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Memorandum

To: Public Service Commission

From: Division of Public Utilities
Irene Rees, Director
Artie Powell, Acting Manager, Energy Section
Elizabeth Brereton, Utility Analyst
Andrea Coon, Technical Consultant

Subject: *In the Matter of the Acknowledgment of PACIFICORP Integrated Resource Plan 2004*: Docket 05-2035-01

Date: April 22, 2005

Background

On January 20, 2005, PacifiCorp filed its 2004 IRP with the Public Service Commission (Commission) and stakeholders in the process. The Commission issued a request for comments, to be filed by March 31, 2005, on February 10, 2005**.** The Division of Public Utilities (Division) responded on March 10, 2005 with a request for an extension of the deadline until April 1, 2005. UAE filed an additional request for an extension on March 21, 2005, requesting an extension until April 22, 2005. The following comments and analysis are the Division's response to the aforementioned Commission request for comments.

Summary of Recommendations:

The Division recommends the follow actions with regard to the 2004 IRP:

1. Acknowledgment of the IRP as meeting Utah's Standards and Guidelines.
2. PacifiCorp continue to examine the methodology being used to forecast loads, especially over the long-term and, as more data regarding loads and growth under the summer three-tier block rate becomes available, that PacifiCorp present that information and its effect on load forecasting to interested stakeholders in Utah.
3. PacifiCorp should file a load/resource balance update with regulators no less than semi-annually.
4. The Commission order PacifiCorp to examine any disparities between gas price forecasts and actual available pricing, reexamine its forecasting method and determine whether any other readily available forecasting method or data source would yield less disparate results, and present the findings to the Commission for its information and future consideration.

Analysis

The Division appreciates the efforts of PacifiCorp's IRP Team. Their hard work has produced a document that is both well organized and readable. PacifiCorp has been professional and amenable to examining most suggestions, even when such suggestions seem contradictory to previous requests due to varying interests between different customer and stakeholder groups. That being said, it would be nearly impossible to produce a document encompassing resource planning for six service territories that will satisfy that varied needs for every stakeholder group. Therefore, the Division submits the following comments, which are divided into two areas: the first area is intended to outline areas in which the Division's staff feels that some improvements or reexamination can be made in the IRP process and methodology for the next planning cycle; the second is intended to review whether the IRP meets the Commission's ordered Standards and Guidelines, thereby being eligible for Commission acknowledgement.

<u>Areas for Improvement or Reexamination:</u>

The first area of concern in the 2004 IRP process, as well as other recent PacifiCorp dockets, such as the last rate case, is that of load forecasts. The Division believes that electric usage or demand may be more responsive to price increases in the long run than indicated in the current IRP. In other words, the Division believes that the price elasticity of electricity demand may be greater in the long run than modeled in PacifiCorp's current IRP. For example, with respect to the recently implemented three-tier residential block rate in Utah, the Division believes the data from a single summer, taken in the first year of implementation of the tiered rate, is insufficient to show long-term changes in customer behaviors or purchase choices. A ratepayer, for example, may, after experiencing the affects of the tiered rate purchase new, more energy efficient appliances or other durable goods. Given such purchases are occasional at best, this usage or demand response would not be captured in the first year's data. Furthermore, since only usage is examined, other types of customer responses to the price signals, such as the customer choosing to participate in a DSM program such as "Cool Keeper," may not be adequately accounted for. The Division believes that the high response to the "Cool Keeper" program could be due in part to the higher tier. Although PacifiCorp has responded to the Division several times regarding load forecasting, including holding meetings in which methodology and elasticity were explained, the Division recommends that PacifiCorp continue to examine the methodology being used to forecast loads, especially over the long-term and, as more data regarding loads and growth under the summer three-tier block rate becomes available, that PacifiCorp present that information and its effect on load forecasting to interested stakeholders in Utah.

The next area of concern to the Division is that of the renewable resources. In this area however, the concern may apply more to implementation of the IRP rather than to the IRP itself. The Division does not disagree with PacifiCorp's decision to not include further amounts of renewable resources in this planning cycle. We agree that collecting more information regarding wind integration costs, contribution to peak capacity, and other types of information can only lead to a more accurate modeling effort in future IRPs. Also, when the 2004 IRP was initially undertaken, none of the 1400 MWs of renewable resources anticipated by the 2003 IRP had been obtained. The area in which the Division is concerned is that to date (as of this writing), PacifiCorp has still not procured any of the renewable resources anticipated by the 2003 IRP, even though it has finalized the plans and procurement of two thermal resources within the same time frame. While the Division recognizes that there was some delay due to the anticipated expiration of the federal Production Tax Credit, the Division urges the Company to make sure that when the tax credit is renewed, as it will likely be, that the Company takes full advantage by procuring some of the long-awaited renewable resources. The data that the Company depends on to model more renewable resources in future IRP cycles can only be collected if the facilities are in use.

