BEFORE THE

PUBLIC SERVICE COMMISSION OF UTAH

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	)	**Docket No. 10-035-124**

Prefiled Direct Testimony of

J. Robert Malko

on Revenue Requirement

On behalf of

Utah Industrial Energy Consumers

January 18, 2018

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<u>DIRECT TESTIMONY OF J. ROBERT MALKO</u>

I. <u>QUALIFICATIONS, PURPOSES, AND CONCLUSIONS</u>.

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A J. Robert Malko. My business consulting address is 245 North Alta Street, Salt Lake City, Utah 84103.

Q WHAT IS YOUR OCCUPATION?

A I am a Professor of Finance in the Huntsman School of Business at Utah State University located in Logan, Utah.

Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A I am appearing on behalf of the Utah Industrial Energy Consumers ("UIEC"). Members of UIEC purchase substantial quantities of electricity from Rocky Mountain Power Company ("RMP") in Utah, and they are clearly interested in the outcome of this proceeding.

Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A This information is included in Appendix A to my testimony.

Q WHAT IS THE PRIMARY PURPOSE OF YOUR DIRECT TESTIMONY IN THIS PROCEEDING?

A The primary purpose of my direct testimony is to examine the natural gas hedging strategies employed by PacifiCorp (or "COMPANY") for natural gas costs during the test period, beginning July 1, 2011 and ending June 30, 2012 to determine whether PacifiCorp's strategies and practices were prudent.

Q WHAT DO YOU CONCLUDE?

A I conclude that PacifiCorp failed to recognize the importance of the goal of cost minimization in its own hedging program for natural gas, failed to react timely to changes in the market, and failed to diversify.

Q WHAT DO YOU RECOMMEND BASED ON THESE CONCLUSIONS?

A The Public Service Commission of Utah ("Commission") should find the following:

- 33% of natural gas requirements should be purchased at market. This produces a disallowance of $47.5 million system-wide or $19.7 million for Utah which is reasonable for losses associated with PacifiCorp's imprudent hedging program (swaps) for natural gas rated to generate electricity.

- The reasonable range for imprudence disallowance for this case is buying 25% to 40% of natural gas at market.
- The prudence review criteria suggested are reasonable.

Q HOW DO YOU ORGANIZE THE REMAINDER OF YOUR DIRECT TESTIMONY?

A. In Section II, I summarize PacifiCorp's current and recent historical hedging policy and practices concerning natural gas as a fuel resource for electricity generation.

In Section III, I develop and recommend criteria for a prudence review of the hedging policy and practices and market purchases of an electric utility concerning natural gas as a fuel resource to generate electricity.

In Section IV, I apply the prudence review criteria to PacifiCorp's hedging policy and practices.

In Section V, I present conclusions and recommendations based on my prudence review analysis of PacifiCorp's hedging policy and practices concerning natural gas as a fuel resource.

II. PACIFICORP'S HEDGING PROGRAM.

Q WHAT GROUP OR COMMITTEE AT PACIFICORP HAS OVERSIGHT CONCERNING ITS HEDGING POLICY AND PRACTICES RELATING TO NATURAL GAS AS A FUEL RESOURCE FOR ELECTRICITY GENERATION?

A The PacifiCorp Energy Risk Oversight Committee ("EROC") has oversight responsibilities concerning its hedging program relating to natural gas as a fuel resource for electricity generation. I have reviewed the confidential minutes of meetings of the PacifiCorp Energy Risk Oversight Committing starting in June 2006.

Q HOW SUCCESSFUL OR UNSUCCESSFUL HAS PACIFICORP'S NATURAL GAS HEDGING PROGRAM BEEN?

A PacifiCorp's program has been significantly unsuccessful during the past few years because it has failed to respond to falling natural gas prices and it lacks financial diversification. As shown on UIEC witness Mr. Widmer's Exhibit UIEC (MTW-5), PacifiCorp's program of using natural gas swaps has lost approximately [redacted] since 2006.

Q HAS THERE BEEN CONCERN EXPRESSED IN THE PAST REGARDING PACIFICORP'S UNSUCCESSFUL NATURAL GAS HEDGING PROGRAM?

A. Yes. Various parties in Utah have expressed and continue to express serious concerns about these significant losses. As a result of issues raised in the

2008 general rate case, Docket No. 08-035-38, the Commission ordered PacifiCorp to open a separate docket to be devoted to studying the natural gas hedging practices and strategies of the Company. This was Docket No. 09-035-21. Then, in the energy balancing account ("EBA") docket, Docket No. 09-035-15, numerous parties complained about the Company's natural gas hedging practices and requested that the Commission investigate further before authorizing an EBA. In its final order in that docket, the Commission decided to defer investigation into the Company's natural gas hedging practices until this current rate case, Docket No. 10-035-124. The Commission reiterated this decision in its order on rehearing in docket No. 09-035-15.

Q DID PACIFICORP SHOW ANY INDICATION THAT THEY RECOGNIZED THE CONCERNS?

