

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

LC 57

In the Matter of

PACIFICORP, dba PACIFIC POWER

2013 Integrated Resource Plan.

ORDER

DISPOSITION: 2013 IRP ACKNOWLEDGED WITH EXCEPTIONS AND  
REVISIONS

**I. INTRODUCTION**

PacifiCorp, dba Pacific Power (PacifiCorp) is a public utility in Oregon that is subject to the jurisdiction of the Public Utility Commission of Oregon (Commission) and the Commission's integrated resource planning requirements. PacifiCorp's 2011 Revised Integrated Resource Plan (IRP) was acknowledged with exceptions and guidance in Order No. 12-082, which was entered on March 9, 2012. PacifiCorp now seeks acknowledgment of its 2013 IRP.

The Commission requires that regulated energy utilities prepare and file integrated resource plans within two years of acknowledgment of the energy utility's last plan. The Commission requires that the energy utility: (1) evaluate resources on a consistent and comparable basis; (2) consider risk and uncertainty; (3) make the primary goal of the process selecting a portfolio of resources with the best combination of expected costs and associated risks and uncertainties for the utility and its customers; and (4) create an action plan that is consistent with the long-range public interest as expressed in Oregon and federal energy policies.

Once a utility completes a plan, we review it for adherence to the procedural and substantive requirements outlined in Order No. 89-507. We generally either acknowledge the plan—that is, find it reasonable based on information available at that time—or return it to the utility with comments.<sup>1</sup> We may also decline to acknowledge specific action items if we question whether the utility's proposed resource decision presents the least cost and risk option for its customers.

We reaffirm our long-standing view that decisions made in IRP proceedings do not constitute ratemaking. Decisions whether to allow a utility to recover from its customers the costs associated with new resources may only be made in a rate case proceeding. Acknowledgment of an IRP, however, is relevant to subsequent examination of whether a

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<sup>1</sup> See Order No. 07-002 at 2.

utility's resource investment is prudent and should be recovered from ratepayers. As we have previously stated:

Consistency of resource investments with least-cost planning principles will be an additional factor that the Commission will consider in judging prudence. When a plan is acknowledged by the Commission, it will become a working document for use by the utility, the Commission, and any other interested party in a rate case or other proceeding before the Commission[.] Consistency with the plan may be evidence in support of favorable rate-making treatment of the action, although it is not a guarantee of favorable treatment.<sup>2</sup>

Just as acknowledgement does not guarantee favorable ratemaking, a decision to not acknowledge an action item does not constitute a preliminary determination of imprudence. The purpose of the IRP process is to provide the utility with the information and opinion of stakeholders and the Commission based on information presented by the utility. The question of whether a specific investment made by a utility in its planning process was prudent will be fairly examined in any subsequent rate proceeding.

## II. DISCUSSION

We discuss the participants'<sup>3</sup> positions and our resolution of the main issues raised in PacifiCorp's 2013 IRP, which are:

- A. Timing and Future Reporting;
- B. Pollution Control Investments in Coal Resources;
- C. Demand-side Management (DSM);
- D. Renewable Energy;
- E. Transmission;
- F. Modeling Assumptions and Methods; and
- G. Water Issues, Energy Storage, and Load Forecast.

We discuss each issue separately.

### A. Timing and Future Reporting

#### 1. *Participants' Comments*

Participants expressed concerns that some resources for which acknowledgment is being sought are already under construction, such as pollution control investments at Hunter Unit 1 and the Sigurd to Red Butte transmission line. The Industrial Customers of

<sup>2</sup> Order No. 07-002 at 24, quoting Order No. 89-507 at 7.

<sup>3</sup> The following participants provided comments in this docket: the Citizens' Utility Board of Oregon, the Industrial Customers of Northwest Utilities, Renewable Northwest, Northwest Energy Coalition; the Oregon Department of Energy, the Sierra Club, and Natural Resources Defense Council.

Northwest Utilities (ICNU) notes that the goal of an IRP is to seek acknowledgment of a utility's plans to meet expected loads based upon its expected costs, risks and uncertainties, but not to acknowledge what a utility is already constructing. The Sierra Club argues that projects that are in active construction should be considered in a rate recovery proceeding not in a planning resource proceeding.

Staff contends that an integrated resource process must include a robust analysis in a timely fashion. Staff generally states that PacifiCorp should bring investment decisions to the Commission with sufficient time for the participants to evaluate the results prior to key investments being made that act to limit viable options going forward. In limited circumstances where the timing of the investments does not fit within the IRP process, PacifiCorp's IRP should explain why the construction was begun without review in an IRP, including the analysis of available alternatives that was performed before construction began.

