustments that you wish to address?**

15 A. Yes. While the calculation of the Weighted Market Value of "freed-up"
16 energy has been improved, there continues to be a structural impediment to the
17 pricing of direct access service associated with the need for an ESS to obtain
18 wheeling from Bonneville Power Administration ("BPA") to reach the PacifiCorp
19 service territory from the Mid-C trading hub. This impediment could be
20 reasonably mitigated if the calculation of the Schedule 294 and 295 transition
21 adjustments treated the 25 MW load decrement as "freeing up" 25 MW of
22 transmission import capacity from BPA, which can then be resold to an ESS to
23 reach PacifiCorp load. In this manner the transition adjustment would be adjusted

1 by the amount of this BPA transmission credit. A similar wheeling credit has
2 been included in the calculation of transition adjustments for the PGE service
3 territory for a number of years.

4 **Q. Has the issue of a BPA transmission credit been addressed previously by the**
5 **Commission with respect to the PacifiCorp TAM?**

6 A. Yes. In Order No. 04-516, issued in UM-1081, proposals by parties to
7 recognize a BPA transmission credit were not adopted by the Commission. At
8 that time (2004), PacifiCorp was contractually precluded from reselling its BPA
9 wheeling rights, and the Commission determined that not recognizing a BPA
10 transmission credit was consistent with the Company's anticipated operational
11 responses to direct access. [Order at 9-12.]

12 At the same time, however, the Commission left the door open to later
13 revisions, stating that:

14 We agree with parties that further revisions may be necessary to
15 implement an accurate and equitable transition adjustment in the long run.
16 We are hopeful, however, that interim transition adjustment revisions will
17 stimulate participation in direct access in PacifiCorp's service territory in
18 the short term and thereby inform the design of further improvements.
19 [Order at 1.]
20

21 **Q. Has participation in direct access in PacifiCorp's service territory been**
22 **stimulated as hoped for in the Order?**

23 A. Not to a significant extent. Participation has improved compared to the
24 complete absence of direct access activity that existed in 2004, but it is still quite
25 small relative to the participation levels in the PGE service territory. For
26 example, according to the Oregon Electric Industry Restructuring Status Report

1 (prepared by the Commission's Electric Rates and Planning section) dated
2 January 2010, only 0.7% of non-residential customer load in the PacifiCorp
3 service territory was participating in direct access service compared to 17.0%
4 participation in the PGE service territory. I have attached this Staff Report as
5 SES Exhibit 103.

6 **Q. Why is it appropriate to revisit the issue of a BPA transmission credit at this**
7 **time?**

8 A. The facts are different today than in 2004 with respect to PacifiCorp's
9 ability to resell BPA wheeling rights. In 2004, PacifiCorp was contractually
10 precluded from reselling its BPA wheeling rights; that is no longer the case.
11 PacifiCorp explained this in SES data request 15 in this docket, and I have
12 attached that response as SES Exhibit 104. PacifiCorp's ability to resell its BPA
13 wheeling rights now makes it reasonable to assume that an ESS can reach its
14 PacifiCorp customer load from Mid-C by purchasing transmission capacity from
15 PacifiCorp that is freed-up by direct access. Recognizing the value of this freed-
16 up transmission as a credit in the Schedule 294 and 295 transition adjustment
17 calculation is a reasonable means to address the continued impediments to direct
18 access service in the PacifiCorp service territory within the general framework of
19 the current TAM methodology. As I stated above, a similar credit is applied in
20 the PGE service territory.

21 **Q. What is your recommendation to the Commission on this issue?**

22 A. I recommend that the Schedule 294 and 295 transition adjustment
23 calculations be modified to provide for the inclusion of a credit for the resale of

1 BPA transmission that corresponds to the amount of the 25 MW load decrement
2 used in computing the transition adjustment.

3

4 **Billing Information Provided to Direct Access Customers**

5 **Q. What are your concerns regarding the billing information provided to direct**
6 **access customers by PacifiCorp?**

7 A. The typical bill provided by PacifiCorp in Oregon identifies line items for
8 various billing components but does not refer to the rate schedule numbers in the
9 tariff (e.g., Schedule 200). Nor does the customer bill necessarily break out a
10 multi-component charge (e.g., Schedule 748 Basic Charge) into its constituent
11 parts (e.g., customer charge and demand charge). For a customer that switches to
12 direct access service, the absence of specific references to the tariff on the bill,
13 combined with line item descriptions that do not necessarily match the
14 terminology used in the tariff, makes it very difficult to understand the customer's
15 new charges and to validate their accuracy. Upon switching to direct access
16 service, at least one of SES's customers spent many hours attempting to decipher
17 its PacifiCorp bill, an exercise that was made more difficult by the presence of
18 billing errors. Better cross references to the tariff on the bill and accurate
19 descriptions of the charges would have made this exercise less arduous.
20 Eventually, the customer, SES, and PacifiCorp worked out a bill presentation
21 format in which each component of each charge is listed separately and identified
22 by tariff rate schedule number and unit charge, significantly improving the quality
23 of the information presented on the customer's bill.

1 **Q. What is your recommendation to the Commission on this issue?**

2 A. I recommend that customers who switch to direct access service be
3 provided their bills in a format in which each component of each charge is listed
4 separately and identified by rate schedule number and unit charge, using
5 terminology that is consistent with the tariff. This change would enable
6 customers to independently reconcile their bills with the rates in the tariff without
7 ambiguity or guesswork. Standardizing a bill format of this type will give direct
8 access customers an opportunity to better comprehend the new charges on their
9 bills and to validate their accuracy.

10 **Q. Does this conclude your reply testimony?**

11 A. Yes, it does.

BEFORE THE
PUBLIC UTILITY COMMISSION OF OREGON
UE 216

IN THE MATTER OF PACIFICORP, DBA)
PACIFIC POWER, 2011 TRANSITION)
ADJUSTMENT MECHANISM)
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Sempra Energy Solutions LLC

Exhibit 101

May 12, 2010

KEVIN C. HIGGINS
Principal, Energy Strategies, L.L.C.
215 South State St., Suite 200, Salt Lake City, UT 84111

Vitae

PROFESSIONAL EXPERIENCE

Principal, Energy Strategies, L.L.C., Salt Lake City, Utah, January 2000 to present. Responsible for energy-related economic and policy analysis, regulatory intervention, and strategic negotiation on behalf of industrial, commercial, and public sector interests. Previously Senior Associate, February 1995 to December 1999.

Adjunct Instructor in Economics, Westminster College, Salt Lake City, Utah, September 1981 to May 1982; September 1987 to May 1995. Taught in the economics and M.B.A. programs. Awarded Adjunct Professor of the Year, Gore School of Business, 1990-91.

Chief of Staff to the Chairman, Salt Lake County Board of Commissioners, Salt Lake City, Utah, January 1991 to January 1995. Senior executive responsibility for all matters of county government, including formulation and execution of public policy, delivery of approximately 140 government services, budget adoption and fiscal management (over \$300 million), strategic planning, coordination with elected officials, and communication with consultants and media.

Assistant Director, Utah Energy Office, Utah Department of Natural Resources, Salt Lake City, Utah, August 1985 to January 1991. Directed the agency's resource development section, which provided energy policy analysis to the Governor, implemented state energy development policy, coordinated state energy data collection and dissemination, and managed energy technology demonstration programs. Position responsibilities included policy formulation and implementation, design and administration of energy technology demonstration programs, strategic management of the agency's interventions before the Utah Public Service Commission, budget preparation, and staff development. Supervised a staff of economists, engineers, and policy analysts, and served as lead economist on selected projects.

Utility Economist, Utah Energy Office, January 1985 to August 1985. Provided policy and economic analysis pertaining to energy conservation and resource development, with an emphasis on utility issues. Testified before the state Public Service Commission as an expert witness in cases related to the above.

Acting Assistant Director, Utah Energy Office, June 1984 to January 1985. Same responsibilities as Assistant Director identified above.

Research Economist, Utah Energy Office, October 1983 to June 1984. Provided economic analysis pertaining to renewable energy resource development and utility issues. Experience includes preparation of testimony, development of strategy, and appearance as an expert witness for the Energy Office before the Utah PSC.

Operations Research Assistant, Corporate Modeling and Operations Research Department, Utah Power and Light Company, Salt Lake City, Utah, May 1983 to September 1983. Primary area of responsibility: designing and conducting energy load forecasts.

Instructor in Economics, University of Utah, Salt Lake City, Utah, January 1982 to April 1983. Taught intermediate microeconomics, principles of macroeconomics, and economics as a social science.