PacifiCorp management clearly acknowledges concerns in Utah regarding its risk management and hedging programs.[1] However, despite the activity taking place before the regulators, PacifiCorp failed to implement any changes, such as leaving a percentage of its portfolio open to market, and apparently didn't even consider it worth discussing at an EROC meeting until May of 2010.

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[1] See confidential minutes of May 11, 2010 meeting of the PacifiCorp Risk Oversight Committee.

Q PLEASE SUMMARIZE THE SIGNIFICANT FEATURES OF PACIFICORP'S CURRENT AND RECENT HISTORICAL HEDGING POLICY AND PRACTICES CONCERNING NATURAL GAS AS A FUEL RESOURCE FOR ELECTRICITY GENERATION.

A Based on my review of PacifiCorp's hedging policy and procedure documents, discovery in this docket, testimony in the last several cases where hedging issues were discussed, and relevant Commission orders, the following are some significant features of PacifiCorp's hedging programs:

(1) The Company executes financial hedges up to 48 months forward with the goal to be 100% financially hedged in swaps two years in advance.

(2) The Company states that its primary goal for its hedging program for natural gas is price stability and associated reduction in price volatility;

(3) The Company has failed to address effectively the important goal of cost minimization;

(4) The Company has failed to react during periods of falling and expected declining prices of natural gas, which harms the captive ratepayers; and

(5) The Company's hedging program lacks a diversified financial approach, including buying at market, which would provide the flexibility to balance the goals of cost minimization and price stability.[2]

[2] My summary is based on a review of various testimonies presented in previous proceedings before the Public Service Commission of Utah. Specifically, see the testimonies of Douglas Wheelwright, Utah Division of Public Utilities, in Docket No. 09-035-23 and Docket No. 09-035-15.

Q PLEASE DESCRIBE PACIFICORP'S HEDGING PROGRAM AND USE OF SWAPS.

A I believe that the following summary discussion provided by Mr. Maurice Brubaker in his direct testimony, pages 35-36, filed October 8, 2009, in Docket No. 09-035-23, Public Service Commission of Utah, adequately summarizes PacifiCorp's use of financial swaps in its natural gas hedging practices.

> "RMP has followed a practice of entering into forward commitments for the purchase of its forecasted natural gas requirements. Its practice is to ramp up its price commitments over a period of several years, with the level of the commitment escalating over time. For example, according to the 10-K report, issued in February 2009, as of December 31, 2008, RMP ha[d] hedged 94% of its forecasted financial exposure for the year 2009. For 2010, PacifiCorp had hedged 48% of its forecasted physical exposure and 85% of its forecasted financial exposure. RMP does this either by contracting for a fixed price with a supplier, or through the use of indexes and swaps. Under the index and swap approach, RMP agrees to pay some specified market index price to a supplier for the gas. At that time, or a later time, it enters into a transaction with a third party (counter party) to swap the index price for a fixed price that is established at the time the financial transaction with

> the third party takes place. The end result is the same, namely that the price to be paid for the commodity when it is delivered at a future time is established in advance."

Based on this, regardless of whether the market price is higher or lower than the swap price, RMP effectively pays the swap price. RMP pays the index price to the supplier of physical natural gas. If its index price is lower than the swap price, RMP pays the difference to the counter party on the swap transaction. If the index price is higher than the swap price, the counter party pays the difference to RMP. It is clear that the swap transaction with its fixed price protects RMP from upswings in market prices, but it does not provide RMP with the opportunity to benefit if market prices turn out to be lower than the swap price. In short, the excessive reliance on the use of financial swaps by PacifiCorp for its hedging program for natural gas unreasonably exposes the utility to significant losses in a falling natural gas price environment and ignores the important consideration of cost minimization.

Q BASED ON THIS INFORMATION HOW DID YOU DETERMINE THE COMPANY'S NATURAL GAS HEDGING PRACTICES WERE IMPRUDENT?

A It is critical to apply a set of prudence review criteria to PacifiCorp's practices so that a fair and objective determination can be made. In the next section, I develop those criteria.

III. PRUDENCE REVIEW CRITERIA.

Q WHAT IS THE BASIC CONCEPT FOR DETERMINING PRUDENCE?

A Prudence is a part of the overall basic business standards and practices that energy utilities are required to follow that are commonly referred to as "good utility practice."[3] The Federal Energy Regulatory Commission ("FERC") defines "Good Utility Practice" for regulated electric utilities in the following manner:

> Any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of *reasonable* judgment in light of the facts known *at the time the decision was made*, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.[4]

Basic business standards and practices in this FERC definition are consistent with and reflected in the definition of prudence found in Title 54, Section 54-4-

[3] Jonathan A. Lesser and Leonardo R. Giacchino, Fundamentals of Energy Regulation, Public Utilities Reports, Vienna, Virginia, 2007, pp. 40-41.

[4] FERC, Pro Forma Open Access Transmission Tariff (OATT), Appendix B (emph. added), 72 Fed. Reg. 12,266-12,531 (March 15, 2007) (to be codified at 18 C.F.R. pts 35 and 37).

4(4)(a) of the Commission statutes concerning prudence review, which is presented later in my direct testimony.