Staff states it is important to understand project timing and key compliance alternatives and milestones. Accordingly, Staff recommended that in future IRPs documentation of timelines and key decision points should be provided. Staff also proposed an additional action item whereby the company would come before the Commission quarterly to provide updates on the status of pollution control investments, lawsuits, and other activities relevant to major resource investments.

## **2. Commission Resolution**

To address timing concerns raised by the participants for this and other projects for which PacifiCorp seeks acknowledgment, we clarify our expectation that PacifiCorp will inform us of future investment decisions and request acknowledgment before the investment decision is made and substantially completed. To ensure this, we add the following requirements for future IRPs and IRP Updates:

*Beginning in the third quarter of 2014, PacifiCorp will appear before the Commission to provide quarterly updates on coal plant compliance requirements, legal proceedings, pollution control investments, and other major capital expenditures on its coal plants or transmission projects. PacifiCorp may provide a written report and need not appear if there are no significant changes between the quarterly updates.*

*In future IRPs, PacifiCorp will provide:*

- *Timelines and key decision points for expected pollution control options and transmission investments; and*
- *Tables detailing major planned expenditures with estimated costs in each year for each plant or transmission project, under different modeled scenarios.*

**B. Pollution Control Investments in Coal Resources****1. PacifiCorp's Analysis****a. Participants' Comments**

At the outset, many participants raised concerns about PacifiCorp's analysis used to support its proposed environmental investments in its coal-fired generating units. The NW Energy Coalition (NVEC) argues that PacifiCorp continues to underestimate the costs and risks of continued reliance on coal generation, and contends that the 2013 IRP fails to comply with IRP guidelines. NVEC states that the analysis proposed by Staff, if coupled with sufficiently stringent environmental compliance and carbon price scenarios, would likely capture the range of options necessary for an adequate analysis of coal investments. NVEC also expressed frustration with PacifiCorp's system optimizer model, while it was pleased with the screening tool provided in conjunction with the utility's 2011 IRP.

The Citizens' Utility Board of Oregon (CUB) contends that the breadth of possibilities that PacifiCorp evaluated was too narrow and that more possibilities should have been modeled. CUB expressed concerns regarding the mismatch of useful lives of pollution upgrades and the plants on which those upgrades would be installed. CUB notes the threshold it believes the Environmental Protection Agency (EPA) uses to evaluate the cost-effectiveness of new pollution control requirements and argues that PacifiCorp only considers scenarios that do not result in the finding of a scenario that is both plausible and low cost. In its final comments, CUB provides a proposed analytic framework for coal analysis going forward.

Staff shares concerns about PacifiCorp's analysis, and also proposed specific types of analysis that it would like to see going forward. These four types are described as an inter-temporal analysis, fleet analysis, technology tradeoff analysis, and analysis of the impact of alternatives on transmission.

Renewable Northwest (RNW) argues that there continue to be considerable limitations on the coal analysis PacifiCorp provided in this IRP. RNW supports Staff's efforts to expand the coal analysis and argues that coal plants with required upgrades over the next five years need to be considered collectively and immediately. RNW also argues that future IRP analysis should include trigger analysis and, if necessary, the use of tools other than the System Optimizer.

PacifiCorp defends its analysis but recognizes that the participants want more flexible compliance alternatives considered, as well as transmission implications for specific investments decisions. To address this need and to provide more transparency on model inputs/outputs and scenario definition, PacifiCorp proposes the Commission initiate a separate planning and review process to develop parameters for coal investment analyses and allow the company to seek acknowledgment of emissions control investments or alternatives for specific units. PacifiCorp explains that the separate docket would not seek pre-approval, but rather operate akin to the current IRP process.

The participants offer differing comments on PacifiCorp's proposal for a separate coal analysis proceeding. RNW supports a separate coal analysis docket if additional analysis

cannot be included in this IRP. NWECA is skeptical that a separate docket would result in adequate analysis, but finds that a separate coal analysis docket would be worth exploring. The Sierra Club conditionally supports a separate coal investment docket with many caveats, including the attributes and requirements that the analysis and process should contain. ICNU opposes the use of a separate process for coal plant investment decisions, but agrees that the Commission could direct PacifiCorp to continue to provide information, analysis, and comments through a separate docket.

