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DIVISION COMMENTS

To: Utah Public Service Commission

From: Utah Division of Public Utilities

Chris Parker, Director
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Joni Zenger, Technical Consultant
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Date: June 20, 2014

Re: Docket No. 13-2035-01 - PacifiCorp's 2013 Integrated Resource Plan Update
Confidential

RECOMMENDATION (NO ACTION)

The Division has reviewed PacifiCorp's Confidential 2013 Integrated Resource Plan Update (2013 IRP Update). As discussed below, the 2013 IRP Update was submitted for informational purposes only, and no action is required by the Commission.

ISSUE

On March 31, 2014, PacifiCorp (Company) filed its 2013 IRP Update with the Utah Public Service Commission (Commission). The Company prepares its IRP on a biennial schedule, filing its plan with state utility commissions in its six state jurisdiction during each odd numbered year. In the even numbered years, as in this year, the Company files an update to its IRP. On April 16, 2014, the Commission issued a Scheduling Order requesting interested parties to file comments by June 20, 2014. This memorandum is provided as the response and comments of the Division regarding the Company's 2013 IRP Update.

DISCUSSION

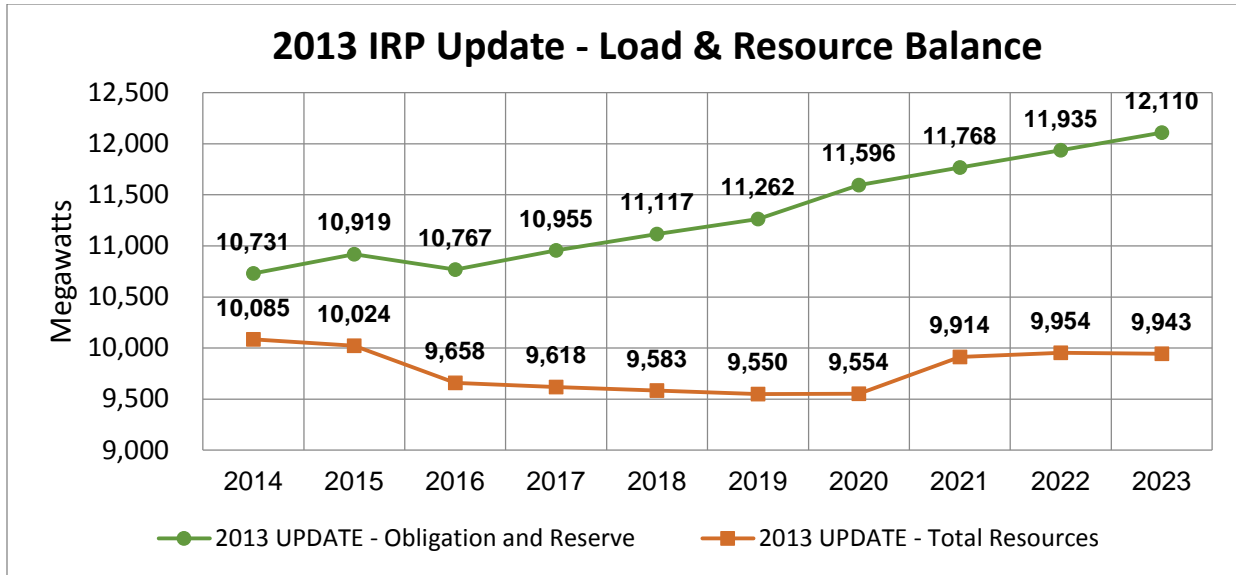
The Division appreciates this opportunity to provide comments on the Company's 2013 IRP Update. The Division will briefly discuss the following topics in our comments: key aspects of the 2013 IRP Update, 2013 IRP acknowledgement requirements, and status updates to the Action Plan. The memorandum does not comment on or discuss all possible topics. The Division provided a detailed discussion of key items in its comments on the original 2013 IRP filing.¹

Key Aspects of the 2013 IRP Update

The 2013 IRP Update describes the resource planning and procurement activities that occurred subsequent to the filing of the 2013 IRP on April 30, 2013. This includes an updated resource needs assessment, an updated resources portfolio consistent with changes in the planning environment, and an IRP Action Plan status update. The 2013 IRP Update includes both a confidential and redacted version. The confidential portion of the report is limited to the Breakeven Analysis (Appendix F), an update to the coal analysis contained in Volume III of the 2013 IRP.