Teacher, Vernon-Verona-Sherrill School District, Verona, New York, September 1976 to June 1978.

EDUCATION

Ph.D. Candidate, Economics, University of Utah (coursework and field exams completed, 1981).

Fields of Specialization: Public Finance, Urban and Regional Economics, Economic Development, International Economics, History of Economic Doctrines.

Bachelor of Science, Education, State University of New York at Plattsburgh, 1976 (cum laude).

Danish International Studies Program, University of Copenhagen, 1975.

SCHOLARSHIPS AND FELLOWSHIPS

University Research Fellow, University of Utah, Salt Lake City, Utah 1982 to 1983.

Research Fellow, Institute of Human Resources Management, University of Utah, 1980 to 1982.

Teaching Fellow, Economics Department, University of Utah, 1978 to 1980.

New York State Regents Scholar, 1972 to 1976.

EXPERT TESTIMONY

“In the Matter of the Application of Rocky Mountain Power for Alternative Cost Recovery for Major Plant Additions of the Ben Lomond to Terminal Transmission Line and the Dave Johnston Generation Unit 3 Emissions Control Measure,” **Utah** Public Service Commission, Docket No 1-035-13. Direct testimony submitted April 26, 2010.

“In the Matter of a Notice of Inquiry into Energy Efficiency,” **Arkansas** Public Service Commission, Docket No. 10-010-U. Direct testimony submitted March 23, 2010.

“In the Matter of the Application of Entergy Arkansas, Inc. for Approval of Changes in Rates for Retail Electric Service,” **Arkansas** Public Service Commission,” Docket No. 09-084-U. Direct testimony submitted February 26, 2010.

“In the Matter of the Application of Rocky Mountain Power for Approval of a General Rate Increase of Approximately \$70.9 Million per Year or 13.7 Percent,” **Wyoming** Public Service Commission, Docket No. 20000-352-ER-09. Direct testimony submitted February 16, 2010. Cross answer testimony submitted March 15, 2010. Direct settlement testimony submitted March 31, 2010. Cross examined April 23, 2010.

“Amended Petition of Puget Sound Energy, Inc., for an Order Authorizing the Use of the Proceeds from the Sale of Renewable Energy Credits and Carbon Financial Instruments,” **Washington** Utilities and Transportation Commission, Docket No. UE-070725. Response testimony submitted January 28, 2010.

“Application of Appalachian Power Company for a 2009 Statutory Review of Rates Pursuant to § 56.585.1 A of the Code of Virginia,” **Virginia** Corporation Commission, Case No. PUE-2009-00030. Direct testimony submitted December 28, 2009. Additional direct testimony submitted March 8, 2010. Cross examined April 1, 2010.

“In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Approval of a Market Rate Offer to Conduct a Competitive Bidding Process for Standard Service Offer Electric Generation Supply, Accounting Modifications with Reconciliation Mechanism and Tariffs for Generation Service,” Public Utilities Commission of **Ohio**, Case No. 09-906-EL-SSO. Direct testimony submitted December 4, 2009. Deposed December 10, 2009.

“2009 Puget Sound Energy General Rate Case,” **Washington** Utilities and Transportation Commission, Docket Nos. UE-090704 and UG-090705. Response testimony submitted November 17, 2009. Joint testimony in support of stipulation submitted January 8, 2010.

“In the Matter of the Application of Rocky Mountain Power for Approval of Its Proposed Energy Cost Adjustment Mechanism,” **Utah** Public Service Commission, Docket No. 09-035-15. Direct testimony submitted November 16, 2009. Surrebuttal testimony submitted January 5, 2010. Cross examined January 12, 2010.

“In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of Its Proposed Electric Service Schedules and Electric Service Regulations,” **Utah** Public Service Commission, Docket No. 09-035-23. Direct testimony submitted October 8, 2009. Rebuttal testimony submitted November 12, 2009. Surrebuttal testimony submitted November 30, 2009. Cross examined December 15-16, 2009.

“Re: The Tariff Sheets Filed by Public Service Company of Colorado with Advice Letter No. 1535 – Electric,” **Colorado** Public Utilities Commission, Docket No. 09AL-299E. Answer testimony submitted October 2, 2009. Surrebuttal testimony submitted December 18, 2009.

“In the Matter of the Applications of Westar Energy, Inc., and Kansas Gas and Electric Company for Approval to Make Certain Changes in their Charges for Electric Service,” **Kansas** Corporation Commission, Docket No. 09-WSEE-925-RTS. Direct testimony submitted September 30, 2009. Cross Answer testimony submitted October 16, 2009.

“Central Illinois Light Company d/b/a AmerenCILCO Proposed General Increase in Electric Delivery Service Rates; Central Illinois Public Service Company d/b/a AmerenCIPS Proposed General Increase in Electric Delivery Service Rates; Illinois Power Company d/b/a/ AmerenIP Proposed General Increase in Electric Delivery Service Rates; Central Illinois Light Company d/b/a AmerenCILCO Proposed General Increase in Gas Delivery Service Rates; Central Illinois Public Service Company d/b/a AmerenCIPS Proposed General Increase in Gas Delivery Service Rates; Illinois Power Company d/b/a/ AmerenIP Proposed General Increase in Gas Delivery Service Rates, **Illinois** Commerce Commission, Docket Nos. 09-0306, 09-0307, 09-0308, 09-0309, 09-0310, and 09-0311. Direct testimony submitted September 28, 2009. Rebuttal testimony submitted November 20, 2009.

“In the Matter of the Complaint of Nucor Steel-Indiana, a Division of Nucor Corporation against Duke Energy Indiana, Inc. for Determination of Reasonable and Just Charges and Conditions for Electric Service and Request for Expedited Adjudication,” **Indiana** Utility Regulatory Commission, Cause No. 43754. Direct testimony submitted September 18, 2009. Rebuttal testimony submitted December 3, 2009. Testimony withdrawn pursuant to settlement agreement.

“In the Matter of PacifiCorp’s Filing of Revised Tariff Schedules for Electric Service in Oregon,” Public Utility Commission of **Oregon**, Docket No. UE-210. Reply testimony submitted July 24, 2009. Joint testimony in support of stipulation submitted September 25, 2009.

“In The Matter of the Application of Rocky Mountain Power to Establish an Avoided Cost Methodology for Customers That Do Not Qualify for Tariff Schedule 37 – Avoided Cost Purchases from Qualifying Facilities,” **Wyoming** Public Service Commission, Docket No. 20000-342-EA-09. Direct testimony submitted July 21, 2009. Cross examined September 1, 2009.

“In the Matter of PacifiCorp, dba Pacific Power, 2010 Transition Adjustment Mechanism,” Public Utility Commission of **Oregon**, Docket No. UE-207. Reply testimony submitted July 14, 2009. Joint testimony in support of stipulation submitted September 25, 2009.

“In The Matter of the Application of The Detroit Edison Company for Authority to Increase Its Rates, Amend Its Rate Schedules and Rules Governing the Distribution and Supply of Electric Energy,” **Michigan** Public Service Commission, Case No. U-15768. Direct testimony submitted July 9, 2009. Rebuttal testimony submitted July 30, 2009.

“In the Matter of the Investigation of Westar Energy, Inc., and Kansas Gas and Electric Company to Consider the Issue of Rate Consolidation and Resulting Rate Design,” **Kansas** Corporation Commission,” Docket No. 09-WSEE-641-GIE. Direct testimony submitted June 26, 2009. Cross examined August 17, 2009.

“Illinois Commerce Commission on Its Own Motion vs Commonwealth Edison Company, Investigation of Rate Design Pursuant to Section 9-250 of the Public Utilities Act,” **Illinois** Commerce Commission, Docket No. 08-0532. Direct testimony submitted May 22, 2009.

“In the Matter of the Application of Duke Energy Kentucky, Inc. for Approval of Energy Efficiency Plan, Including an Energy Efficiency Rider and Portfolio of Energy Efficiency Programs,” **Kentucky** Public Service Commission, Case No. 2008-00495. Direct testimony submitted May 11, 2009.

“In the Matter of the Application by Nevada Power Company d/b/a NV Energy, filed Pursuant to NRS§704.110(3) and NRS §704.110(4) for Authority to Increase Its Annual Revenue Requirement for General Rates Charged to All Classes of Customers, Begin to Recover the Costs of Acquiring the Bighorn Power Plant, Constructing the Clark Peak, Environmental Retrofits and Other Generating, Transmission and Distribution Plant Additions, to Reflect Changes in Cost of Service and for Relief Properly Related Thereto, Public Utilities Commission of **Nevada**, Docket No. 08-12002. Direct testimony submitted April 14, 2009 (revenue requirement) and April 21, 2009 (cost of service/rate design). Cross examined May 6, 2009.