Although Staff initially supported a separate coal analysis docket for situations where the timing of investments does not align with the standard IRP schedule, Staff now believes it is most appropriate to review all coal investment decisions within the parameters of the IRP process and not through a separate coal analysis docket. Staff notes certain timing concerns related to PacifiCorp's proposed investment in its Cholla 4 facility, however, and recommends the Commission evaluate that investment decision through a Special IRP Update.

*b. Commission Resolution*

We recognize the additional coal analysis that PacifiCorp provided in this proceeding and the company's willingness to establish a separate proceeding to address coal investments. We conclude, however, that additional improvements are needed to PacifiCorp's coal analysis on a going-forward basis, and that the current IRP process remains the appropriate forum for a robust and timely review of coal investment decisions.

Rather than detail a specific coal analysis that will be required in the future, we instead direct the participants to schedule several workshops, at least one of which we will attend, to be held within the next six months to determine the parameters of coal analyses in future IRPs. We direct the participants to use Staff's proposed analysis in its recommended new Action Item 8f in Appendix B of Staff's final comments (also included in the Wyodak section of this order) as a straw proposal entering into the workshops. Following the workshops, Staff will present its final recommendations to us at a public meeting, at which time PacifiCorp and the stakeholders will have an opportunity to comment on the final proposed coal analysis before we adopt the requirements for future IRPs.

We agree with Staff, however, that PacifiCorp's investment in Cholla 4 creates a timing issue and should be considered outside of the normal IRP process. As discussed below, we require PacifiCorp to file a Special 2013 IRP Update on Cholla 4. We note that this special update on Cholla 4 is separate and distinct from the IRP Update.

*2. Naughton Unit 3 (Action Item 8a)*

PacifiCorp's 2013 IRP proposes the following actions for Naughton Unit 3 (Action Item 8a):

- *Continue permitting and development efforts in support of the Naughton Unit 3 natural gas conversion project. The permit application requesting operation on coal through year-end 2017 is currently under review by the Wyoming Department of Environmental Quality, Air Quality Division.*

- *Issue a request for proposal to procure gas transportation for the Naughton plant as required to support compliance with the conversion date that will be established during the permitting process.*
- *Issue an RFP for engineering, procurement, and construction of the Naughton Unit 3 natural gas retrofit as required to support compliance with the conversion date that will be established during the permitting process.*

*a. Participants' Comments*

No party opposes acknowledgment of Action Item 8a, but Staff proposes an addition to the action item that would require PacifiCorp to analyze Naughton 3 alternatives in the 2015 IRP and propose an appropriate action item. PacifiCorp does not support Staff's addition to the action item, but states that it will update the Commission and participants on the status of the Naughton Unit 3 gas conversion project in its 2015 IRP.

Staff responded that it agrees that gas conversion in 2018 would likely be more cost effective than gas conversion in 2015, but contends that does not mean that there are no other viable options and the company should reconsider the option of a shutdown with updated gas, load, carbon, and energy price expectations. Staff notes that the models show that Naughton Unit 3 is minimally dispatched where it is assumed to convert to gas in 2015 and that changes to load forecasts and gas prices between the time the 2013 and 2015 IRP are developed may impact the economics of the proposed gas conversion.

*b. Commission Resolution*

We acknowledge Action Item 8a, with modification. While we agree that PacifiCorp should continue permitting and seeking requests for proposals for the gas conversion in 2018, we also agree with Staff that it is appropriate to reevaluate the gas conversion versus shutdown decision in the 2015 IRP when we have more recent load forecasts and gas prices. We modify Action Item 8a by adding the following requirement:

*Evaluate the Naughton Unit 3 investment decision in the 2015 IRP with updated analysis, including the option of shutdown versus conversion.*

**3. Hunter Unit 1 (Action Item 8b)**

PacifiCorp proposes the following action for Hunter Unit 1 (Action Item 8b):

*Complete installation of the baghouse conversion and low NOX burner compliance projects at Hunter Unit 1 as required by the end of 2014.*

*a. Participants' Comments*

Staff, Sierra Club, RNW, and CUB oppose acknowledgment of Action Item 8b for various reasons. Staff and Sierra Club contend the need for acknowledgment has been rendered moot because PacifiCorp has already decided to make the investments and extensive work has already been completed on the baghouse and low NOX burner projects. The Sierra Club also contends that PacifiCorp's decisions were premature as neither project is required at this time because the EPA has not made a final Best Available Retrofit Technology (BART) determination for Utah. Moreover, Sierra Club

adds that PacifiCorp did not take into account future expenses, including a Selective Catalytic Reduction (SCR) expense.