Load and Resource Balance. The load and resource balance in the 2013 IRP Update is based on a load forecast as of October 2013. Overall, the forecast need has declined from the 2013 IRP and the Business Plan approved in December 2013. The reduction in total load is primarily due to the updated load forecast with the majority of the reduction projected for the east side of the system. The load forecast includes an increase in the industrial and commercial class loads but flat to decreasing loads for the residential class. The decrease in residential forecast is due to changes in energy efficiency and a lower average-use per customer. The load growth for the 2014–2023 period indicates an average annual growth rate of 1.37% for the total system. The forecast growth rate for Utah is 2.68% or nearly twice the growth rate projected for the total system.

¹ Docket No. 13-2035-01, Division Comments on PacifiCorp's 2013 IRP, September 9, 2014.



The forecast for the Total Obligation is slightly lower in the 2013 IRP Update compared to the 2013 IRP and the 2013 Business Plan. While the obligation has been slightly reduced, the total requirement is increasing each year with the exception of 2016.

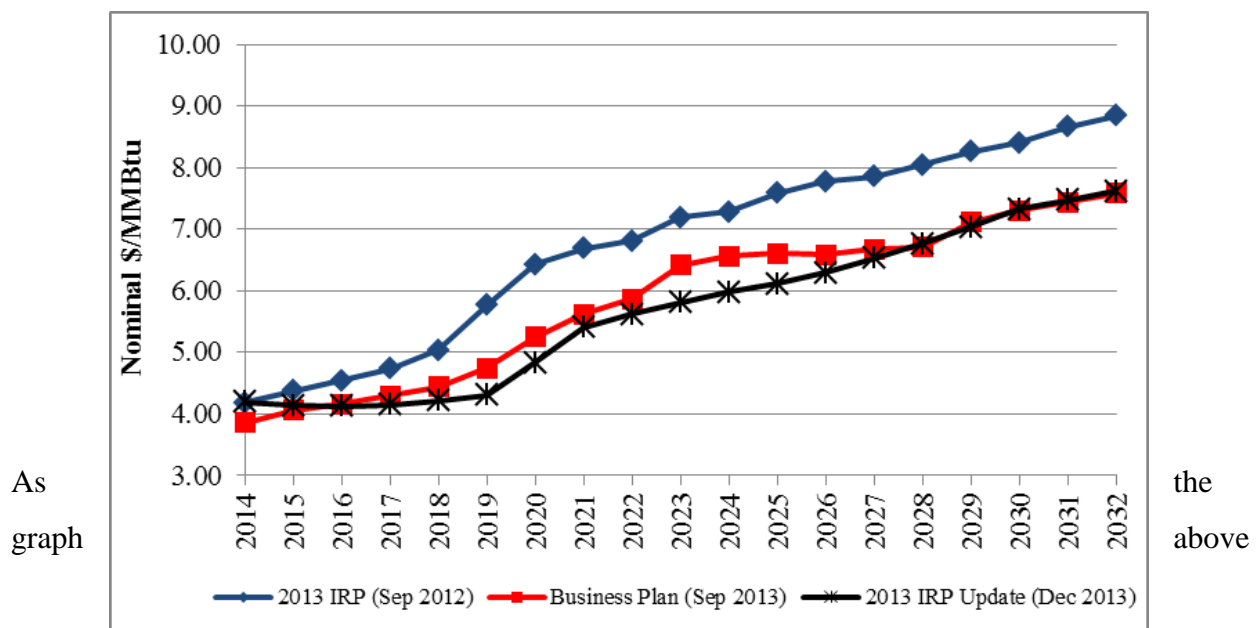
Total resources available to satisfy the growing obligation are declining with time, i.e. there are fewer resources available in 2023 than in 2014. With an increasing gap between the total obligation and total resources available, the Company relies more heavily on front office transactions to satisfy the difference. The reliance on front office transactions continues to be a concern to the Division and to other Utah parties. This strategy could potentially increase the risk to ratepayers with more reliance on the wholesale electric market with greater price volatility.