The third area of concern for the Division is that of risk. The concerns that the Division has in the area of risk actually encompass two of the types of risks dealt with in the IRP, carbon risk and fuel price risk. First, the Division is unsure that the manner in which carbon risk is modeled is realistic given the current political climate. While there are individual states that are enacting legislation dealing with greenhouse pollutants, the likelihood of such legislation being passed on a national level any time in the near future seems slim at best. The Division feels that assigning incorrect carbon risk values could lead to less than optimal resource decisions. The Division, therefore, requests that PacifiCorp thoroughly reexamine its carbon risk assessments, including assigned probabilities and values, for the next IRP cycle.

Second, the IRP is supposed to assess the distribution of risks to shareholders and customers, (Chapter 4, p. 65). It is assumed that "the risk of an unanticipated change in cost is borne in part by customers through rate changes that may not capture the full cost change. As a result the part of the unanticipated cost change that is not captured in customer rates is borne by the shareholder (Ch. 4, pp. 65-66)." But PacifiCorp is in the process of taking a step that could potentially shift entirely the risks associated with fuel volatility, more common with a natural gas plant, to customers. PacifiCorp has informed the Utah stakeholders of its intent to file for a Power Cost Adjustment Mechanism (PCAM) in several of its service jurisdictions. If a PCAM were allowed, it would be a mechanism under which potentially all of the fuel risk could shift to ratepayers if all fuel costs were recovered dollar for dollar. While the Division is not making a judgment statement on a PCAM, the prospect does raise some concerns regarding risk modeling. Resource decisions have been made, particularly over the last year or two, which were based upon a presumption of risk sharing as outlined above. This risk profile, at least in part, appeared to help guide the choice of natural gas fired facilities. The concern is that under the presumption that all fuel volatility risks were to accrue to the customer, different resource decisions may have been made. Therefore, the Division believes that if PacifiCorp goes ahead with its plans to file for a PCAM, the manner in which risk is accounted for in the IRP will need to be thoroughly reassessed so that stakeholders can make informed decisions. If all fuel risk is to be borne by the ratepayers, it may affect the resource choices that stakeholders will be amenable to accepting. It may also change the scenarios and other model runs that will need to be performed to prove that a selected portfolio has a risk level that is acceptable to ratepayers.

The fourth area of concern to the Division is that of the load/resource balance. While we have little quarrel with how the load/resource balance is calculated, it is of concern that the figure becomes outdated so quickly, particularly in light of the ongoing dockets dealing with avoided costs, where pricing issues depend heavily upon the load/resource balance. The Division realizes that the load/resource balance is a near constantly changing number that varies according to load forecasts, resource acquisitions, and, closer to the actual date, even weather forecasts. Therefore, the Division recommends that the Company continue to file a load/resource balance update with regulators no less than semi-annually. This update should include all major changes made throughout the interim period that have affected both the projected loads and the available resources.

The fifth area of concern, or perhaps of interest, is that of available resource options, specifically IGCC. The Division has heard apparently conflicting versions of whether or not IGCC is now economically viable, or whether it will be so in the not too distant future. The Division is very interested in IGCC technology, as it can be used as a hedge against the long term regulatory and carbon risks that PacifiCorp associates with a conventional coal-burning generator. The Division appreciates PacifiCorp's willingness to examine IGCC in the 2004 IRP, but also believes that more examination of this technology must take place during the interim period so that the technology can be given a more thorough airing during the next IRP cycle.

The sixth area of interest is in the resource portfolios, specifically Portfolio Q. The Division believes that perhaps insufficient credibility has been attributed to the viability of Portfolio Q. While Division analysts read with interest the outcome of PacifiCorp's evaluation of the portfolio, the Division believes that more attention should have been given to the fact that Portfolio Q also looks better than all the other options in the event that the CO2 allowance ends up being zero, as it now is. In that event, Portfolio Q is $1.3 billion (out of around $13 billion) cheaper than the alternatives. Since the substitution of a coal-fired for a gas-fired plant would not occur until the 2013 plant addition, no commitment needs to be made now with regard to that choice. The Division does believe, however, that future IRPs need to be very explicit about how Portfolio Q continues to stack up against the alternatives.