RNW does not support acknowledgement because it believes that investing in coal-fired generating units is unreasonable under scenarios with low natural gas costs or stringent CO<sub>2</sub> regulation, or both, in addition to the lack of analysis regarding alternative compliance opportunities. CUB argues that PacifiCorp's early retirement analysis is flawed and, without a better analysis, it is unclear whether phasing out the plants would be cost effective.

The final Staff report notes that the baghouse project is approximately 50 percent complete and the LNB is approximately 20 percent complete. Because PacifiCorp would have difficulty in reversing its investment decision, Staff continues to argue that PacifiCorp should have included this action item in the 2011 IRP.

PacifiCorp responds that, although work on the projects is underway, the projected service date for the upgrades is within the planning period for the IRP, and that nothing in the IRP guidelines prohibits acknowledgment of a project that is substantially complete. In response to Sierra Club's comments, PacifiCorp states that the Utah Department of Environmental Quality confirmed in a letter that the requirements of the Hunter 1 baghouse and LNB are enforceable under Utah law, even if the EPA has not made its determination. PacifiCorp responds to RNW by arguing that its analysis supports investment in the baghouse and low NOX burners as the lowest cost alternative, even when high CO<sub>2</sub> prices are assumed and even when future SCR costs are accelerated to 2018.

*b. Commission Resolution*

We decline to acknowledge Action Item 8b because PacifiCorp failed to bring us Hunter 1 investments in its 2011 IRP and now the investment decisions are substantially complete. As we discuss in this order, we will require workshops to establish parameters and requirements for future coal analysis and will expect PacifiCorp to provide adequate analysis when it seeks cost recovery of these projects.

We agree with Staff that energy utilities that desire acknowledgment of an investment decision should request acknowledgment before the investment decision is made and before the required project is substantially completed. PacifiCorp has put us in a difficult position by requesting we acknowledge something for the first time that is already substantially complete. We will review these situations on a case-by-case basis to determine whether or not the project has progressed past a resource planning decision and into a project that is substantially complete.

*4. Jim Bridger Units 3 and 4 (Action Item 8c)*

The 2013 IRP proposes the following actions for Jim Bridger Units 3 and 4 (Action Item 8c):

*Complete installation of selective catalytic reduction (SCR) compliance projects at Jim Bridger Unit 3 and Jim Bridger Unit 4 as required by the end of 2015 and 2016, respectively.*

*a. Participants' Comments*

The Sierra Club, RNW, NWECC, and CUB do not support acknowledgement of Action Item 8c. The Sierra Club points to many flaws in PacifiCorp's analysis, including the company's failure to recognize that retirement of the plants would free up significant transmission capacity that could defer near-term planned investments. The Sierra Club suggests that PacifiCorp's decision to retain these two units is related to its requirement to collect sufficient remediation funds to close Bridger Surface Mine.

RNW does not support acknowledgment because it does not believe investing in coal units is reasonable under scenarios with low natural gas costs or stringent CO<sub>2</sub> regulation, or both, and because of the lack of analysis regarding alternative compliance proposals. Similarly, NWECC does not support acknowledgment of any action items related to coal investments because it argues PacifiCorp underestimates the cost of risk of continued reliance on coal and fails to analyze several coal units that should have been evaluated in the 2013 IRP, and that this IRP fails to comply with IRP guidelines. Finally, CUB argues that PacifiCorp's early retirement analysis is flawed and, without a better analysis, it is unclear whether phasing out the plants would be cost effective.

PacifiCorp generally responds that its analysis was comprehensive and covered viable compliance alternatives across a range of natural gas and CO<sub>2</sub> assumptions. PacifiCorp notes that it performed phase-out scenarios assuming operation without SCR investment through 2020 and 2021 and also, at Staff's request, through 2022 and 2023. Further, PacifiCorp asserts it analyzed a wide range of CO<sub>2</sub> price scenarios in the portfolio development process, which included costs to comply with prospective future regulations of various types. PacifiCorp argues that its analysis supports the SCR investments as the lowest cost alternative even when high CO<sub>2</sub> prices are paired with either base case or high natural gas prices.

In response to Sierra Club's transmission savings argument, PacifiCorp argues that the Windstar to Populus Energy Gateway transmission decision was independent of these decisions and that there are other benefits to the transmission project, such as reliability, increased access to wind and other resources and efficient use of the system.