“Verified Petition of Duke Energy Indiana, Inc. Requesting the Indiana Utility Regulatory Commission to Approve an Alternative Regulatory Plan Pursuant to the Ind. Code 8-1-2.5, *Et Seq.*, for the Implementation of an Electric Distribution System “SmartGrid” and Advanced Metering Infrastructure, Distribution Automation Investments, and a Distribution Renewable Generation Demonstration Project and Associated Accounting and Rate Recovery Mechanisms,

Including a Ratemaking Proposal to Update Distribution Rates Annually and a “Lost Revenue” Recovery Mechanism, in Accordance with Ind. Code 8-1-2-42(a) and 8-1-2.5-1 *Et Seq.* and Preliminary Approval of the Estimated Costs and Scheduled Deployment of the Company’s SmartGrid Initiative,” **Indiana** Utility Regulatory Commission, Cause No. 43501. Direct testimony submitted February 27, 2009.

“In The Matter of the Application of Duke Energy Ohio for an Increase in Electric Distribution Rates,” Public Utilities Commission of **Ohio**, Case No. 08-709-EL-AIR; “In the Matter of the Application of Duke Energy Ohio for Tariff Approval,” Case No. 08-710-EL-ATA; “In the Matter of the Application of Duke Energy Ohio for Approval to Change Accounting Methods,” Case No. 08-711-EL-AAM. Direct testimony submitted February 26, 2009.

“In The Matter of the Amended Application of Rocky Mountain Power for Approval of a General Rate Increase of Approximately \$28.8 Million per Year (6.1 Percent Overall Average Increase)”, **Wyoming** Public Service Commission, Docket No. 20000-333-ER-08. Direct testimony submitted January 30, 2009. Summary of cross answer testimony submitted February 27, 2009. Settlement testimony submitted March 13, 2009. Cross examined March 24, 2009.

“In the Matter of the Application of Dayton Power and Light Company for Approval of Its Electric Security Plan,” Public Utilities Commission of **Ohio**, Case No. 08-1094-EL-SSO; “In the Matter of the Application of Dayton Power and Light Company for Approval of Revised Tariffs, Case No. 08-1095-EL-ATA; “In the Matter of the Application of Dayton Power and Light Company for Approval of Certain Accounting Authority Pursuant to Ohio Rev. Code §4905.13,” Case No. 08-1096-EL-AAM; In the Matter of the Application of Dayton Power and Light Company for Approval of Its Amended Corporate Separation Plan, Case No. 08-1097-EL-UNC. Direct testimony submitted January 26, 2009. Deposed February 6, 2009. Testimony withdrawn pursuant to stipulation filed February 24, 2009.

“Application of Oncor Electric Delivery Company LLC for Authority to Change Rates,” Public Utility Commission of **Texas**, SOAH Docket No. 473-08-3681, PUC Docket No. 35717. Direct testimony submitted November 26, 2008. Cross examined February 3, 2009.

“In the Matter of the Application of Columbus Southern Power Company for Approval of Its Electric Security Plan; An Amendment to Its Corporate Separation Plan; and the Sale of Certain Generating Assets”, Public Utilities Commission of **Ohio**, Case No. 08-917-EL-SSO; “In the Matter of the Application of Ohio Power Company for Approval of Its Electric Security Plan; and an Amendment to Its Corporate Separation Plan,” Case No. 08-918-EL-SSO. Direct testimony submitted October 31, 2008. Cross examined November 25, 2008.

“Application of Louisville Gas and Electric Company for an Adjustment of Its Electric and Gas Base Rates,” **Kentucky** Public Service Commission, Case No. 2008-00252. Direct testimony submitted October 28, 2008.

“Application of Kentucky Utilities Company for an Adjustment of Base Rates,” **Kentucky** Public Service Commission, Case No. 2008-00251. Direct testimony submitted October 28, 2008.

“In the Matter of the Application of Idaho Power Company for Authority to Increase its Rates and Charges for Electric Service,” **Idaho** Public Utilities Commission, Case No. IPC-E-08-10. Direct testimony submitted October 24, 2008. Rebuttal testimony submitted December 3, 2008. Cross examined December 19, 2008.

“In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations,” **Utah** Public Service Commission, Docket No. 08-035-38. Direct testimony submitted October 7, 2008 (test period) and February 12, 2009 (revenue requirement). Cross examined October 28, 2008 (test period).

“In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Authority to Establish a Standard Service Offer Pursuant to R.C. § 4928.143 in the Form of an Electric Security Plan,” Public Utility Commission of **Ohio**, Case No. 08-935-EL-SSO. Direct testimony submitted September 29, 2008. Deposed October 13, 2008. Cross examined October 21, 2008.

“In the Matter of the Application of Westar Energy, Inc. and Kansas Gas and Electric Company for Approval to Make Certain Changes In Their Charges for Electric Service,” State Corporation Commission of **Kansas**, Docket No. 08-WSEE-1041-RTS. Direct testimony submitted September 29, 2008. Cross Answer testimony submitted October 8, 2008.

“In the Matter of Appalachian Power Company’s Application for Increase in Electric Rates,” **Virginia** State Corporation Commission, Case No. PUE-2008-00046. Direct testimony submitted September 26, 2008.

“In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Approval of a Market Rate Offer to Conduct a Competitive Bidding Process for Standard Service Offer Electric Generation Supply, Accounting Modifications with Reconciliation Mechanism and Tariffs for Generation Service,” Public Utility Commission of **Ohio**, Case No. 08-936-EL-SSO. Direct testimony submitted September 9, 2008. Deposed September 16, 2008.

“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,” **Arizona** Corporation Commission, Docket No. E-01345A-08-0172. Direct testimony submitted August 29, 2008 (interim rates), December 19, 2008 (revenue requirement), January 9, 2009 (cost of service, rate design), and July 1, 2009 (settlement

agreement). Reply testimony submitted August 6, 2009 (settlement agreement). Cross examined September 16, 2008 (interim rates) and August 20, 2009 (settlement agreement).

“Verified Joint Petition of Duke Energy Indiana, Inc., Indianapolis Power & Light Company, Northern Indiana Public Service Company and Vectren Energy Delivery of Indiana, Inc. for Approval, if and to the Extent Required, of Certain Changes in Operations That Are Likely To Result from the Midwest Independent System Operator, Inc.’s Implementation of Revisions to Its Open Access Transmission and Energy Markets Tariff to Establish a Co-Optimized, Competitive Market for Energy and Ancillary Services Market; and for Timely Recovery of Costs Associated with Joint Petitioners’ Participation in Such Ancillary Services Market,” **Indiana** Utility Regulatory Commission, Cause No. 43426. Direct testimony submitted August 6, 2008. Direct testimony in opposition to Settlement Agreement submitted November 12, 2008. Testimony withdrawn pursuant to stipulation.

“In The Matter of the Application of The Detroit Edison Company for Authority to Increase Its Rates, Amend Its Rate Schedules and Rules Governing the Distribution and Supply of Electric Energy, and for Miscellaneous Accounting Authority,” **Michigan** Public Service Commission, Case No. U-15244. Direct testimony submitted July 15, 2008. Rebuttal testimony submitted August 8, 2008.

“Portland General Electric General Rate Case Filing,” Public Utility Commission of **Oregon**, Docket No. UE-197. Direct testimony submitted July 9, 2008. Surrebuttal testimony submitted September 15, 2008.

“In the Matter of PacifiCorp, dba Pacific Power, 2009 Transition Adjustment Mechanism, Schedule 200, Cost-Based Supply Service,” Public Utility Commission of **Oregon**, Docket No. UE-199. Reply testimony submitted June 23, 2008. Joint testimony in support of stipulation submitted September 4, 2008.

“2008 Puget Sound Energy General Rate Case,” **Washington** Utilities and Transportation Commission, Docket Nos. UE-072300 and UG-072301. Response testimony submitted May 30, 2008. Cross-Answer testimony submitted July 3, 2008. Joint testimony in support of partial stipulations submitted July 3, 2008 (gas rate spread/rate design), August 12, 2008 (electric rate spread/rate design), and August 28, 2008 (revenue requirements). Cross examined September 3, 2008.