The seventh area of concern stems from the High Gas Price Scenario risk analysis described in Chapter Eight and Appendix C. There appears to be some ambiguity as to the choice of modeling and rate of price escalation. On page 160 of Chapter Eight the Company outlines its basic assumptions. It is not clear to Division analysts, however, why PacifiCorp used two different forecasting models, the IRP base and the PIRA model. Given that the PIRA forecast "is on average $2.27/MMBtu higher at Henry Hub than the gas forecast used in the IRP base case (Ch. 8, 160)," it seems as though the IRP base forecast underestimates gas prices.

In Appendix C there are two figures that graphically represent both the IRP Base and PIRA forecasts. The first graph (Figure C.2, Appendix C, 31) shows "PC West and East Annual Average Gas Prices." It is assumed that the Company is using the " IRP base" forecast, as there is no mention of updated information post June 2004. The second graph (Figure C.3) summarizes the high gas price scenario used in the Company's risk analysis. Here, the PIRA or the "official" forecast is used and prices are escalated by 10%. Together, Figure C.1 and C.2 appear to be based on two different forecasts. Again, the question of difference between the "official" model and the "IRP base" forecast model comes up. By "increasing the price forecast (Ch 8, 160)," it is not clear to Division analysts as to how prices increased.

The lack of clarity in the gas price forecast section leads to the Division's final area of concern: that of the gas price forecasts. While the Division is very aware that forecasting is not a perfect science, the margin of error between forecast and reality can have a real impact on ratepayers, particularly given the recent additions of gas-fired generation. While the coal/gas mix in the PacifiCorp fleet is still heavily weighted toward coal, the addition of two large gas plants over the next two years is seriously increasing the risk of price volatility. The Division understands that natural gas fired plants are a preferable type of generator for certain types of usage, particularly peaking or load following, due to its ability to ramp quickly. This being said, however, the last natural gas fired plant to be approved was approved as a base load plant, meaning that it will be serving the type of role that in the past has been filled by more capital intensive, less fuel price volatile coal plants. At least part of the reason for choosing the natural gas plants was the forecasted natural gas price, which, at least in the short-run may be overly optimistic. The Division is concerned that, given the currently high gas prices, the wrong resource choices are being made based upon these low gas price forecasts. These resource decisions could end up costing customers millions of dollars more in fuel costs than projected. Therefore, the Division recommends that the Commission order PacifiCorp to examine any disparities between the utilized gas price forecasts and actual available pricing. The Division also recommends that the Commission order PacifiCorp to reexamine its forecasting method and use comparative studies to determine whether any other readily available forecasting method or data source would yield less disparate results. The Division recommends that the findings from both of the above efforts be presented to the Commission for its information and future consideration.

Standards and guidelines:

The Standards and Guidelines directing PacifiCorp's IRP process for its Utah jurisdiction were set up by Commission order in Docket 90-2035-01, dated June 18, 1992. According to this order, adherence to the Standards and Guidelines is what should determine whether or not an IRP is acknowledged. Therefore, the Division will very briefly outline the Standards and Guidelines, as well as if the 2004 IRP meets each part. In the interest of time and space, the Standards and Guidelines may be abbreviated.

1. Definition: Integrated resource planning is a utility planning process, which evaluates all known resources on a consistent and comparable basis…the process should result in the selection of the optimal set of resources given the expected combination of costs, risk and uncertainty.

Response: The Division believes that the spirit of this Standard has been filled. PacifiCorp has evaluated both demand and supply side resources on a reasonable basis. Although the chosen portfolio is not necessarily the lowest cost portfolio, as would be required, it is a portfolio that, given the assumptions in the IRP, contains a reasonable tradeoff of cost and risk. The Division is still uncertain as to whether the selected portfolio is optimal, given that the automated resource addition logic was not entirely functional when the portfolio was chosen; however, the Division is satisfied that the portfolio is a reasonable selection, given the above-mentioned constraints.

2. **The Company will submit its Integrated Resource Plan biennially.**

Response: The 2004 IRP meets this requirement.

3. **IRP will be developed in consultation with the Commission, its staff, the Division of Public Utilities, the Committee of Consumer Services, appropriate Utah state agencies and interested parties. PacifiCorp will provide ample opportunity for public input and information exchange during the development of its Plan.**

Response: PacifiCorp organized a robust, open, accessible process that included input from numerous state agencies and stakeholder groups as described in Appendix B. The 2004 IRP fulfilled this requirement.

4. **PacifiCorp's future integrated resource plans will include:**

a. A range of estimates or forecasts of load growth, including both capacity (kW) and energy (kWh) requirements.