Q WHAT REGULATORY PRINCIPLES ARE INCORPORATED INTO GOOD UTILITY PRACTICE FOR DETERMINING REVENUE REQUIREMENT?

A Three important regulatory principles for determining the revenue requirement for an electric utility include: (1) prudent management, (2) used and useful, and (3) known and measurable.

The focus of my testimony is to develop specific criteria for prudence review and apply the criteria to PacifiCorp's current and recent historical natural gas hedging .

Q PLEASE DEFINE THE PRINCIPLE OF PRUDENT MANAGEMENT.

A The prudence of utility managerial decisions should be evaluated and judged based on the reasonableness at the time that these business decisions were made <u>and</u> based on the information that was available at that time. Prudence review is clearly not an exercise in the application of hindsight regulation. A prudent business decision reflects a reasonable policy decision made by a business manager who considers information and analytical tools reasonably available at the time of this decision.

Q IN ADDITION TO THE CONCEPT OF GOOD UTILITY PRACTICE, ARE THERE ANY OTHER CONCEPTS THAT SHOULD BE CONSIDERED IN DETERMINING A REASONABLE REVENUE REQUIREMENT?

A In this case, because PacifiCorp is a monopoly, economic regulation must always be considered. The role of economic regulation of a monopoly is to produce the results, in a reasonable manner, of a competitive market concerning prices and earnings. Regulatory ratemaking is certainly not a cost reimbursement scheme and should not insulate the regulated electric utility from risks of conducting business. Economic regulation of a monopoly utility is focused on encouraging efficient behavior and efficient outcomes, which are consistent with the activities of a prudent business manager. Risk sharing and risk balancing between the regulated utility and its customers is an important aspect of economic regulation. A regulatory commission needs to ensure that there is reasonable risk sharing and balancing when addressing a range of economic issues in order to meet public interest concerns. As pointed out by former Chairman Myron B. Katz of the Oregon Public Utility Commission, "The principal objective of utility regulation is to protect consumers from the lack of competition. It cannot be repeated often enough."[5]

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[5] See Public Utilities Reports Guide: Regulation, published by PUR, Inc., Vienna, Virginia, 1999, p. 3-10. UIEC Exhibit (JRM-1)

Q BY COMBINING THE CONCEPTS OF GOOD UTILITY PRACTICE AND ECONOMIC REGULATION, WHAT SPECIFIC EVALUATION CRITERIA FOR A PRUDENCE REVIEW DO YOU RECOMMEND?

A I propose that the following specific evaluation criteria be used:

(1) Apply relevant regulatory rules, standards, and policies;

(2) Avoid hindsight;

(3) Apply the reasonable business standard, not a hypothetical ideal;

(4) Evaluate management's awareness of and response to important changes in business risk; and

(5) Evaluate management's awareness of relevant policies and practices of other energy utilities.

Q HOW DO THESE CRITERIA REFLECT THE CONCEPTS OF GOOD UTILITY PRACTICE AND ECONOMIC REGULATION?

A These proposed criteria are based upon and extensions of concepts presented in the generally-accepted public utility economics literature.[6] They reflect concepts of fairness, efficiency, and risk. Moreover, these criteria provide a workable framework for regulators to make a reasonable prudency determination and determine if a proposed expense should be included in the revenue requirement or excluded from the revenue requirement.

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[6] Jonathan A. Lesser and Leonardo R. Giacchino, Fundamentals of Energy Regulation, Public Utilities Reports, Vienna, Virginia, 2007, pp. 39-44; and J. Robert Malko and Richard J. Williams, "Traditional and New Regulatory Tools," appears in Reinventing Electric Utility Regulation, edited by Gregory B. Enholm and J. Robert Malko, Public Utilities Report, Inc., 1995, pp. 96-97.

Q IS THERE ANYTHING ELSE TO KEEP IN MIND WHEN CONDUCTING A PRUDENCE REVIEW?

A Yes. It is important to keep the following in mind:

> "The crux of the difference between regulatory responsibility and managerial duty is the matter of initiative. Utility management is expected to initiate action on the economic activities which it directs. It is expected to take the necessary steps to provide the service, to raise the capital, and to file the rates.
>
> This statement does not mean that the regulatory commission has no influence over such action. It may review and (if necessary) revise, but not direct or supervise, the original action. It also means that inaction, inappropriate action, or refusal to act automatically passes the initiative along to the commission, which then has authority to take corrective action under the law. Furthermore, past policies and decisions of the commission also affect and govern present and future action by utility managements."[7]

In short, energy utility management decides, but regulatory commissions oversee.

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[7] See Public Utilities Reports Guide: Regulation, published by PUR, Inc., Vienna, Virginia, 1999, p. 3-13. UIEC Exhibit (JRM-1)

Q WHY SHOULD THE COMMISSION CONSIDER PRUDENCE REVIEW AS AN IMPORTANT REGULATORY TOOL INSTEAD OF ADVISING PACIFICORP HOW TO CONDUCT ITS HEDGING STRATEGY?