The reliance on front office transactions and the market price of electricity could also be impacted by the recently announced Environmental Protection Agency (EPA) guidelines. The details of the new guidelines are currently being reviewed and the impact is unknown at this time. The potential closure of existing generation facilities due to non-compliance with EPA guidelines could potentially reduce the availability of market purchases and at the same time increase the cost.

The peak load forecast is also down compared to the 2013 IRP, thus extending the date for a new thermal resource out to the year 2027. The 2013 IRP Update assumes no federal renewable portfolio standards (RPS) requirements due to the fact that there has been no significant RPS action by the federal agencies since 2010. This assumption, combined with the decline in load, shows a reduced need for renewable resources required solely to meet state RPS obligations until 2024 and 2025.

Gas and Energy Prices. The 2013 IRP Update includes forecasted gas and energy prices that have declined relative to those in the 2013 IRP. In the 2013 IRP Update, natural gas prices were updated from the forward price curve using PacifiCorp's December 31, 2013 Official Forward Price Curve (OFPC). The expected prices for natural gas over the next twenty years are generally lower than they were in the May 2013 and September 2013 forecasts. Both the September 2013 and December 2013 natural gas OFPCs reflect a forecast heavily influenced by domestic supply largely due to the unprecedented growth in shale gas plays.

Henry Hub Natural Gas Prices (Nominal)



As
graph

the
above

depicts, beginning in 2015 through the next 15 years or so, the updated forward price curve is lower than the Business Plan price curve established just a few months earlier. The lower expected price of natural gas in the future is the major difference in the original IRP and the updated IRP.

With a reduced peak forecast and lower market prices, the 2013 IRP Update continues to show that customer loads over the first ten years of the planning horizon will be met largely with front office transactions and energy efficiency.

The 2013 IRP Update incorporates developments in several Energy Gateway transmission projects, in the form of updated construction and permitting milestones, revised project timelines for future segments, and work on joint development projects. Accordingly, the in-service dates for several segments of Energy Gateway have been updated relative to those contained in the 2013 IRP.

Business Plan. The 2013 IRP Update's preferred generation portfolio additions are related, but not identical, to the prospective future additions set forth in the Company's Business Plan that was adopted in December 2013. The Company explains that the differences are the result of an updated load forecast that is "slightly lower" than the load forecast used to develop the Business Plan portfolio.² This lower load forecast reduced the Company's forecast system load obligations by an average of 82 megawatts to an average obligation of about 9,550 megawatts over the 2014 to 2023 business planning horizon.³ This difference in forecast load obligations (about a 0.9 percent overall reduction) was primarily made up with small reductions in front office transactions and Class 1 and Class 2 DSM forecasts. In the "out years" beyond 2023, there was a shifting in the forecast imposition of new wind and an overall reduction in future wind acquisitions. The Division does not give much credence to forecasts and changes in forecasts beyond a ten-year time horizon. Overall the 2013 IRP Update preferred portfolio is closely similar to the Company's Business Plan portfolio.

² Docket No. 13-2035-01, PacifiCorp's 2013 IRP Update, March 30, 2014, p. 55.

³ Id. at p. 53, Table 5.4 and p. 57, Table 5.7.

2013 IRP Acknowledgment Requirements

In the 2013 IRP Update, the Company addresses recommendations and requirements made by its state regulatory commissions during the 2013 IRP acknowledgement process. The Division's comments in this section focus on whether the Company has complied with the Utah Commission's requirements stemming from its January 2, 2014, Report and Order on PacifiCorp's 2013 IRP. Some of the Commission's requirements are exclusively directed at the 2015 IRP, and the Division will reserve its comments on those issues when the Company files its 2015 IRP.

- The Commission directed the Company, in its 2013 IRP Update, to perform a sensitivity case with stochastic analysis using the values in the August 16, 2013 Order⁴ for wind and solar capacity contribution (p. 20). First, the Division notes that the Company updated the costs of utility scale solar photovoltaic resources based on a Company-commissioned study by Black & Veatch in December 2013. The result was that the costs of both single tracking and fixed tilt tracking solar costs decreased by more than 10 percent. Table 4.1 of the IRP Update on page 43 contains the updated solar resource costs.