“Verified Petition of Duke Energy Indiana, Inc. Requesting the Indiana Utility Regulatory Commission to Approve an Alternative Regulatory Plan Pursuant to the Ind. Code 8-1-2.5, Et Seq., for the Offering of Energy Efficiency Conservation, Demand Response, and Demand-Side Management Programs and Associated Rate Treatment Including Incentives Pursuant to a Revised Standard Contract Rider No. 66 in Accordance with Ind. Code 8-1-2.5-1Et Seq. and 8-1-2-42(a); Authority to Defer Program Costs Associated with Its Energy Efficiency Portfolio of Programs; Authority to Implement New and Enhanced Energy Efficiency Programs in Its Energy Efficiency Portfolio of Programs; and Approval of a Modification of the Fuel Adjustment Clause

Earnings and Expense Tests,” **Indiana** Utility Regulatory Commission, Cause No. 43374. Direct testimony submitted May 21, 2008. Testimony withdrawn pursuant to stipulation.

“Cinergy Corp., Duke Energy Ohio, Inc., Cinergy Power Investments, Inc., Generating Facilities LLCs,” **Federal Energy Regulatory Commission**, Docket No. EC-08-78-000. Affidavit filed May 14, 2008.

“Application of Entergy Gulf States, Inc. for Authority to Change Rates and to Reconcile Fuel Costs, Public Utility Commission of **Texas**, Docket No. 34800 [SOAH Docket No. 473-08-0334]. Direct testimony submitted April 11, 2008. Testimony withdrawn pursuant to stipulation.

“Central Illinois Light Company d/b/a AmerenCILCO Proposed General Increase in Electric Delivery Service Rates, Central Illinois Public Service Company d/b/a AmerenCIPS Proposed General Increase in Electric Delivery Service Rates, Illinois Power Company d/b/a/ AmerenIP Proposed General Increase in Electric Delivery Service Rates, Central Illinois Light Company d/b/a AmerenCILCO, Proposed General Increase in Gas Delivery Service Rates, Central Illinois Public Service Company d/b/a AmerenCIPS Proposed General Increase in Gas Delivery Service Rates, Illinois Power Company d/b/a/ AmerenIP Proposed General Increase in Gas Delivery Service Rates,” **Illinois** Commerce Commission, Docket Nos. 07-0585, 07-0586, 07-0587, 07-0588, 07-0589, 07-0590. Direct testimony submitted March 14, 2008. Rebuttal testimony submitted April 8, 2008.

“In the Matter of the Application of Public Service Company of Colorado for Authority to Implement an Enhanced Demand Side Management Cost Adjustment Mechanism to Include Current Recovery and Incentives,” **Colorado** Public Utilities Commission, Docket No. 07A-420E. Answer testimony submitted March 10, 2008. Cross examined April 25, 2008.

“An Investigation of the Energy and Regulatory Issues in Section 50 of Kentucky’s 2007 Energy Act,” **Kentucky** Public Service Commission, Administrative Case No. 2007-00477. Direct testimony submitted February 29, 2008. Supplemental direct testimony submitted April 1, 2008. Cross examined April 30, 2008.

“In the Matter of the Application of Tucson Electric Power Company for the Establishment of Just and Reasonable Rates and Charges Designed to Realize a Reasonable Rate of Return on the Fair Value of Its Operations throughout the State of Arizona,” **Arizona** Corporation Commission, Docket No. E-01933A-07-0402. Direct testimony submitted February 29, 2008 (revenue requirement), March 14, 2008 (rate design), and June 12, 2008 (settlement agreement). Cross examined July 14, 2008.

“Commonwealth Edison Company Proposed General Increase in Electric Rates,” **Illinois** Commerce Commission, Docket No. 07-0566. Direct testimony submitted February 11, 2008. Rebuttal testimony submitted April 8, 2008.

“In the Matter of the Application of Questar Gas Company to File a General Rate Case,” **Utah** Public Service Commission, Docket No. 07-057-13. Direct testimony submitted January 28, 2008 (test period), March 31, 2008 (rate of return), April 21, 2008 (revenue requirement), and August 18, 2008 (cost of service, rate spread, rate design). Rebuttal testimony submitted September 22, 2008 (cost of service, rate spread, rate design). Surrebuttal testimony submitted May 12, 2008 (rate of return) and October 7, 2008 (cost of service, rate spread, rate design). Cross examined February 8, 2008 (test period), May 21, 2008 (rate of return), and October 15, 2008 (cost of service, rate spread, rate design).

“In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations, Consisting of a General Rate Increase of Approximately \$161.2 Million Per Year, and for Approval of a New Large Load Surcharge,” **Utah** Public Service Commission, Docket No. 07-035-93. Direct testimony submitted January 25, 2008 (test period), April 7, 2008 (revenue requirement), and July 21, 2008 (cost of service, rate design). Rebuttal testimony submitted September 3, 2008 (cost of service, rate design). Surrebuttal testimony submitted May 23, 2008 (revenue requirement) and September 24, 2008 (cost of service, rate design). Cross examined February 7, 2008 (test period).

“In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company for Authority to Increase Rates for Distribution Service, Modify Certain Accounting Practices and for Tariff Approvals,” Public Utilities Commission of **Ohio**, Case Nos. 07-551-EL-AIR, 07-552-EL-ATA, 07-553-EL-AAM, and 07-554-EL-UNC. Direct testimony submitted January 10, 2008.

“In the Matter of the Application of Rocky Mountain Power for Authority to Increase Its Retail Electric Utility Service Rates in Wyoming, Consisting of a General Rate Increase of Approximately \$36.1 Million per Year, and for Approval of a New Renewable Resource Mechanism and Marginal Cost Pricing Tariff,” **Wyoming** Public Service Commission, Docket No. 20000-277-ER-07. Direct testimony submitted January 7, 2008. Cross examined March 6, 2008.

“In the Matter of the Application of Idaho Power Company for Authority to Increase Its Rates and Charges for Electric Service to Electric Customers in the State of Idaho,” **Idaho** Public Utilities Commission, Case No. IPC-E-07-8. Direct testimony submitted December 10, 2007. Cross examined January 23, 2008.

“In The Matter of the Application of Consumers Energy Company for Authority to Increase Its Rates for the Generation and Distribution Of Electricity and Other Relief,” **Michigan** Public Service Commission, Case No. U-15245. Direct testimony submitted November 6, 2007. Rebuttal testimony submitted November 20, 2007.

“In the Matter of Montana-Dakota Utilities Co., Application for Authority to Establish Increased Rates for Electric Service,” **Montana** Public Service Commission, Docket No. D2007.7.79. Direct testimony submitted October 24, 2007.

“In the Matter of the Application of Public Service Company of New Mexico for Revision of its Retail Electric Rates Pursuant to Advice Notice No. 334,” **New Mexico** Public Regulation Commission, Case No. 07-0077-UT. Direct testimony submitted October 22, 2007. Rebuttal testimony submitted November 19, 2007. Cross examined December 12, 2007.

“In The Matter of Georgia Power Company’s 2007 Rate Case,” **Georgia** Public Service Commission, Docket No. 25060-U. Direct testimony submitted October 22, 2007. Cross examined November 7, 2007.

“In the Matter of the Application of Rocky Mountain Power for an Accounting Order to Defer the Costs Related to the MidAmerican Energy Holdings Company Transaction,” **Utah** Public Service Commission, Docket No. 07-035-04; “In the Matter of the Application of Rocky Mountain Power, a Division of PacifiCorp, for a Deferred Accounting Order To Defer the Costs of Loans Made to Grid West, the Regional Transmission Organization,” Docket No. 06-035-163; “In the Matter of the Application of Rocky Mountain Power for an Accounting Order for Costs related to the Flooding of the Powerdale Hydro Facility,” Docket No. 07-035-14. Direct testimony submitted September 10, 2007. Surrebuttal testimony submitted October 22, 2007. Cross examined October 30, 2007.

“In the Matter of General Adjustment of Electric Rates of East Kentucky Power Cooperative, Inc.,” **Kentucky** Public Service Commission, Case No. 2006-00472. Direct testimony submitted July 6, 2007. Supplemental direct testimony submitted March 18, 2008.

“In the Matter of the Application of Sempra Energy Solutions for a Certificate of Convenience and Necessity for Competitive Retail Electric Service,” **Arizona** Corporation Commission, Docket No. E-03964A-06-0168. Direct testimony submitted July 3, 2007. Rebuttal testimony submitted January 17, 2008 and February 7, 2007.

“Application of Public Service Company of Oklahoma for a Determination that Additional Electric Generating Capacity Will Be Used and Useful,” **Oklahoma** Corporation Commission, Cause No. PUD 200500516; “Application of Public Service Company of Oklahoma for a Determination that Additional Baseload Electric Generating Capacity Will Be Used and Useful,” Cause No. PUD 200600030; “In the Matter of the Application of Oklahoma Gas and Electric Company for an Order Granting Pre-Approval to Construct Red Rock Generating Facility and Authorizing a Recovery Rider,” Cause No. PUD200700012. Responsive testimony submitted May 21, 2007. Cross examined July 26, 2007.