A Considering the multi-state regulatory jurisdictional issue relating to PacifiCorp, regulatory prudence review, as compared to regulatory planning, is a more direct and less complex tool for use by the Commission. The effective use of prudence review by a regulatory commission promotes outcomes that are consistent with the goals of economic regulation of an energy utility. In addition, the Utah Commission announced in its recent decision in the EBA case that it intends to take this direction.[8]

Q WHAT IS THE PROBLEM WITH REGULATORY PLANNING FOR AN ENERGY UTILITY, SUCH AS PACIFICORP, SERVING SIGNIFICANT LOADS IN MULTIPLE STATES?

A For an energy utility, such as PacifiCorp, that has significant portions of loads and associated revenues in different states, challenges and problems associated with geographic diversity can develop.[9] For example, region one that is served by the utility and has significant load could have no or very slow growth, but region two that is also served by the utility and has significant load could have substantial growth. The regulatory commission in region one probably would have different and conflicting regulatory planning goals and

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[8] Corrected Report and Order at 68-69, Docket No. 09-035-15 (March 3, 2011).

[9] For a discussion of specific geographic diversity challenges and problems facing PacifiCorp, see Charles E. Peterson and J. Robert Malko, "Ring Fencing in Utah," appears in Public Utilities Fortnightly, June 2008, pp. 32-35. UIEC Exhibit (JRM-2)

strategies concerning this energy utility as compared to the regulatory commission in region two. This situation shows why regulatory planning is not the best approach for regulating Rocky Mountain Power.[10] By contrast, prudence review allows the Utah Commission to evaluate the reasonableness of the utility's economic decisions and related expenses. The Company knows that its recovery of costs is always subject to prudence reviews.

IV. <u>APPLICATION OF THE PRUDENCE REVIEW CRITERIA TO PACIFICORP'S HEDGING POLICY AND PRACTICES</u>.

Q AS TO THE FIRST OF YOUR EVALUATION CRITERIA, WHAT ARE THE RELEVANT REGULATORY RULES, STANDARDS, AND POLICIES CONCERNING REGULATORY PRUDENCE REVIEW FOR THIS PROCEEDING?

A As I mentioned above, Title 54, Section 54-4-4(4)(a) of the Commission's statutes sets forth the standards for the Commission to conduct a prudence review:

> (4) (a) If, in the commission's determination of just, reasonable, or sufficient rates, the commission considers the prudence of an action taken by a public utility or an expense incurred by a public utility, the commission shall apply the following standards in making its prudence determination:

[10] See comment made by David Sokol, former CEO of MidAmerican Energy concerning geographic differences and related planning issues in <u>Public Utilities Fortnightly</u>, June 2006, p. 45. UIEC Exhibit (JRM-3)

(i) ensure just and reasonable rates for the retail ratepayers of the public utility in this state;

(ii) focus on the reasonableness of the expense resulting from the action of the public utility judged *as of the time the action was taken*;

(iii) determine whether a reasonable utility, *knowing what the utility knew or reasonably should have known at the time of the action*, would reasonably have incurred all or some portion of the expense, in taking the same or some other prudent action; and

(iv) apply other factors determined by the commission to be relevant, consistent with the standards specified in this section.

(b) The commission may find an expense fully or partially prudent, up to the level that a reasonable utility would reasonably have incurred.

(Emphasis added.) The criteria I have proposed are embodied in this statute.

Q WHAT DO YOU MEAN IN YOUR SECOND EVALUATION CRITERIA BY THE CONCEPT OF AVOIDING HINDSIGHT?

A It is critical that the application of the prudence review framework not be based on hindsight. Instead, it must be based on whether business decisions at the time they were made were reasonable considering the facts and conditions at that time. According to Professor James C. Bonbright, prudent investment "must have been prudently incurred in the light of foresight rather than of hindsight."[11]

Q WHAT IS THE SIGNIFICANCE OF APPLYING FORESIGHT VERSUS HINDSIGHT IN THIS INSTANCE?

A PacifiCorp managers were or should have been clearly aware of the previously discussed significant financial losses associated with their use of gas swaps since 2007 <u>and</u> the importance of the hedging programs as an issue prior to this rate proceeding. Issues concerning PacifiCorp's natural gas hedging program have been raised in previous cases before the Utah Commission.[12] In addition, shale gas as a percentage of United States natural gas production increased significantly from approximately 5% in year 2005 to over 20% in year 2010.[13] Therefore, PacifiCorp managers should have had the foresight, not the hindsight, to begin making serious changes in the Company's natural gas hedging program at the start of 2009, if not earlier.

The following are direct quotations from the confidential minutes of the PacifiCorp Energy Risk Oversight Committee Meeting held on August 6, 2007.

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[11] James C. Bonbright, <u>Principles of Public Utility Rates</u>, Columbia University Press, New York, 1961, p. 174. UIEC Exhibit (JRM-4)

[12] See Docket No. 08-035-38, Docket No. 09-035-21, Docket No. 09-035-23 and Docket No. 09-035-15.

[13] Daniel Yergin, "Stepping on the Gas," appears in <u>The Wall Street Journal</u>, April 2, 2011. UIEC Exhibit (JRM-5)

[redacted]

As early as 2007, PacifiCorp clearly acknowledged that it needed to be flexible in its hedging policy concerning natural gas, but it failed to implement any changes as business conditions changed. Thus, the Company failed to follow its own hedging strategies.