Staff believes that there are deficiencies in PacifiCorp's analysis, such as a lack of exploring alternative retirement dates (inter-temporal analysis) and potential tradeoffs between units in the PacifiCorp fleet (fleet analysis). However, Staff recommends acknowledgment of Action Item 8c. Staff recognizes the importance of the Bridger facility to PacifiCorp's system. Staff further notes that Bridger provides important ancillary services to the system, including voltage and frequency regulation and response as well as energy imbalance correction and operating reserves to the balancing authorities.

*b. Commission Resolution*

Based upon the information we have at this time, we decline to acknowledge Action Item 8c related to Bridger Units 3 and 4 for four reasons. First, some of the modeled alternatives suggest that the installations of SCRs are not the lowest cost resource option. For example, as described on page 4 of Staff's Final Comments dated January 10, 2014, alternative D runs demonstrate that it is more economical to retire Bridger 3 and 4 than to

install the SCR equipment. Based upon the information we currently have, we cannot dismiss these results as unrealistic or unreasonable.

Second, we concur with Staff that there are gaps in PacifiCorp's analyses. As Staff notes, PacifiCorp did not consider the potential tradeoffs between units at Bridger 3 and 4 or between coal plants to identify the most cost effective compliance options from a state or fleet perspective. Additional analyses on these issues would have resulted in more information for us to make an informed decision on acknowledgment.

Third, Staff and other participants have raised several other specific issues related to the merit or lack of merit of installing SCRs at Bridger 3 and 4, such as the impact of retirement on reliability, inter-temporal and fleet trade-off analysis between units, or the impact of retirement on future transmission investments. However, we lack the necessary information in this proceeding to weigh these issues and they will be more thoroughly investigated in a future rate case proceeding.

Finally, PacifiCorp is going ahead with the investments in installing SCRs regardless of our decision in this proceeding. We will undertake a thorough and fair review of the prudence of PacifiCorp's decision in a future rate case proceeding.

#### 5. *Cholla Unit 4 (Action Item 8d)*

The 2013 IRP proposes the following actions for Cholla Unit 4 (Action Item 8d):

*Continue to evaluate alternative compliance strategies that will meet Regional Haze compliance obligations, related to the U.S. Environmental Protection Agency's Federal Implementation Plan requirements to install SCR equipment at Cholla Unit 4. Provide an update of the Cholla Unit 4 analysis regarding compliance alternatives in a Special 2013 IRP Update.*

##### a. *Participants' Comments*

The Sierra Club argues that PacifiCorp's analysis demonstrates that Cholla 4 is non-economic by 2025 and in the base scenario it is non-economic by 2017 in a low gas/high CO<sub>2</sub> scenario. Because Sierra Club believes a rigorous analysis would not support the SCR retrofit, it recommends that the Commission establish a date within the next four months for PacifiCorp to file more analysis.

Staff argues that Cholla 4 is one of the most expensive of PacifiCorp's coal plants and that in four of the core cases modeled for this IRP and in one sensitivity case, the model demonstrates that Cholla 4 should shutdown in 2017. Staff also stated fundamental concerns that the timing of the SCR investment and the fact that no analysis on Cholla 4 was included in this IRP made it impossible to analyze the investment. Because of these issues, Staff recommended modifications to Action Item 8d.

PacifiCorp indicates that it will provide an update on Cholla 4 in the company's 2013 IRP Update and recommends acknowledgment of Action Item 8d.

##### b. *Commission Resolution*

We do not believe that the IRP Update is the appropriate forum for considerations of investment decisions such as Cholla 4 and we expect PacifiCorp to bring us these

decisions in a timely manner in the future. However, because of the timing of this investment decision it is of the utmost importance that we review it sooner than the next IRP.

With no ideal options to choose from, we acknowledge Action Item 8d, with modifications. These modifications establish a Special IRP Update, separate and distinct from the IRP Update, which will be filed no later than six months following the final order in this proceeding. The modified Action Item 8d is:

*Continue to evaluate alternative compliance strategies that will meet Regional Haze compliance obligations, related to the U.S. Environmental Protection Agency's Federal Implementation Plan requirements to install SCR equipment at Cholla Unit 4. Provide an analysis of the Cholla Unit 4 compliance alternatives in a special, designated IRP Update within six months of the final order in LC 57 and well enough in advance to allow for all viable pollution control alternatives to be adequately considered and pursued.*

#### **6. Craig and Hayden (Action Item 8e)**

PacifiCorp is a minority owner of the Craig and Hayden coal plants. Although SCR technology is planned to be installed at Craig and Hayden between 2015 and 2017, PacifiCorp's 2013 IRP does not include an action item related to these investments.