Second, the Company performed two sensitivity studies, changing the peak contribution of wind resource to 20.5 percent, and solar resources to 68 percent and 84 percent, for fixed tilt and single axis tracking, respectively. The second sensitivity used the updated solar resource costs in addition to the updated peak contributions. Both studies used the System Optimizer (SO) to determine the impact of resource portfolio composition and used the Planning and Risk (PaR) to determine the performance of the portfolio against stochastic risk. The results are contained in Tables 5.9 through 5.15 on pages 59 through 67. The sensitivity analysis shows, relative to Case EG2-C01, an additional 52 megawatt

⁴ Docket No. 12-035-100, Order on Phase II Issues, "In the Matter of the Application of Rocky Mountain Power for Approval of Changes to Renewable Avoided Cost Methodology for Qualifying Facilities Projects Larger than Three Megawatts."

Wyoming wind resource in 2024 and an additional 598 megawatt wind resource is added in 2032. No additional solar resources were added in the sensitivity.

- Table A.7 on page 13 of Appendix A in the 2013 IRP contains historic load data--the annual coincident peak load data by state. The Division discovered that Appendix A instead appears to provide each state's highest monthly peak load which is coincident with the system rather than its load coincident with the time of annual system peak. The Commission directed the Company to correct this table and provide it in its 2013 IRP Update (p. 24). The Division notes that the Company made the corrections and submitted the corrected table as Appendix E in the IRP Update.

- The Commission encouraged the Company to expand its use of Table 9.2 in its 2013 IRP Update (as well as in the 2015 IRP) to address additional issues (p. 24). Table 9.2 of the 2013 IRP depicts an acquisition path decision matrix. While the Company states that the Action Plan looks at updates to load, modeling, gas costs, and solar costs and capabilities, it does not expand the acquisition path decision mechanism as the Division envisioned, but merely updates inputs to the IRP as it would routinely do. The Division assumes that the Company intended for the Action Plan status update to fulfill the expansion requirement of the acquisition path mechanism. However, the Division does not believe that the Company fully implemented this directive.

The Company states that for the 2015 IRP, it "will work with Stakeholders on more fully developing the acquisition path decision mechanism" (p. 69). The Division has prepared some comments that are attached to this memorandum that it believes might help the Company, as well as stakeholders, in expanding the acquisition path decision mechanism. These comments are included as Attachment A to this memorandum.

In its 2013 IRP Order the Commission made the following observations:

As we have stated in the past, sensitivity analysis should be an effective tool for evaluating the effect on resource selection of

various assumptions regarding solar and wind resource costs. We recognize there are differences of opinion, and some uncertainties, regarding renewable resource cost assumptions. We encourage PacifiCorp and stakeholders to develop a strategy to address this issue in the 2015 IRP. Further, *the results of this effort could be utilized in PacifiCorp's acquisition path analysis to inform decisions if the future unfolds differently than expected.*⁵ (Italics added).

We concur with the Division this is a very useful table and we encourage PacifiCorp to expand its use of this table in its 2013 IRP Update and 2015 IRP to address additional issues. PacifiCorp should discuss with stakeholders which issues should be studied for inclusion in this table.⁶

The Division recommends that the Company should work with stakeholders to determine (1) a strategy for determining renewable resource cost assumptions, (2) when, for whom, and under what circumstances the Company performs sensitivity studies, (3) how sensitivity results can be utilized in the acquisition path analysis, and (4) which issues should be studied for inclusion in the acquisition path analysis for future IRPs.

- Because of EPA's proposed and final implementation plans and challenges to those plans continue to fluctuate, the Commission encouraged PacifiCorp to continue to monitor and prudently respond to the constantly changing landscape in its IRP Update, as well as in the 2015 IRP (p. 24). The Division acknowledges that the Company has allocated an entire chapter, "Chapter 2 Planning Environment," in compliance with this recommendation from the Commission. No doubt, a large part of planning the 2015 IRP will be centered on the EPA's rules and the President's climate initiative. The Division recommends working with a broad group of stakeholders to implement environmental requirements.
- The Commission found that the Company did not present the Business Plan as a sensitivity case in the 2013 IRP and reminded it to provide this sensitivity in the 2013

⁵ Report and Order, Docket No. 13-2035-01, January 2, 2014, p. 17.