“Application of Nevada Power Company for Authority to Increase Its Annual Revenue Requirement for General Rates Charged to All Classes of Electric Customers and for Relief

Properly Related Thereto,” Public Utilities Commission of **Nevada**, Docket No. 06-11022. Direct testimony submitted March 14, 2007 (Phase III – revenue requirements) and March 19, 2007 (Phase IV – rate design). Cross examined April 10, 2007 (Phase III – revenue requirements) and April 16, 2007 (Phase IV – rate design).

“In the Matter of the Application of Entergy Arkansas, Inc. for Approval of Changes in Rates for Retail Electric Service,” **Arkansas** Public Service Commission, Docket No. 06-101-U. Direct testimony submitted February 5, 2007. Surrebuttal testimony submitted March 26, 2007.

“Monongahela Power Company and The Potomac Edison Company, both d/b/a Allegheny Power – Rule 42T Application to Increase Electric Rates and Charges,” Public Service Commission of **West Virginia**, Case No. 06-0960-E-42T; “Monongahela Power Company and The Potomac Edison Company, both d/b/a Allegheny Power – Information Required for Change of Depreciation Rates Pursuant to Rule 20,” Case No. 06-1426-E-D. Direct and rebuttal testimony submitted January 22, 2007.

“In the Matter of the Tariffs of Aquila, Inc., d/b/a Aquila Networks-MPS and Aquila Networks-L&P Increasing Electric Rates for the Services Provided to Customers in the Aquila Networks-MPS and Aquila Networks-L&P Missouri Service Areas,” **Missouri** Public Service Commission, Case No. ER-2007-0004. Direct testimony submitted January 18, 2007 (revenue requirements) and January 25, 2007 (revenue apportionment). Supplemental direct testimony submitted February 27, 2007.

“In the Matter of the Filing by Tucson Electric Power Company to Amend Decision No. 62103, **Arizona** Corporation Commission, Docket No. E-01933A-05-0650. Direct testimony submitted January 8, 2007. Surrebuttal testimony filed February 8, 2007. Cross examined March 8, 2007.

“In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company’s Missouri Service Area,” **Missouri** Public Service Commission, Case No. ER-2007-0002. Direct testimony submitted December 15, 2006 (revenue requirements) and December 29, 2006 (fuel adjustment clause/cost-of-service/rate design). Rebuttal testimony submitted February 5, 2007 (cost-of-service). Surrebuttal testimony submitted February 27, 2007. Cross examined March 21, 2007.

“In the Matter of Application of The Union Light, Heat and Power Company d/b/a Duke Energy Kentucky, Inc. for an Adjustment of Electric Rates,” **Kentucky** Public Service Commission, Case No. 2006-00172. Direct testimony submitted September 13, 2006.

“In the Matter of Appalachian Power Company’s Application for Increase in Electric Rates,” **Virginia** State Corporation Commission, Case No. PUE-2006-00065. Direct testimony submitted September 1, 2006. Cross examined December 7, 2006.

“In the Matter of the Application of Arizona Public Service Company for a Hearing to Determine the Fair Value of the Utility Property 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, **Arizona** Corporation Commission,” Docket No. E-01345A-05-0816. Direct testimony submitted August 18, 2006 (revenue requirements) and September 1, 2006 (cost-of-service/rate design). Surrebuttal testimony submitted September 27, 2006. Cross examined November 7, 2006.

“Re: The Tariff Sheets Filed by Public Service Company of Colorado with Advice Letter No 1454 – Electric,” **Colorado** Public Utilities Commission, Docket No. 06S-234EG. Answer testimony submitted August 18, 2006.

“Portland General Electric General Rate Case Filing,” Public Utility Commission of **Oregon**, Docket No. UE-180. Direct testimony submitted August 9, 2006. Joint testimony regarding stipulation submitted August 22, 2006.

“2006 Puget Sound Energy General Rate Case,” **Washington** Utilities and Transportation Commission, Docket Nos. UE-060266 and UG-060267. Response testimony submitted July 19, 2006. Joint testimony regarding stipulation submitted August 23, 2006.

“In the Matter of PacifiCorp, dba Pacific Power & Light Company, Request for a General Rate Increase in the Company’s Oregon Annual Revenues,” Public Utility Commission of **Oregon**, Docket No. UE-179. Direct testimony submitted July 12, 2006. Joint testimony regarding stipulation submitted August 21, 2006.

“Petition of Metropolitan Edison Company for Approval of a Rate Transition Plan,” **Pennsylvania** Public Utilities Commission, Docket Nos. P-00062213 and R-00061366; “Petition of Pennsylvania Electric Company for Approval of a Rate Transition Plan,” Docket Nos. P-00062214 and R-00061367; Merger Savings Remand Proceeding, Docket Nos. A-110300F0095 and A-110400F0040. Direct testimony submitted July 10, 2006. Rebuttal testimony submitted August 8, 2006. Surrebuttal testimony submitted August 18, 2006. Cross examined August 30, 2006.

“In the Matter of the Application of PacifiCorp for approval of its Proposed Electric Rate Schedules & Electric Service Regulations,” **Utah** Public Service Commission, Docket No. 06-035-21. Direct testimony submitted June 9, 2006 (Test Period). Surrebuttal testimony submitted July 14, 2006.

“Joint Application of Questar Gas Company, the Division of Public Utilities, and Utah Clean Energy for the Approval of the Conservation Enabling Tariff Adjustment Option and Accounting Orders,” **Utah** Public Service Commission, Docket No. 05-057-T01. Direct testimony submitted May 15, 2006. Rebuttal testimony submitted August 8, 2007. Cross examined September 19, 2007.

“Central Illinois Light Company d/b/a AmerenCILCO, Central Illinois Public Service Company d/b/a AmerenCIPS, Illinois Power Company d/b/a AmerenIP, Proposed General Increase in Rates for Delivery Service (Tariffs Filed December 27, 2005),” **Illinois** Commerce Commission, Docket Nos. 06-0070, 06-0071, 06-0072. Direct testimony submitted March 26, 2006. Rebuttal testimony submitted June 27, 2006.

“In the Matter of Appalachian Power Company and Wheeling Power Company, both dba American Electric Power,” Public Service Commission of **West Virginia**, Case No. 05-1278-E-PC-PW-42T. Direct and rebuttal testimony submitted March 8, 2006.

“In the Matter of Northern States Power Company d/b/a Xcel Energy for Authority to Increase Rates for Electric Service in Minnesota,” **Minnesota** Public Utilities Commission, Docket No. G-002/GR-05-1428. Direct testimony submitted March 2, 2006. Rebuttal testimony submitted March 30, 2006. Cross examined April 25, 2006.

“In the Matter of the Application of Arizona Public Service Company for an Emergency Interim Rate Increase and for an Interim Amendment to Decision No. 67744,” **Arizona** Corporation Commission, Docket No. E-01345A-06-0009. Direct testimony submitted February 28, 2006. Cross examined March 23, 2006.

“In the Matter of the Applications of Westar Energy, Inc. and Kansas Gas and Electric Company for Approval to Make Certain Changes in Their Charges for Electric Service,” State Corporation Commission of **Kansas**, Case No. 05-WSEE-981-RTS. Direct testimony submitted September 9, 2005. Cross examined October 28, 2005.

“In the Matter of the Application of Columbus Southern Power Company and Ohio Power Company for Authority to Recover Costs Associated with the Construction and Ultimate Operation of an Integrated Combined Cycle Electric Generating Facility,” Public Utilities Commission of **Ohio**, Case No. 05-376-EL-UNC. Direct testimony submitted July 15, 2005. Cross examined August 12, 2005.

“In the Matter of the Filing of General Rate Case Information by Tucson Electric Power Company Pursuant to Decision No. 62103,” **Arizona** Corporation Commission, Docket No. E-01933A-04-0408. Direct testimony submitted June 24, 2005.

“In the Matter of Application of The Detroit Edison Company to Unbundle and Realign Its Rate Schedules for Jurisdictional Retail Sales of Electricity,” **Michigan** Public Service Commission, Case No. U-14399. Direct testimony submitted June 9, 2005. Rebuttal testimony submitted July 1, 2005.

“In the Matter of the Application of Consumers Energy Company for Authority to Increase Its
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Rates for the Generation and Distribution of Electricity and Other Relief,” **Michigan** Public Service Commission, Case No. U-14347. Direct testimony submitted June 3, 2005. Rebuttal testimony submitted June 17, 2005.