Staff proposed the following action item for Craig and Hayden (Action Item 8e):

*Within three months of the order in this proceeding, PacifiCorp will schedule and hold a confidential technical workshop to review existing analysis on planned Craig and Hayden environmental investments.*

##### *a. Participants' Comments*

The Sierra Club argues that the fact that these units are operated by other participants does not relieve PacifiCorp of its responsibility to ensure economic usefulness and that PacifiCorp should be required to immediately produce an economic analysis of them. Staff noted that the Commission has ruled that a minority ownership in a plant still requires that the utility analyze the possible costs of environmental regulations.

PacifiCorp indicated a willingness to review with the Commission and participants the existing analysis on the planned Craig and Hayden environmental investments through a technical workshop to be held in the next three months. Staff is amenable to PacifiCorp's proposal and, therefore, proposed the additional of Action Item 8e.

##### *b. Commission Resolution*

We adopt Staff's proposed recommendation related to Craig and Hayden. We do not believe it should be an action item, however, so we list it instead as a recommendation in Appendix A. Although we will not know the quality of the existing analysis of Craig and Hayden, we agree it is important to review and discuss it soon. Once stakeholders and the Commission are able to review and discuss the analysis, we will have a better idea of the appropriate treatment of those environmental investments.

## 7. *Wyodak (Action Item 8f)*

The final Federal Implementation Plan (FIP) in Wyoming requires PacifiCorp to install SCR equipment at its Wyodak plant by 2019. In Staff's memo for the March 17, 2014 public meeting, Staff recommended a new Action Item 8f for Wyodak which outlines inter-temporal and fleet analysis to be performed on Wyodak in the next IRP.

### a. *Participants' Comments*

In supplemental final comments, both CUB and Sierra Club recognize that the final FIP in Wyoming requires the SCR equipment to be installed by 2019. Staff supports inclusion of the Wyodak analysis in the 2015 IRP, but there should be some guidance around the type of analysis required. Staff recommends future workshops over the next six months to determine the requirements of analysis in the 2015 IRP, including the analysis for Wyodak.

### b. *Commission Resolution*

We agree that the correct approach for the investment in a SCR for Wyodak by 2019 is to include a robust analysis in the 2015 IRP. We also agree that it is important to establish expectations for the type of analysis we require in the 2015 IRP. Consistent with our decision on the coal analysis expected in the 2015 IRP, we conclude that Staff's suggested frame of reference is an appropriate starting point for the stakeholders and Commission to consider in the workshops over the next six months. We adopt Staff's recommendation with the caveat that Staff's proposed analysis will be the starting point for discussions about analyzing the SCR investment at Wyodak, but that the workshops in the next six months may modify Staff's proposed framework.

We adopt the following framework and requirements proposed by Staff:

- *For the 2015 IRP the following inter-temporal and fleet trade-off analysis related to the SCR requirement on Wyodak by 2019 will be used as a frame of reference:*

<i>Inter-temporal Scenarios</i>				
	<i>EPA requirement</i>	<i>Time 1</i>	<i>Time 2</i>	<i>Time 3</i>
<i>Wyodak Plant Action</i>	<i>SCR Retrofit</i>	<i>SNCR Retrofit / early retirement</i>	<i>Gas Conversion</i>	<i>Retirement</i>
<i>Timeline</i>	<i>2019</i>	<i>2019 / 2030</i>	<i>2022</i>	<i>2027</i>

<i>Fleet Trade-Off Scenarios</i>					
	<i>EPA requirement</i>	<i>Fleet 1</i>	<i>Fleet 2</i>	<i>Fleet 3</i>	<i>Fleet 4</i>
<i>Wyodak</i>	<i>SCR Retrofit in 2019</i>	<i>No Action</i>	<i>No Action</i>	<i>No Action</i>	<i>No Action</i>
<i>Dave Johnston Units 1 &amp; 2</i>	<i>No Action</i>	<i>Retirement in 2027</i>	<i>No Action</i>	<i>Gas Conversion in 2022</i>	<i>No Action</i>
<i>Dave Johnston Unit 4</i>	<i>No Action</i>	<i>No Action</i>	<i>Retirement in 2027</i>	<i>No Action</i>	<i>Gas Conversion in 2022</i>

- *The timing and options will be finalized with stakeholders at the workshops for the 2015 IRP.*
- *This analysis will include considerations for the necessity of Gateway West with reduced capacity in eastern Wyoming.*
- *Workshops will be held, at least one with the Commissioners, to refine the list of specific fleet analysis to be performed in the IRP. Staff will bring its final recommendations to the Commission at a Public Meeting and participants will have an opportunity to comment on the final recommendations at that time.*