⁶ Id. at p. 25.

IRP Update and all future IRPs (p. 30). In the 2013 IRP Update, the Company presents a comparison of the 2013 Business Plan Portfolio to the 2013 IRP Preferred Portfolio (see Table 5.6 on p. 56). Table 5.7 contains the Business Plan load and resource balance and Table 5.8 contains the Business Plan detailed portfolio. The Division recommends the Company address the issue of the Business Plan sensitivity case with stakeholders in the early planning stages of the 2015 IRP and determine what this sensitivity case consists of and what it is intended to reflect in the results.

- The Commission directed the Company to file the 2013 Demand Side Management (DSM) Potential Study within 45 days of its 2013 IRP Order (p. 28). The Company issues an RFP every two years for the DSM study, and this year EnerNOC is working on the report. At the June 5, 2014 IRP Kick-Off Meeting, the Company informed stakeholders that the DSM potential study is in the pre-IRP stage, and it should be filed on time.
- The Commission directed the Company to address the treatment of renewable energy credits (RECs) in the 2013 IRP Update. First, the Company should analyze the comparative risks of unbundled RECs versus wind resources. Second, the Company should address whether the value of a REC should be included in the cost of a renewable resource as an offset (p. 19). With regard to the latter, the Company states the following: “PacifiCorp has not assumed a REC value as an offset to renewable resource costs in the 2013 IRP Update” (p. 46). Regarding the former, the Company states that it has already done this in the 2013 IRP using Washington physical resources. The Division is not satisfied with this response and encourages the Company to address this in the planning stages of the 2015 IRP.

2013 IRP Action Plan Status Updates

In the 2013 IRP Update the Company has not modified its 2013 IRP Action Plan. The Action Plan identifies the steps the Company will take during the next two to four years to implement

the 2013 IRP. The Division calls attention to the action items below, including some of the milestone and status updates, recognizing that all progress is important.

1. Renewable resource actions. This includes a wind integration study update, RPS compliance, renewable energy optimization, and updated solar operating and maintenance costs and performance parameters. A solar request for proposals (RFP) was issued on April 30, 2014. The Company issued five reverse RFPs to sell reverse RECs in 2013 and plans to issue four more for 2014. Also, the Company will test the PLCC (peak load carrying capability) method of calculating capacity contribution for wind and solar resources in the 2015 IRP.⁷

2. Distributed generation. The Company will pursue increases of 500 kilowatts of residential customer distributed generation per year through 2017 and will file an initial evaluation report in June 2014.

Action Item 2b states that PacifiCorp will pursue combined heat and power (CHP) opportunities primarily through the Public Utilities Regulatory Policies Act (PURPA) qualifying facility (QF) contracting process and states that the Company will complete a market analysis of CHP opportunities in the 2013 IRP Update. The Company provides an Appendix B to the 2013 IRP Update, which is an Executive Summary of CHP opportunities consistent with this Action Item. The study covers opportunities across PacifiCorp's jurisdictions with a focus on PacifiCorp's western balancing authority area covering the states of Oregon, California and Washington. The study finds there are two major fuel sources for biomass power generation--mill waste and forest thinnings. The Division requests that the Company provide the full study, rather than just the Executive Summary of the report.

⁷ The Division is uncertain what PLCC method is. There was an ELCC (Effective Load Carrying Capability) method discussed in testimony in Docket No. 12-035-100, so perhaps the PLCC is related to this.

3a. Firm market purchases and front office transactions (FOTs). The Company executed a purchase contract for 25 megawatts of firm, heavy-load-hour energy for July through September, 2014.

4a. Flexible resource actions – Energy Imbalance Market (EIM). PacifiCorp filed EIM tariff changes with the Federal Energy Regulatory Commission (FERC) on March 26, 2014 and expects to go live with the EIM on October 1, 2014.

5a. Hedging actions and natural gas request for proposal (RFP). A workshop was held on October 29, 2013 and work is ongoing.