Q WHAT TYPES OF CHANGES SHOULD PACIFICORP HAVE MADE IN ITS NATURAL GAS HEDGING PROGRAM?

A PacifiCorp should have reduced its 100% reliance on fixed for variable financial natural gas swaps and have some portion of its program exposed to the market in order to capture the benefits of increased supply of natural gas and associated price decline. PacifiCorp should have followed the conclusions of its EROC and actually implemented changes to be more flexible and address concerns raised by natural gas price reductions and cost minimization considerations.

Q PLEASE DESCRIBE YOUR THIRD EVALUATION CRITERIA, APPLYING REASONABLE BUSINESS STANDARDS, NOT HYPOTHETICAL IDEALS?

A The application of the prudence review framework should not be based on a perfect or ideal application of known business models to obtain an exact perfect solution to a business problem. On the contrary, the application of the prudence review framework is based on reasonable knowledge of facts at the time of decision and application of known and workable business models to obtain a solution, which is in the zone of reasonableness, to a business problem.

Q WHAT IS THE IMPORTANCE OF THIS WHEN APPLIED TO PACIFICORP'S NATURAL GAS HEDGING?

A PacifiCorp risk managers should have been clearly aware of the established financial concept of diversification when developing strategies to address and mitigate risk. Therefore, in addition to using longer-term year financial swaps, PacifiCorp risk managers should have had the intelligence and foresight to have a diversified portfolio approach in the Company's hedging program for natural gas, but they failed to take any action. Buying over time is a smart strategy, but it is not sufficient on its own. It cannot be the only strategy. This diversification portfolio approach should have included at a minimum, leaving a portion of its portfolio exposed to the market. This diversified approach would provide far more flexibility in the hedging program in order to reduce costs and increase benefits to ratepayers. Diversification is a crucial concept for effective risk management:[14] "Don't put all your eggs in one basket."

Q WHY DO YOU SAY THAT PACIFICORP'S RISK MANAGERS SHOULD HAVE BEEN AWARE OF THE CONCEPT OF DIVERSIFICATION?

A Diversification is an elementary basic of energy risk management. According to the authors of the text, Energy Risk Management: A Primer for the Utility Industry, the risk manager of a business is responsible for the following important functions and tasks:

(1) discover the risk problems to be solved;

(2) consider the ways to deal with the problem;

(3) decide what appears to be the most efficient way to deal with the problem;

(4) implement the decision; and

(5) evaluate the results.[15]

Moreover, the authors identify the following six basic techniques for managing risk:

1) Avoid the risk;

2) Bear the risk;

3) Reduce the hazard;

4) Reduce the loss;

5) Shift the risk (hedge); and

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[14] Eugene Brigham and Joel Houston, Fundamentals of Financial Management, 6th Edition (Concise), Cengage Learning, Mason, Ohio, Chapter 8.

[15] Andrew S. Hyman, Michael J. Denton, Leonard S. Hyman, Bradford G. Leach, and Gary A. Walter, Energy Risk Management: A Primer for the Utility Industry, Public Utilities Reports, Inc., Vienna, Virginia, 2006, p. 14.

6) Reduce the risk (diversify).[16]

Q WHY IS THIS IMPORTANT FOR PACIFICORP'S HEDGING PROGRAM?

A As the Primer indicates, PacifiCorp needs to have a diversified hedging program to address both increasing gas prices and falling gas prices in order to reduce the costs of the program. Using a diversified portfolio provides a reasonable balance to address changes in risks in order to reduce costs. Buying at market, in conjunction with other tools, has relative advantages and disadvantages in addressing increases and decreases in natural gas prices. PacifiCorp knew or should have known of these principles and should have modified its program accordingly. The fundamentals of economic regulation require that cost minimization be one of the primary goals used by energy utility management in the development and implementation of its hedging program for natural gas in order to address the interests of captive ratepayers. It must be a joint goal with price stability. By failing to address and balance cost minimization and price stability as joint primary goals, PacifiCorp has incurred significant losses for its ratepayers in its natural gas hedging program.

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[16] Ibid. p. 19.

Q WHAT DO YOU MEAN WHEN YOU TALK ABOUT THE CONCEPT OF AWARENESS OF AND RESPONSE TO IMPORTANT CHANGES TO BUSINESS RISK WITHIN THE PRUDENCE REVIEW FRAMEWORK?

A The application of the prudence review framework is based on the reasonable working assumption that efficient utility managers should be aware of and respond to changes in external and internal business risks. In order to address the interests of both investors and ratepayers, prudent utility managers, as financial agents, need to recognize and to implement policies to respond effectively to changing business risks and associated impacts on revenues and/or costs.

Q WHAT IS THE SIGNIFICANCE OF THIS CONCEPT IN YOUR EVALUATION OF PACIFICORP'S HEDGING PROGRAM RELATING TO NATURAL GAS?