“In the Matter of Pacific Power & Light, Request for a General Rate Increase in the Company’s Oregon Annual Revenues,” Public Utility Commission of **Oregon**, Docket No. UE 170. Direct testimony submitted May 9, 2005. Surrebuttal testimony submitted June 27, 2005. Joint testimony regarding partial stipulations submitted June 2005, July 2005, and August 2005.

“In the Matter of the Application of Trico Electric Cooperative, Inc. for a Rate Increase,” **Arizona** Corporation Commission, Docket No. E-01461A-04-0607. Direct testimony submitted April 13, 2005. Surrebuttal testimony submitted May 16, 2005. Cross examined May 26, 2005.

“In the Matter of the Application of PacifiCorp for Approval of its Proposed Electric Service Schedules and Electric Service Regulations,” **Utah** Public Service Commission, Docket No. 04-035-42. Direct testimony submitted January 7, 2005.

“In the Matter of the Application by Golden Valley Electric Association, Inc., for Authority to Implement Simplified Rate Filing Procedures and Adjust Rates,” Regulatory Commission of **Alaska**, Docket No. U-4-33. Direct testimony submitted November 5, 2004. Cross examined February 8, 2005.

“Advice Letter No. 1411 - Public Service Company of Colorado Electric Phase II General Rate Case,” **Colorado** Public Utilities Commission, Docket No. 04S-164E. Direct testimony submitted October 12, 2004. Cross-answer testimony submitted December 13, 2004. Testimony withdrawn January 18, 2005, following Applicant’s withdrawal of testimony pertaining to TOU rates.

“In the Matter of Georgia Power Company’s 2004 Rate Case,” **Georgia** Public Service Commission, Docket No. 18300-U. Direct testimony submitted October 8, 2004. Cross examined October 27, 2004.

“2004 Puget Sound Energy General Rate Case,” **Washington** Utilities and Transportation Commission, Docket Nos. UE-040641 and UG-040640. Response testimony submitted September 23, 2004. Cross-answer testimony submitted November 3, 2004. Joint testimony regarding stipulation submitted December 6, 2004.

“In the Matter of the Application of PacifiCorp for an Investigation of Interjurisdictional Issues,” **Utah** Public Service Commission, Docket No. 02-035-04. Direct testimony submitted July 15, 2004. Cross examined July 19, 2004.

“In the Matter of an Adjustment of the Gas and Electric Rates, Terms and Conditions of Kentucky Utilities Company,” **Kentucky** Public Service Commission, Case No. 2003-00434. Direct testimony submitted March 23, 2004. Testimony withdrawn pursuant to stipulation entered May 2004.

“In the Matter of an Adjustment of the Gas and Electric Rates, Terms and Conditions of Louisville Gas and Electric Company,” **Kentucky** Public Service Commission, Case No. 2003-00433. Direct testimony submitted March 23, 2004. Testimony withdrawn pursuant to stipulation entered May 2004.

“In the Matter of the Application of Idaho Power Company for Authority to Increase Its Interim and Base Rates and Charges for Electric Service,” **Idaho** Public Utilities Commission, Case No. IPC-E-03-13. Direct testimony submitted February 20, 2004. Rebuttal testimony submitted March 19, 2004. Cross examined April 1, 2004.

“In the Matter of the Applications of the Ohio Edison Company, the Cleveland Electric Illuminating Company and the Toledo Edison Company for Authority to Continue and Modify Certain Regulatory Accounting Practices and Procedures, for Tariff Approvals and to Establish Rates and Other Charges, Including Regulatory Transition Charges Following the Market Development Period,” Public Utilities Commission of **Ohio**, Case No. 03-2144-EL-ATA. Direct testimony submitted February 6, 2004. Cross examined February 18, 2004.

“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 For Approval of Purchased Power Contract,” **Arizona** Corporation Commission, Docket No. E-01345A-03-0437. Direct testimony submitted February 3, 2004. Rebuttal testimony submitted March 30, 2004. Direct testimony regarding stipulation submitted September 27, 2004. Responsive / Clarifying testimony regarding stipulation submitted October 25, 2004. Cross examined November 8-10, 2004 and November 29-December 3, 2004.

“In the Matter of Application of the Detroit Edison Company to Increase Rates, Amend Its Rate Schedules Governing the Distribution and Supply of Electric Energy, etc.,” **Michigan** Public Service Commission, Case No. U-13808. Direct testimony submitted December 12, 2003 (interim request) and March 5, 2004 (general rate case).

“In the Matter of PacifiCorp’s Filing of Revised Tariff Schedules,” Public Utility Commission of **Oregon**, Docket No. UE-147. Joint testimony regarding stipulation submitted August 21, 2003.

“Petition of PSI Energy, Inc. for Authority to Increase Its Rates and Charges for Electric Service, etc.,” **Indiana** Utility Regulatory Commission, Cause No. 42359. Direct testimony submitted August 19, 2003. Cross examined November 5, 2003.

“In the Matter of the Application of Consumers Energy Company for a Financing Order Approving the Securitization of Certain of its Qualified Cost,” **Michigan** Public Service Commission, Case No. U-13715. Direct testimony submitted April 8, 2003. Cross examined April 23, 2003.

“In the Matter of the Application of Arizona Public Service Company for Approval of Adjustment Mechanisms,” **Arizona** Corporation Commission, Docket No. E-01345A-02-0403. Direct testimony submitted February 13, 2003. Surrebuttal testimony submitted March 20, 2003. Cross examined April 8, 2003.

“Re: The Investigation and Suspension of Tariff Sheets Filed by Public Service Company of Colorado, Advice Letter No. 1373 – Electric, Advice Letter No. 593 – Gas, Advice Letter No. 80 – Steam,” **Colorado** Public Utilities Commission, Docket No. 02S-315 EG. Direct testimony submitted November 22, 2002. Cross-answer testimony submitted January 24, 2003.

“In the Matter of the Application of The Detroit Edison Company to Implement the Commission’s Stranded Cost Recovery Procedure and for Approval of Net Stranded Cost Recovery Charges,” **Michigan** Public Service Commission, Case No. U-13350. Direct testimony submitted November 12, 2002.

“Application of South Carolina Electric & Gas Company: Adjustments in the Company’s Electric Rate Schedules and Tariffs,” Public Service Commission of **South Carolina**, Docket No. 2002-223-E. Direct testimony submitted November 8, 2002. Surrebuttal testimony submitted November 18, 2002. Cross examined November 21, 2002.

“In the Matter of the Application of Questar Gas Company for a General Increase in Rates and Charges,” **Utah** Public Service Commission, Docket No. 02-057-02. Direct testimony submitted August 30, 2002. Rebuttal testimony submitted October 4, 2002.

“The Kroger Co. v. Dynegy Power Marketing, Inc.,” **Federal Energy Regulatory Commission**, EL02-119-000. Confidential affidavit filed August 13, 2002.

“In the matter of the application of Consumers Energy Company for determination of net stranded costs and for approval of net stranded cost recovery charges,” **Michigan** Public Service Commission, Case No. U-13380. Direct testimony submitted August 9, 2002. Rebuttal testimony submitted August 30, 2002. Cross examined September 10, 2002.

“In the Matter of the Application of Public Service Company of Colorado for an Order to Revise Its Incentive Cost Adjustment,” **Colorado** Public Utilities Commission, Docket 02A-158E. Direct testimony submitted April 18, 2002.

“In the Matter of the Generic Proceedings Concerning Electric Restructuring Issues,” **Arizona** Corporation Commission, Docket No. E-00000A-02-0051, “In the Matter of Arizona Public

Service Company's Request for Variance of Certain Requirements of A.A.C. R14-2-1606," Docket No. E-01345A-01-0822, "In the Matter of the Generic Proceeding Concerning the Arizona Independent Scheduling Administrator," Docket No. E-00000A-01-0630, "In the Matter of Tucson Electric Power Company's Application for a Variance of Certain Electric Competition Rules Compliance Dates," Docket No. E-01933A-02-0069, "In the Matter of the Application of Tucson Electric Power Company for Approval of its Stranded Cost Recovery," Docket No. E-01933A-98-0471. Direct testimony submitted March 29, 2002 (APS variance request); May 29, 2002 (APS Track A proceeding/market power issues); and July 28, 2003 (Arizona ISA). Rebuttal testimony submitted August 29, 2003 (Arizona ISA). Cross examined June 21, 2002 (APS Track A proceeding/market power issues) and September 12, 2003 (Arizona ISA).

"In the Matter of Savannah Electric & Power Company's 2001 Rate Case," **Georgia** Public Service Commission, Docket No. 14618-U. Direct testimony submitted March 15, 2002. Cross examined March 28, 2002.