6a. Plant efficiency improvement actions. The Company filed an Appendix C to its IRP Update titled “Energy Analysis Report.” Also, the total resource cost test (TRC) was accepted in Washington. The Company plans to schedule a stakeholder meeting to present this method.

7a. Demand Side Management (DSM) actions – Class 2 DSM. The Company has been working diligently on this action item, collaborating with the Energy Trust of Oregon on a pilot project. The Company has many other DSM updates, including expanding the Trade Ally Network, revising the existing Wattsmart program, etc.

7b. DSM Actions – Class 3 DSM. The Company has filed tariffs for a time-of-use pilot program in Oregon that went into effect on June 1, 2014.

8a. Coal resource actions – Naughton Unit 3. Due to EPA actions, the Company has suspended work on an RFP evaluation until early 2016.

8b. Coal resource actions – Hunter Unit 1. Work is ongoing to install a bag house conversion and lox NOX burner anticipated to be completed by the end of August 2014.

8c. Coal resource actions – Jim Bridger Units 3 and 4. The Company received approval to begin construction of installing a selective catalytic reduction (SCR) project at Units 3 and 4.

8d. Coal resource actions – Cholla Unit 4. Evaluation of alternative compliance strategies is ongoing to meet Regional Haze and EPA obligations.

9a. Transmission actions- System Operational and Reliability Benefits Tool (SBT). Refinements to the SBT are ongoing; however, there is no SBT sub segment analysis for Segment D in the 2013 IRP Update.

9b. Transmission actions – Energy Gateway permitting. A draft environmental impact statement (EIS) for Gateway South was received in February 2014. The Company continues to participate with Idaho Power on the Boardman to Hemingway project.

9c. Transmission actions – Sigurd to Red Butte line. Construction began in May 2013 and is underway.

10a. Planning reserve margin actions. The Company is preparing an updated analysis for the 2015 IRP.

11a. Planning and modeling process improvement actions – modeling and process. The Company has solicited feedback from stakeholders and will incorporate much of the stakeholder feedback in the 2015 IRP.

11b. Planning and modeling process improvement actions – cost/benefit analysis of DSM resource alternatives. The Company plans to thoroughly study DSM in the 2015 IRP.

CONCLUSION

The 2013 IRP Update describes resource planning activities that have transpired subsequent to the 2013 IRP filing on April 30, 2013, and presents the Company's revised 10-year resource portfolio and Action Plan. The 2013 IRP Preferred Portfolio was used as the primary basis for the Business Plan, which is similar to the 2013 IRP Update. Differences between the two resource portfolios are minor. The 2013 IRP Action Plan is unchanged since it was filed in the 2013 IRP; however, considerable progress has been made on many of the action items contained

in the Plan. The Division finds that the 2013 IRP Update largely complies with the Commission's 2013 IRP acknowledgment order, and most other requirements stemming from the Commission's IRP Order will be incorporated into the 2015 IRP. The above comments should be considered observations and suggestions to the Company for future IRPs. The Division supports the IRP goals of flexibility and continued improvement in the Company's plans and processes. The Division looks forward to working with the Company and stakeholders on the 2015 IRP.

Finally, the Division notes that, per Rule R746-430-1(3), the Commission is not required to acknowledge, accept, or issue an order pertaining to the Action Plan. Although the Commission may provide nonbinding guidance to the Company regarding the Action Plan, the 2015 IRP cycle has already begun, and a kickoff meeting for stakeholders was held on June 5, 2014. Therefore, the Division believes that attention should be focused on the 2015 IRP process and on the Division's recommendations stated above. The Division recommends no further action by the Commission at this time.

CC Dave Taylor, Rocky Mountain Power
Michele Beck, Office of Consumer Services

ATTACHMENT A: A PLAN OF DIFFERENT RESOURCE ACQUISITION PATHS

The plan of different resource acquisition paths dates back to the Commission's Standards and Guidelines on the IRP. Guideline 4f calls for, "A plan of different resource acquisition paths for different economic circumstances with a decision mechanism to select among and modify these paths as the future unfolds."⁸ Throughout past IRPs cycles many parties have commented on, and the Commission has tried to give encouragement leading to, the expansion of this guideline.