A In the article, "Stepping on the Gas," written by Daniel Yergin (see UIEC Exhibit (JRM-5)), we see that there has been a significant rise in the supply of shale gas as a percentage of US natural gas production rising from 5% in 2005 to over 20% in 2010. Additionally, the associated price per million Btu of natural gas fell from approximately $9.00 in 2008 to approximately $4.00 in 2010. The hedging program at PacifiCorp should have incorporated and implemented diversification and flexibility during this period in order to address these business risk changes and to reduce costs to the ratepayer. As previously discussed and documented, as early as 2007 the EROC discussed and acknowledged the need for change in its natural gas hedging program.

However, when significant business risks and conditions did change, such as increases in the supply of shale gas and associated reductions in the price of natural gas, the EROC did not initiate and implement change in its natural gas hedging program, such as buying at market, in order to minimize cost risk for the ratepayers. PacifiCorp was clearly aware of significant losses associated with its natural gas hedging program starting in 2007.

Q CAN YOU GIVE US AN EXAMPLE OF HOW THESE LOSSES AFFECTED THE CURRENT TEST YEAR?

A Yes. As demonstrated in my Confidential Exhibit UIEC (JRM-6)[17] the bulk of the hedging for the current test year was done during the 2007-2008 period. This was during and after the time PacifiCorp's EROC discussed a need to change, but failed to do so, and when shale gas started to have a significant effect on the price of natural gas. For the test year, losses from financial swaps hedged in 2007 were [redacted], for the year 2008 they were [redacted], for the year 2009 they were [redacted], and for the year 2010 they were [redacted], for a total of [redacted] in financial swap hedging losses for the test year. Also, when considering an annual burn requirement for the test year of 67,672,663 MMBtu, PacifiCorp was hedged monthly with financial swaps for the test year between 74% and 121%.

[17] The figures for this exhibit were prepared by UIEC witness Mr. Widmer.

Q PLEASE EXPLAIN WHAT YOU MEAN BY THE CONCEPT OF AWARENESS OF RELEVANT POLICIES AND PRACTICES OF OTHER ENERGY UTILITIES WITHIN THE PRUDENCE REVIEW FRAMEWORK?

A The application of the prudence review framework is based on the reasonable working assumption that efficient utility managers should be aware of relevant policies and practices of other energy utilities. When addressing specific business problems, prudent utility managers should be aware of relevant experiences at other utilities by networking through professional organizations such as the Electric Power Research Institute and the Edison Electric Institute. Prudent energy utility managers should clearly learn from the experiences of other managers at utilities including the managers at other utility subsidiaries of the same parent holding company. This is especially relevant here where PacifiCorp has sister energy utility companies which share the same parent holding company—MEHC. At least three of the officers of PacifiCorp are officers of MidAmerican Energy Company. Given the significant natural gas hedging losses PacifiCorp was experiencing, a prudent manager would have looked to what other energy utilities were doing that might be more successful, especially if its sister companies were having more success.

Q WHAT HAVE SOME OTHER ENERGY UTILITIES DONE IN THEIR NATURAL GAS HEDGING PROGRAMS?

A During the past five years, other energy utilities have implemented diversified and flexible hedging programs relating to natural gas in order to address changing business risks to meet goals of price stability and cost minimization.[18]

Q DO YOU HAVE ANY EXAMPLES?

A Yes. An informative discussion of a hedging program for natural gas and power purchases has been provided by Mr. Gary Gottsch, a witness for Aquila, Inc., in 2006 rate proceedings before the Missouri Public Service Commission. Mr. Gottsch has stated the following in his testimony:

> Q. Can you summarize Aquila's natural gas hedging program for electric generation and on-peak purchased power?
>
> A. Aquila's approach for hedging natural gas and on-peak purchased power is to procure one-third of the monthly forecast quantity through fixed price NYMEX swaps, one-third in option contracts (straight calls or collars), and the remaining one-third at the then prevailing daily or monthly market indexes. These positions are acquired over a 28 month process that allows the Company to capture a greater averaging effect.
>
> Q. Why does Aquila believe that this hedging approach is appropriate?

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[18] For a summary of hedging programs at various energy utilities, see direct testimony on Douglas D. Wheelwright, Utah Division of Public Utilities, filed in June 2010, in Docket No. 09-035-15 before the Public Service Commission of Utah.

A. This approach allows Aquila to mitigate the natural gas price volatility (via fixed price and option contracts) while still allowing it to take advantage of decreases in natural gas prices (via option contracts and index purchases). (Missouri Public Service Commission, Docket No. ER-2007-0004, Direct Testimony of Gary L. Gottsch at page 2, lines 11-21, July 3, 2006.)

Q HAVE OTHER UTILITIES TAKEN SIMILAR APPROACHES?

A Yes. For example, Questar, has incorporated the purchase of natural gas at current market prices as part of its hedging program. In response to a data request made by the Utah Division of Public Utilities relating to PSCU Docket No. 06-057-04, Questar Gas Company indicated that its total hedged natural gas supply varied between 58% and 70% between years 2006 and 2010 with the remainder being subject to market. (See UIEC Exhibit (JRM-7)).

Q HAVE UTILITY SUBSIDIARIES OF MIDAMERICAN ENERGY HOLDING COMPANY TAKEN SIMILAR APPROACHES?