"Nevada Power Company's 2001 Deferred Energy Case," Public Utilities Commission of **Nevada**, PUCN 01-11029. Direct testimony submitted February 7, 2002. Cross examined February 21, 2002.

"2001 Puget Sound Energy Interim Rate Case," **Washington** Utilities and Transportation Commission, Docket Nos. UE-011570 and UE-011571. Direct testimony submitted January 30, 2002. Cross examined February 20, 2002.

"In the Matter of Georgia Power Company's 2001 Rate Case," **Georgia** Public Service Commission, Docket No. 14000-U. Direct testimony submitted October 12, 2001. Cross examined October 24, 2001.

"In the Matter of the Application of PacifiCorp for Approval of Its Proposed Electric Rate Schedules and Electric Service Regulations," **Utah** Public Service Commission, Docket No. 01-35-01. Direct testimony submitted June 15, 2001. Rebuttal testimony submitted August 31, 2001.

"In the Matter of Portland General Electric Company's Proposal to Restructure and Reprice Its Services in Accordance with the Provisions of SB 1149," Public Utility Commission of **Oregon**, Docket No. UE-115. Direct testimony submitted February 20, 2001. Rebuttal testimony submitted May 4, 2001. Joint testimony regarding stipulation submitted July 27, 2001.

"In the Matter of the Application of APS Energy Services, Inc. for Declaratory Order or Waiver of the Electric Competition Rules," **Arizona** Corporation Commission, Docket No. E-01933A-00-0486. Direct testimony submitted July 24, 2000.

"In the Matter of the Application of Questar Gas Company for an Increase in Rates and Charges," **Utah** Public Service Commission, Docket No. 99-057-20. Direct testimony submitted

April 19, 2000. Rebuttal testimony submitted May 24, 2000. Surrebuttal testimony submitted May 31, 2000. Cross examined June 6 & 8, 2000.

“In the Matter of the Application of Columbus Southern Power Company for Approval of Electric Transition Plan and Application for Receipt of Transition Revenues,” Public Utility Commission of **Ohio**, Case No. 99-1729-EL-ETP; “In the Matter of the Application of Ohio Power Company for Approval of Electric Transition Plan and Application for Receipt of Transition Revenues,” Public Utility Commission of **Ohio**, Case No. 99-1730-EL-ETP. Direct testimony prepared, but not submitted pursuant to settlement agreement effected May 2, 2000.

“In the Matter of the Application of FirstEnergy Corp. on Behalf of Ohio Edison Company, The Cleveland Electric Illuminating Company, and the Toledo Edison Company for Approval of Their Transition Plans and for Authorization to Collect Transition Revenues,” Public Utility Commission of **Ohio**, Case No. 99-1212-EL-ETP. Direct testimony prepared, but not submitted pursuant to settlement agreement effected April 11, 2000.

“2000 Pricing Process,” **Salt River Project** Board of Directors, oral comments provided March 6, 2000 and April 10, 2000.

“Tucson Electric Power Company vs. Cyprus Sierrita Corporation,” **Arizona** Corporation Commission, Docket No. E-000001-99-0243. Direct testimony submitted October 25, 1999. Cross examined November 4, 1999.

“Application of Hildale City and Intermountain Municipal Gas Association for an Order Granting Access for Transportation of Interstate Natural Gas over the Pipelines of Questar Gas Company for Hildale, Utah,” **Utah** Public Service Commission, Docket No. 98-057-01. Rebuttal testimony submitted August 30, 1999.

“In the Matter of the Application by Arizona Electric Power Cooperative, Inc. for Approval of Its Filing as to Regulatory Assets and Transition Revenues,” **Arizona** Corporation Commission, Docket No. E-01773A-98-0470. Direct testimony submitted July 30, 1999. Cross examined February 28, 2000.

“In the Matter of the Application of Tucson Electric Power Company for Approval of its Plan for Stranded Cost Recovery,” **Arizona** Corporation Commission, Docket No. E-01933A-98-0471; “In the Matter of the Filing of Tucson Electric Power Company of Unbundled Tariffs Pursuant to A.A.C. R14-2-1601 et seq.,” Docket No. E-01933A-97-0772; “In the Matter of the Competition in the Provision of Electric Service Throughout the State of Arizona,” Docket No. RE-00000C-94-0165. Direct testimony submitted June 30, 1999. Rebuttal testimony submitted August 6, 1999. Cross examined August 11-13, 1999.

“In the Matter of the Application of Arizona Public Service Company for Approval of its Plan for Stranded Cost Recovery,” **Arizona** Corporation Commission, Docket No. E-01345A-98-

0473; “In the Matter of the Filing of Arizona Public Service Company of Unbundled Tariffs Pursuant to A.A.C. R14-2-1601 et seq.,” Docket No. E-01345A-97-0773; “In the Matter of the Competition in the Provision of Electric Service Throughout the State of Arizona,” Docket No. RE-00000C-94-0165. Direct testimony submitted June 4, 1999. Rebuttal testimony submitted July 12, 1999. Cross examined July 14, 1999.

“In the Matter of the Application of Tucson Electric Power Company for Approval of its Plan for Stranded Cost Recovery,” **Arizona** Corporation Commission, Docket No. E-01933A-98-0471; “In the Matter of the Filing of Tucson Electric Power Company of Unbundled Tariffs Pursuant to A.A.C. R14-2-1601 et seq.,” Docket No. E-01933A-97-0772; “In the Matter of the Application of Arizona Public Service Company for Approval of its Plan for Stranded Cost Recovery,” Docket No. E-01345A-98-0473; “In the Matter of the Filing of Arizona Public Service Company of Unbundled Tariffs Pursuant to A.A.C. R14-2-1601 et seq.,” Docket No. E-01345A-97-0773; “In the Matter of the Competition in the Provision of Electric Service Throughout the State of Arizona,” Docket No. RE-00000C-94-0165. Direct testimony submitted November 30, 1998.

“Hearings on Pricing,” **Salt River Project** Board of Directors, written and oral comments provided November 9, 1998.

“Hearings on Customer Choice,” **Salt River Project** Board of Directors, written and oral comments provided June 22, 1998; June 29, 1998; July 9, 1998; August 7, 1998; and August 14, 1998.

“In the Matter of the Competition in the Provision of Electric Service Throughout the State of Arizona,” **Arizona** Corporation Commission, Docket No. U-0000-94-165. Direct and rebuttal testimony filed January 21, 1998. Second rebuttal testimony filed February 4, 1998. Cross examined February 25, 1998.

“In the Matter of Consolidated Edison Company of New York, Inc.’s Plans for (1) Electric Rate/Restructuring Pursuant to Opinion No. 96-12; and (2) the Formation of a Holding Company Pursuant to PSL, Sections 70, 108, and 110, and Certain Related Transactions,” **New York** Public Service Commission, Case 96-E-0897. Direct testimony filed April 9, 1997. Cross examined May 5, 1997.

“In the Matter of the Petition of Sunnyside Cogeneration Associates for Enforcement of Contract Provisions,” **Utah** Public Service Commission, Docket No. 96-2018-01; “In the Matter of the Application of Rocky Mountain Power for an Order Approving an Amendment to Its Power Purchase Agreement with Sunnyside Cogeneration Associates,” Docket Nos. 05-035-46, and 07-035-99. Direct testimony submitted July 8, 1996. Oral testimony provided March 18, 2008.

“In the Matter of the Application of PacifiCorp, dba Pacific Power & Light Company, for Approval of Revised Tariff Schedules and an Alternative Form of Regulation Plan,” **Wyoming**

Public Service Commission, Docket No. 20000-ER-95-99. Direct testimony submitted April 8, 1996.

“In the Matter of the Application of Mountain Fuel Supply Company for an Increase in Rates and Charges,” **Utah** Public Service Commission, Case No. 95-057-02. Direct testimony submitted June 19, 1995. Rebuttal testimony submitted July 25, 1995. Surrebuttal testimony submitted August 7, 1995.

“In the Matter of the Investigation of the Reasonableness of the Rates and Tariffs of Mountain Fuel Supply Company,” **Utah** Public Service Commission, Case No. 89-057-15. Direct testimony submitted July 1990. Surrebuttal testimony submitted August 1990.

“In the Matter of the Review of the Rates of Utah Power and Light Company pursuant to The Order in Case No. 87-035-27,” **Utah** Public Service Commission, Case No. 89-035-10. Rebuttal testimony submitted November 15, 1989. Cross examined December 1, 1989 (rate schedule changes for state facilities).