**8. Carbon Risk**

*a. Participants' Comments*

Many participants expressed concerns that PacifiCorp's analysis did not adequately account for the risks associated with carbon. RNW notes that PacifiCorp's base case CO<sub>2</sub> cost assumptions did not contemplate the federal CO<sub>2</sub> regulations articulated in President Obama's June 2013 Memorandum, and that the resulting Clean Air Act §111(d) rulemaking process merits a change in PacifiCorp's CO<sub>2</sub> regulation forecast. The Natural Resources Defense Council (NRDC) agrees, and asserts that PacifiCorp's analysis and conclusion are flawed and the proposed investments may result in significant future stranded costs.

The Oregon Department of Energy (ODOE) argues that PacifiCorp should be required to analyze the Oregon 2015 CO<sub>2</sub> reduction goal applied to the United States or the Cancun Agreement, whichever is more restrictive. In addition, ODOE asserts that action items that might be subject to additional risk if a higher range of possible carbon policies are used should be carefully scrutinized. Finally, ODOE requests that PacifiCorp be instructed that "credible proposals by governing entities" includes adopted plans and actions by other democratically-elected sovereign states.

PacifiCorp responds that, despite the June 2013 Presidential Memorandum, there remains tremendous uncertainty about the costs of future regulations of CO<sub>2</sub> emissions. PacifiCorp contends that without more information from the EPA and individual states, there currently are no means to develop a specific CO<sub>2</sub> price assumption to reflect potential regulation. For these reasons, PacifiCorp asserts its CO<sub>2</sub> assumptions remain reasonable and states that it will reevaluate these assumptions in the 2015 IRP.

Staff states that it recognizes that PacifiCorp's IRP was developed and submitted prior to the 2013 Presidential Memorandum. While PacifiCorp's IRP contains carbon prices that begin later and are lower than some estimates, Staff concludes that the IRP analysis and results are not fundamentally flawed due to the range of carbon prices used and the way the prices were applied to the analysis.

Staff also recognized that potential §111(d) rules could take a form other than a carbon price and suggested that PacifiCorp work with the participants to discuss and review plans for future analysis related to §111(d) regulations. Staff recommends a new action item to provide a process to review and discuss §111(d) requirements.

*b. Commission Resolution*

We recognize that PacifiCorp developed and submitted its 2013 IRP before the June 2013 Presidential Memorandum was issued. We also agree with Staff that recent developments demand more engagement on the approach for carbon risk and, therefore, we adopt Staff's following recommendation regarding carbon:

*Prior to the end of 2014, PacifiCorp will work with participants to explore options for how PacifiCorp plans to model and perform analysis in the 2015 IRP related to what is known about the requirements of §111(d) of the Clean Air Act.*

**9. Screening Tool (Action Item 8h)**

*a. Participants' Comments*

NWEC commented that it was pleased with the 2011 screening tool and would like to see an updated screening tool provided in the future. The Sierra Club recognizes that the screening tool is not perfect, but it is a transparent mechanism that assists in review of particular investment strategies.

Staff noted concerns related to the transparency and accessibility of the System Optimizer. Staff appreciates PacifiCorp's statement that they are working towards improving the transparency of the inputs and outputs of the System Optimizer and believes it will be an improvement. In addition, Staff recommends a new Action Item 8h that will require PacifiCorp to provide an updated version of the screening tool, similar to the tool provided in the 2011 IRP Update.

*b. Commission Resolution*

We conclude that the past screening tool was useful and that it would be useful to have an updated screening tool. We adopt Staff recommendation related to the screening tool, but do not believe it should be an action item. Instead, we list it as a recommendation in Appendix A as follows:

*As part of the 2015, 2017, and 2019 IRPs, PacifiCorp will provide an updated version of the screening tool spreadsheet model that was provided to participants in the 2011 (docket LC 52) IRP Update.*

**C. Demand Side Management**

*1. Class 2 Demand Side Management (DSM) (Action Item 7a)*

Class 2 DSM includes typical types of energy efficiency. Action Item 7a relates to the acquisition of 1,425 - 1,876 GWh of cost-effective Class 2 DSM by the end of 2015. By the end of 2017, the action item includes the acquisition of 2,034 - 3,180 of GWh cost-effective Class 2 DSM. Action Item 7a includes specific actions wherein PacifiCorp plans to achieve those goals.