A Yes. The natural gas division of MidAmerican Energy Company in Iowa has used a hedging program of approximately 67% in hedges (including storage) and 33% buying at spot or market for approximately 10 years.[19] This energy

[19] Based on information supplied by the Iowa Utilities Board Staff.

utility, like PacifiCorp, is a subsidiary of MidAmerican Energy Holding Company.

Q WHY IS IT IMPORTANT FOR PACIFICORP TO CONSIDER THE EXPERIENCE OF NATURAL GAS DISTRIBUTION COMPANIES CONCERNING ITS HEDGING PROGRAM FOR NATURAL GAS?

A By considering the expertise and experiences of energy risk managers at natural gas distribution utilities and divisions, PacifiCorp can gain insights concerning the development and implementation of effective hedging programs for buying natural gas. PacifiCorp needs to separately focus on its natural gas hedging program to balance and meet the important primary goals of price stability and cost minimization.

Q DO YOU HAVE ANY EXAMPLES OF WHAT OTHER ELECTRIC UTILITIES HAVE DONE RECENTLY?

A Yes. In response to concerns regarding the cost-effectiveness of and increasing financial losses associated with natural gas hedging programs of the Nevada electric utilities, Nevada Power Company and Sierra Pacific Power Company, these hedging programs were suspended and significantly reduced during the year 2010.[20] Before the suspension of the natural gas hedging program, the electric utilities in Nevada had the following portfolio: 50% in swaps, 25% in collar options, and 25% in open market. In Docket

[20] Based on information supplied by Public Utilities Commission of Nevada—Regulatory Operations Staff and in Public Utilities Commission of Nevada Docket No. 10-09003, Order issued on December 8, 2010, and Docket No. 10-07003, Order issued October 14, 2010.

No. 10-09003, Order issued on December 8, 2010, the Public Utilities Commission of Nevada approved a Stipulation concerning Nevada Power Company (NPC) that has the following features concerning gas hedging strategy:

AGREEMENTS REGARDING SPECIFIC ISSUES

1. **Gas Hedging Strategy.**

(a) NPC shall not procure any additional financial gas hedges. This strategy, however, is subject to the Company's monitoring process described in paragraph 1(d) below. Moreover, this in this paragraph prohibits the Company from filing an energy supply plan, an energy supply plan amendment, or an energy supply plan update in which the Company proposes to procure financial gas hedges. The Company shall not unwind any hedges that already had been procured as of the date of this Stipulation.

* * *

(d) The Company shall continue to monitor its natural gas hedging strategy in light of prevailing market fundamentals and conditions. The Company shall evaluate its gas hedging strategy quarterly at a minimum, or as needed, depending upon the market fundamentals and conditions. The Company's strategy evaluation shall conclude with an affirmative decision of whether to continue the existing strategy or make adjustments to the

> strategy. The Company shall document each decision process and retain records that support the decision.

The objectives of the energy utilities' hedging programs are based on Nevada's Energy Supply Plans which include: minimize the cost of supply, minimize price volatility, and maximize the reliability of energy.[21] Hedging plans concerning natural gas are addressed in the Energy Supply Plan Proceedings in Nevada. As previously discussed, PacifiCorp has failed to address the important objective of cost minimization in its natural gas hedging program and failed to respond to changes in market conditions.

Q DO YOU HAVE ANY FURTHER EXAMPLES OF ELECTRIC UTILITY HEDGING PROGRAMS?

A Yes. The Georgia Public Service Commission of Georgia, in Docket No. 22403-4, issued the following order on June 7, 2007 concerning the natural gas hedging program of the Georgia Power Company, an electric utility.

> Hedging Guidelines
>
> The Commission directs the company to hedge between thirty (30%) to fifty percent (50%) of the budgeted natural gas burn volume for a calendar month.

PacifiCorp has failed to have a diversified hedging program for natural gas.

[21] Public Utilities Commission of Nevada, Docket No. 09-07003, Volume 3 of 6 Energy Supply Plan, p. 4.

Q WHAT ARE THE IMPLICATIONS FOR PACIFICORP OF THESE OTHER HEDGING PROGRAMS?

A Based on what was publicly available and known to other utilities in modifying their hedging programs, it would certainly have been reasonable and prudent for PacifiCorp, for the current test period, to use as a starting point or benchmark, the 1/3 allocation for buying at market, to meet objectives of price stability and cost minimization. What the other 2/3 should be is a question for another day. What is critical is that at least a portion should have been exposed to market.

The 1/3 allocation for buying at market serves as the basis for my recommended disallowance of $19.7 million. Mark Widmer explains in his direct testimony how the financial amount of $19.7 million for Utah is associated with my recommendation to buy 33% of gas requirements at market. A recommended range of an imprudent disallowance of 25% to 40% for buying at market is based on reasonable assumptions and adjustments to reflect how energy utilities have addressed changes in business risk by buying at market.

In addition to the proposed methodological framework of setting a percentage of the hedging program for natural gas to be bought at market, it is certainly feasible that other approaches using economic factors can be used to estimate a reasonable imprudence disallowance.