The Utah Association of Energy Users remarks are below:⁹

The IRP attempts to meet this requirement at pages 265-270. UAE appreciates the increased detail, including the analysis of procurement risk, availability of Front Office Transactions and other market purchases. UAE suggests that, in addition to the detail supplied in this section of the IRP, the next IRP should also include the estimated increase in cost of the alternate near and long term acquisition strategies.

The Division also commented on this guideline:

The Guidelines require a plan of different resource acquisition paths for different economic circumstances with a decision mechanism to select among and modify these paths as the future unfolds. The purpose of this guideline is to provide resource acquisition path contingencies for big picture changes affecting the type, amount and timing of resources to produce a least cost expansion plan considering risk and uncertainty.

The Company reviews four risk areas for the acquisition path analysis in IRP 2008. The four risk areas are 1) regulatory events; 2) load growth; 3) natural gas prices; and, 4) procurement delays. The Company presents high-level contingency resource strategies for it to consider when faced with significant changes in resource planning relative to these four areas.

The acquisition paths reflect resource types rather than quantities and timing. The Company's proposed decision mechanism for pursuing resource strategies is "the

⁸ Report and Order on Standards and Guidelines, Docket No. 90-2035-01, June 18, 1992, pp. 27-28.

⁹Comments and Recommendations of the Utah Association of Energy Users, Docket No. 11-2035-01, March 22, 2012, p. 11.

outcome of the business planning process, which will be informed by portfolio modeling using the IRP models and updated input assumptions.

The Division commends the Company for implementing acquisition plan analysis but argues the decision mechanism needs more specificity for path changes under different circumstances. Therefore, the Division concludes this Guideline is not met. Full compliance with this Guideline requires more specific actions. “For example, the optimum base portfolio (presumably the preferred portfolio) would be based upon the Company’s “most likely” future scenario. Then several optimum portfolios could be derived for significant departures from the most likely scenario. Had this decision mechanism been performed the way the Division envisioned it, there would have been an alternate path mechanism when load growth declined and Lake Side 2 was taken out of the resource mix. This would have obviated the delay in the IRP filing itself. Further, the Division believes the path analysis related to transmission projects is weak.”¹⁰

The Commission in its 2009 IRP Order provided guidance on resource acquisition paths and the decision mechanism:¹¹

We commend the Company on addressing this requirement in IRP 2008. While we concur with the Division the specificity of the decision mechanism is lacking, we believe the matrices provided in the action plan are a step in the right direction of complying with this Guideline. Therefore, we direct the Company to solicit and discuss further improvements to its resource acquisition path analysis and decision mechanism and address the Division’s concerns in its next IRP or IRP update.

In the 2013 IRP, the Company attempted to address this guideline by putting it in the form of a matrix (Table 9.2). Again, the Division responded and the Commission provided further guidance with the following comments:¹²

I. Resource Acquisition Paths and Decision Mechanism

The Division notes PacifiCorp includes in Table 9.2, “an excellent summary of actions [PacifiCorp] may undertake should the future start to turn out significantly different than anticipated as reflected in [PacifiCorp’s] preferred portfolio.” We concur with the Division this is a very useful table and *we encourage PacifiCorp to expand its use of this table in its 2013 IRP Update and 2015 IRP to address additional issues.* For example, changes to resource costs, power market

¹⁰ Division Comments, Docket No. 09-2035-01, June 18, 2009.

¹¹ Report and Order, Docket No. 09-2035-01, April 1, 2010, p. 43.

¹² Report and Order, Docket No. 13-2035-01, January 2, 2014, pp. 23-24.

availability, and environmental regulations could be addressed through this table. This will allow the IRP to be more useful, flexible, and transparent between the filing of IRPs. PacifiCorp should discuss with stakeholders which issues should be studied for inclusion in this table. (Italics added).

This Commission guidance brings us back to the 2013 IRP Update, where the Company states it “will work with Stakeholders on more fully developing the acquisition path decision mechanism.”¹³ The Division requests that the Company schedule a webinar or allow a reserved time for all parties to better understand and provide guidance on the expanded acquisition path decision mechanism.

¹³ PacifiCorp's 2013 IRP Update, Docket No. 13-2035-01, March 30, 2014, p. 69.