“In the Matter of the Application of Utah Power & Light Company and PC/UP&L Merging Corp. (to be renamed PacifiCorp) for an Order Authorizing the Merger of Utah Power & Light Company and PacifiCorp into PC/UP&L Merging Corp. and Authorizing the Issuance of Securities, Adoption of Tariffs, and Transfer of Certificates of Public Convenience and Necessity and Authorities in Connection Therewith,” **Utah** Public Service Commission, Case No. 87-035-27; Direct testimony submitted April 11, 1988. Cross examined May 12, 1988 (economic impact of UP&L merger with PacifiCorp).

“In the Matter of the Application of Mountain Fuel Supply Company for Approval of Interruptible Industrial Transportation Rates,” **Utah** Public Service Commission, Case No. 86-057-07. Direct testimony submitted January 15, 1988. Cross examined March 30, 1988.

“In the Matter of the Application of Utah Power and Light Company for an Order Approving a Power Purchase Agreement,” **Utah** Public Service Commission, Case No. 87-035-18. Oral testimony delivered July 8, 1987.

“Cogeneration: Small Power Production,” **Federal Energy Regulatory Commission**, Docket No. RM87-12-000. Statement on behalf of State of Utah delivered March 27, 1987, in San Francisco.

“In the Matter of the Investigation of Rates for Backup, Maintenance, Supplementary, and Standby Power for Utah Power and Light Company,” **Utah** Public Service Commission, Case No. 86-035-13. Direct testimony submitted January 5, 1987. Case settled by stipulation approved August 1987.

“In the Matter of the Application of Sunnyside Cogeneration Associates for Approval of the Cogeneration Power Purchase Agreement,” **Utah** Public Service Commission, Case No. 86-2018-01. Rebuttal testimony submitted July 16, 1986. Cross examined July 17, 1986.

“In the Matter of the Investigation of Demand-Side Alternatives to Capacity Expansion for Electric Utilities,” **Utah** Public Service Commission, Case No. 84-999-20. Direct testimony submitted June 17, 1985. Rebuttal testimony submitted July 29, 1985. Cross examined August 19, 1985.

“In the Matter of the Implementation of Rules Governing Cogeneration and Small Power Production in Utah,” **Utah** Public Service Commission, Case No. 80-999-06, pp. 1293-1318. Direct testimony submitted January 13, 1984 (avoided costs), May 9, 1986 (security for levelized contracts) and November 17, 1986 (avoided costs). Cross-examined February 29, 1984 (avoided costs), April 11, 1985 (standard form contracts), May 22-23, 1986 (security for levelized contracts) and December 16-17, 1986 (avoided costs).

OTHER RELATED ACTIVITY

Participant, Wyoming Load Growth Collaborative, March 2008 to present.

Participant, Oregon Direct Access Task Force (UM 1081), May 2003 to November 2003.

Participant, Michigan Stranded Cost Collaborative, March 2003 to March 2004.

Member, Arizona Electric Competition Advisory Group, December 2002 to present.

Board of Directors, ex-officio, Desert STAR RTO, September 1999 to February 2002.

Member, Advisory Committee, Desert STAR RTO, September 1999 to February 2002. Acting Chairman, October 2000 to February 2002.

Board of Directors, Arizona Independent Scheduling Administrator Association, October 1998 to present.

Acting Chairman, Operating Committee, Arizona Independent Scheduling Administrator Association, October 1998 to June 1999.

Member, Desert Star ISO Investigation Working Groups: Operations, Pricing, and Governance, April 1997 to December 1999. Legal & Negotiating Committee, April 1999 to December 1999.

Participant, Independent System Operator and Spot Market Working Group, Arizona Corporation Commission, April 1997 to September 1997.

Participant, Unbundled Services and Standard Offer Working Group, Arizona Corporation Commission, April 1997 to October 1997.

Participant, Customer Selection Working Group, Arizona Corporation Commission, March 1997 to September 1997.

Member, Stranded Cost Working Group, Arizona Corporation Commission, March 1997 to September 1997.

Member, Electric System Reliability & Safety Working Group, Arizona Corporation Commission, November 1996 to September 1998.

Chairman, Salt Palace Renovation and Expansion Committee, Salt Lake County/State of Utah/Salt Lake City, multi-government entity responsible for implementation of planning, design, finance, and construction of an \$85 million renovation of the Salt Palace Convention Center, Salt Lake City, Utah, May 1991 to December 1994.

State of Utah Representative, Committee on Regional Electric Power Cooperation, a joint effort of the Western Interstate Energy Board and the Western Conference of Public Service Commissioners, January 1987 to December 1990.

Member, Utah Governor's Economic Coordinating Committee, January 1987 to December 1990.

Chairman, Standard Contract Task Force, established by Utah Public Service Commission to address contractual problems relating to qualifying facility sales under PURPA, March 1986 to December 1990.

Chairman, Load Management and Energy Conservation Task Force, Utah Public Service Commission, August 1985 to December 1990.

Alternate Delegate for Utah, Western Interstate Energy Board, Denver, Colorado, August 1985 to December 1990.

Articles Editor, Economic Forum, September 1980 to August 1981.

IN THE MATTER OF PACIFICORP, DBA
PACIFIC POWER, 2011 TRANSITION
ADJUSTMENT MECHANISM

May 12, 2010

Schedule 10
Real Power Losses

For Service in the PacifiCorp Zone:

Any use of the Transmission Provider's Transmission System shall be assessed Real Power Losses in the following amounts:

Use of any portion of the Transmission System 4.48%
at a voltage of 46 kV or greater

Use of any portion of the Distribution 3.56%
at a voltage 34.5 kV or less

Use of a combination of the Transmission System 8.04%
and the Distribution System

In addition, for service provided over PacifiCorp lines located in another control area, any Real Power Losses assessed to PacifiCorp by the adjacent control area associated with the Customer's service will be passed through to the transmission customer. In instances where service is provided by PacifiCorp and an adjacent control area, any Real Power Losses assessed by the adjacent control area to PacifiCorp will be passed through to the customer in addition to PacifiCorp Real Power Losses identified in this section.

For Service in the MidAmerican Zone:

Transmission System capacity loss factor: 1.55%

Transmission System energy loss factor: 1.68%

For Service on the PacifiCorp COI Segment:

Losses shall be calculated in accordance with Attachment S.

Issued by: Kenneth T. Houston - Director, Transmission Services
Issued on: August 26, 2008 Effective: August 26, 2008

IN THE MATTER OF PACIFICORP, DBA
PACIFIC POWER, 2011 TRANSITION
ADJUSTMENT MECHANISM

Exhibit 103

May 12, 2010

Status Report

Oregon Electric Industry Restructuring (January, 2010)

Portfolio Options*	PGE	PP&L
Fixed Renewable	12,536	9,029
Renewable Usage	57,546	22,163
Renewable Future	2,581	
Habitat		4,760
Habitat Rider***	9,240	
Time-of-use	2,130	1,787
Eligible Customers	800,542	548,164**

* Available to residential and small nonresidential customers. Customers may, in certain circumstances, choose more than one option.

** As of January 1, 2009.

*** Habitat Rider is available to existing renewable customers only, and should not be included in calculation of total renewable enrollment numbers.

Direct Access and Standard Offer Service

Certified Electricity Service Suppliers: 5

Registered Electricity Service Aggregators: 3

Nonresidential Customer Choices (based on load):

	Cost of Service	Market Options	Direct Access
PGE	82.1%	0.9%	17.0%
PP&L	99.3%	0.0%	0.7%

This report reflects prior month results.

**Produced by the Oregon Public Utility Commission
Electric Rates and Planning
(503) 378-6917**

BEFORE THE
PUBLIC UTILITY COMMISSION OF OREGON
UE 216

IN THE MATTER OF PACIFICORP, DBA
PACIFIC POWER, 2011 TRANSITION
ADJUSTMENT MECHANISM

Sempra Energy Solutions LLC

Exhibit 104

May 12, 2010

UE-216/PacifiCorp
May 6, 2010
Sempra Data Request 15

Sempra Data Request 15

In UM 1081 (2004), PacifiCorp objected to recognizing a credit for avoided BPA transmission in calculating the Transition Adjustment, in part, on the grounds that the re- sale of PacifiCorp's long-term BPA wheeling rights was prohibited. *See* Apperson Rebuttal at 7. Is it still true that the re-sale of all PacifiCorp wheeling rights on the BPA system from Mid-Columbia is prohibited? Is it still true that the re-sale of any PacifiCorp wheeling rights on the BPA system from COB prohibited?

Response to Sempra Data Request 15

No. The resale of PacifiCorp wheeling rights on the BPA system from either Mid-Columbia or COB are no longer prohibited.