V. CONCLUSIONS AND RECOMMENDATIONS.

Q WHAT ARE YOUR CONCLUSIONS AND RECOMMENDATIONS BASED ON YOUR PRUDENCE REVIEW OF PACIFICORP'S GAS HEDGING PROGRAM FOR NATURAL GAS COSTS DURING THE TEST PERIOD?

A The Commission should find the following:

- A prudence review of what utility managers knew or should have known shows that PacifiCorp management failed to follow its own EROC recommendations to diversify and react to the change of natural gas prices in the market.
- 33% of natural gas requirements should be purchased at market. This produces a disallowance of $47.5 million system-wide or $19.7 million for Utah which is reasonable for losses associated with PacifiCorp's imprudent hedging program (swaps) for natural gas rated to generate electricity.
- The reasonable range for imprudence disallowance for this case is buying 25% to 40% of natural gas at market.
- The prudence review criteria suggested are reasonable.

Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

QUALIFICATIONS OF J. ROBERT MALKO

Q. PLEASE STATE YOUR NAME, ADDRESS AND OCCUPATION.

A. My name is J. Robert Malko. I am a Professor of Finance in the Huntsman School of Business at Utah State University located in Logan, Utah. My business consulting address is 245 North Alta Street, Salt Lake City, Utah 84103.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND ACADEMIC POSITIONS.

A. I received my Bachelor's degree, cum laude, in economics and mathematics from Loyola College in Baltimore, Maryland. I received my Master's and Doctorate degrees in economics from the Krannert Graduate School of Management at Purdue University in West Lafayette, Indiana. I have also taken graduate courses in corporate finance and investment theory at the University of Wisconsin at Madison. I was a Visiting Scholar in industrial engineering at Stanford University in Palo Alto, California. At Utah State University, I teach undergraduate level and graduate level courses in Corporate Finance and Applied Microeconomics.

Q. PLEASE DESCRIBE SOME OF YOUR PRIOR WORK EXPERIENCE.

A. I served during the periods 1975-1977 and 1981-1986 as the Chief Economist for the Public Service Commission of Wisconsin. During this time, I also served as Chair and Vice-Chair of the National Association of Regulatory Utility Commissioners ("NARUC") Staff Subcommittee on Economics and Finance. From 1977-1981, I was Project Manager, and then Program Manager, for The

Electric Utility Rate Design Study. This study was housed at the Electric Power Research Institute ("EPRI") in Palo Alto, California and prepared for NARUC. In 1981-1982, I was the Senior Staff Advisor to the NARUC Ad Hoc Committee on Utility Diversification. I assisted the Committee in the preparation and publication of their Final Report in 1983. I served on the Board of Directors at the National Regulatory Research Institute ("NRRI"), located at the Ohio State University, between 1997 and 2003. I have served on the Board of Directors of the Society of Utility and Regulatory Financial Analysts (SURFA) between 1988 and 1996 and 2002 to 2010. I am also a Certified Rate of Return Analyst which is certified by SURFA. I currently serve on the Advisory Council for the Center of Public Utilities at New Mexico State University.

Q. HAVE YOU PREVIOUSLY TESTIFIED IN REGULATORY PROCEEDINGS?

A. Yes. I have testified on behalf of state regulatory commissions, state offices of consumer counsel, energy utilities and customer groups. I have presented testimony before the Arizona Corporation Commission, the Connecticut Public Utilities Control Authority, District of Columbia Public Service Commission, the Federal Energy Regulatory Commission, the Hawaii Public Utilities Commission, the Illinois Commerce Commission, the Maryland Public Service Commission, the Minnesota Public Utilities Commission, the New Hampshire Public Utilities Commission, the New Jersey Board of Public Utilities, the Nevada Public Service Commission, the New York Public Service Commission, the Pennsylvania Public Utility Commission, the Public Service Commission of Wisconsin, the Public

Service Commission of Utah, Utah State Tax Commission, and the Virginia State Corporation Commission.

Q. PLEASE SUMMARIZE YOUR PUBLICATIONS CONCERNING REGULATION AND PUBLIC UTILITY ISSUES.

A. I have written (co-authored) approximately 170 articles on public utility economics and finance that have been published in books and journals including, Forum For Applied Research and Public Policy; Journal of Business Administration; Journal of Energy Law and Policy; The Journal of Energy and Development; Energy: The International Journal; and Wisconsin Law Review. I am co-editor of Electric Utilities Moving Into The 21st Century published by PUR in 1994, Reinventing Electric Utility Regulation published by PUR in 1995, and Customer Choice: Finding Value in Retail Electricity Markets published by PUR in 1999.

CERTIFICATE OF SERVICE
(Docket No. Docket No. 10-035-124)

I hereby certify that on this 26th day of May 2011, I caused to be e-mailed, a true and correct copy of the foregoing **PREFILED DIRECT TESTIMONY OF J. ROBERT MALKO AND EXHIBITS ON REVENUE REQUIREMENT ON BEHALF OF UIEC** to the parties below. For those who have signed the protective order and would like a copy of the confidential version, please email a copy of your execution of the agreement and we will in turn send you a copy of the confidential testimony.

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