Response: The 2004 IRP does break down forecasted loads by jurisdiction and general class. It also includes off-system obligations in the load/resource balance. The IRP also includes some discussion of markets that can be used for the PacifiCorp system. Although, as discussed above, the Division feels that some changes can be made to the load forecasts, what is contained in the IRP is adequate to meet the guideline. (See Chapter 3 and Appendix I)

b. An evaluation of all present and future resources, including future market opportunities (both demand-side and supply-side), on a consistent and comparable basis.

Response: The 2004 IRP appears to adequately fulfill this requirement, in part by means of Chapter 6.

c. An analysis of the role of competitive bidding for demand-side and supply-side resource acquisitions.

Response: The action plan in Chapter 9 outlines the basic manner in which resources will be procured, including through use of a bidding process where required by law or regulators. The 2004 IRP appears to adequately fulfill this requirement.

d. A 20-year planning horizon.

Response: The 2004 IRP adequately fulfills this requirement.

e. An action plan spanning a four-year horizon with specific actions in the first two years, outlining the specific resource decisions intended to implement the integrated resource plan in a manner consistent with the Company's strategic business plan. The action plan will include a status report of the actions contained in the previous action plan.

Response: The extended explanations of the action plan items as contained in Chapter 9 adequately outline resource decisions and implementation. A status report on the 2003 IRP action plan is filed as Appendix M. The 2004 IRP adequately fulfills this requirement.

f. **A plan of different resource acquisition paths with a decision mechanism to select among and modify as the future unfolds.**

Response: Chapter 9 outlines a basic path analysis for the action plan major acquisition items. Therefore, the 2004 IRP adequately fulfills this requirement.

g. An evaluation of the cost-effectiveness of the resource options from the perspectives of the utility and the different classes of ratepayers. In addition, a description of how social concerns might affect cost effectiveness estimates of resource options.

Response: The Division believes that the risk assessment in Chapter 4 was meant to fulfill this requirement and will accept it for this iteration of the IRP. In the next cycle, however, PacifiCorp may want to evaluate the benefit of a more thorough discussion of this guideline.

h. An evaluation of the risks associated with various resource options and how the action plan addresses these risks. The Company will identify who should bear such risk, the ratepayer or the stockholder.

Response: PacifiCorp's risk analysis as described in Chapter 4 and Appendix G adequately fulfills this requirement. The Division does, however, have a growing concern regarding the price risks associated with PacifiCorp's apparent preference for new natural gas fired generation. As stated above, the Division recommends that this issue be aired in the context of an examination of gas price forecasting prior to the start of the next IRP cycle.

i. Considerations permitting flexibility in the planning process.

Response: The path analysis in Chapter 9 adequately fulfills this requirement.

j. An analysis of tradeoffs.

Response: Some discussion of the tradeoff between cost and reliability took place in Appendix N as part of the planning margin study. The Division is satisfied that the discussion satisfies this guideline.

k. A range of estimated external costs that may be intangible.

Response: The discussion of risk in Chapter 9 appears to adequately fulfill this requirement.

5. PacifiCorp will submit its IRP for public comment, review and acknowledgement.

Response: The 2004 IRP has been so submitted.

6. The interested parties will have the opportunity to make formal comment to the Commission on the adequacy of the Plan. The Commission will review

the Plan for adherence and will judge the merit and applicability of comments. Formal hearings on the acknowledgement of the Integrated Resource Plan are not required.

Response: These comments are part of the review process. The 2004 IRP is fulfilling this requirement.

7. Acknowledgement of an acceptable Plan will not guarantee favorable ratemaking treatment of future resource acquisitions.

Response: By recommending acknowledgement, the Division is making no assumptions as to pre-approval of resources or other actions determined by the IRP.

8. The Integrated Resource Plan will be used in rate cases to evaluate the performance of the utility and to review avoided cost calculations.

Response: This guideline will need to be followed to the extent deemed necessary and appropriate by the Commission in future dockets.

Recommendation for Acknowledgement

Although the Division has requested that several areas in the IRP be either reexamined or reworked in the next IRP cycle, we are satisfied that the 2004 IRP adequately meets the standards and guidelines as ordered by the Commission. We therefore recommend that the Commission acknowledge the 2004 IRP. We further recommend that given the upcoming need for resource acquisition, the Commission order PacifiCorp to examine any disparities between gas price forecasts and actual available pricing, reexamine its forecasting method and determine whether any other readily available forecasting method or data source would yield less disparate results, and present the findings to the Commission for its information and future consideration.

Cc: Melissa Seymour, PacifiCorp
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