*a. Participants' Comments*

CUB argues that the Commission should not acknowledge the DSM section of the IRP. CUB contends that the Energy Trust of Oregon's (ETO) operation of Oregon's DSM programs make Oregon DSM programs more aggressive than other states in which PacifiCorp administers its own programs. CUB believes that PacifiCorp can consider more ETO-comparable programs in other states and improve DSM.

CUB argues that PacifiCorp is proposing action items that may accelerate DSM, but it remains unclear what effects that accelerated DSM would have on the chosen scenario because accelerated DSM is not included in the preferred portfolio. CUB notes that even PacifiCorp admits that cases EC1-C15 and EG2-C15 yield the highest-ranking risk-adjusted net PVRR, but it is concerned that PacifiCorp did not prioritize these portfolios because of PacifiCorp's claim that it did not have strong evidence to demonstrate the true acquisition costs or that it was unsure of whether or not the revised ramp rate assumptions would be achievable. Finally, CUB noted its frustration that PacifiCorp appears to ignore the fact that it has historically achieved more efficiency than forecasted and fails to use that fact to pursue accelerated DSM through this IRP.

NWEC argues that PacifiCorp's targets in states other than Oregon are too low and that the action items for Class 2 DSM should not be acknowledged, or that the targets should be increased prior to acknowledgment. NWEC points to the accelerated DSM case EG2-C15's ranking as the least cost, least risk portfolio and argues that the targets in this action plan should be established at levels included in that case.

NWEC, in addition to Staff and CUB, also stated concerns that Oregon ratepayers are funding higher levels of DSM 2 relative to other states that results in Oregon subsidizing other states by paying for supply-side system costs in equal measure. NWEC offered specific recommendations that the Commission should require the targets of the

accelerated DSM case to be achieved, along with reporting and filing requirements regarding DSM targets.

ICNU recommends that in lieu of not acknowledging the current action item targets, the Commission could acknowledge the accelerated DSM case as part of an overall portfolio and require PacifiCorp to report its achieved conservation, as well as discrepancies between its target and actual conservation.

The Sierra Club states that PacifiCorp's DSM modeling methodology is innovative and has advantages, but argues that it yields questionable results. Specifically, it notes that the model selects a declining amount of incremental DSM each year from 2013 to 2032. Sierra Club suggests that this does not seem accurate as it believes few states would claim that they are currently at the peak of their energy efficiency potential, which does not suggest that energy efficiency will only decline going forward.

PacifiCorp did not select the accelerated DSM case because it claims that cost assumptions associated with accelerated DSM are uncertain, the ramp rates were untested and Combine Cycle Combustion Turbines were not allowed to be selected in this portfolio. PacifiCorp disagrees that Oregon customers are funding higher levels of energy efficiency than other states and suggests that the participants are ignoring the contributions of load management investments, not considering market transformation savings, and failing to recognize differences in facts such as average energy use per customer and age of homes in different states.

In relation to the next potential conservation study, PacifiCorp states it is too late for input on scope and that the study will be used to develop an implementation plan for DSM 2 resources selected in the 2015 IRP. PacifiCorp also agreed to provide bi-annual updates on the status of DSM acquisition goals in 2014 and 2015. PacifiCorp notes that there are many factors that contribute to declining DSM potentials and that the Energy Trust's potential assessments also show declining DSM over time. Nonetheless, PacifiCorp argues that new potential assessments are conducted every two years so the participants should not be overly concerned with declining numbers beyond the action plan period.

Staff states its expectation that PacifiCorp should aggressively pursue accelerated DSM in all states. In addition, Staff stated concerns that PacifiCorp had exhibited a pattern of delay and cancelling DSM programs that were part of previously acknowledged IRP action items. Staff requests biannual updates on DSM activities outside of Oregon and updates on opportunities negotiated with special contract customers.

Staff's understanding is that the next potential conservation study will be generic and not specific to PacifiCorp's service territory and, therefore, does not believe it will be meaningful. Staff recommends requiring an implementation study be performed for its service territory outside of Oregon to use in the next IRP. For clarity purposes, Staff also recommends that in future IRPs PacifiCorp provide consistent DSM acquisition targets in both GWh and MW for each year in the planning period, by state. Finally, Staff recommends acknowledgment of Action Item 7a with four additions to the action plan.

*b. Commission Resolution*

We acknowledge Action Item 7a. We also adopt the following additional recommendations related to Class 2 DSM which are slightly modified from what Staff originally proposed based on discussions from the March 17 Public Meeting:

- *Provide twice yearly updates on the status of DSM IRP acquisition goals to the Commission in 2014 and 2015, including a summary of DSM acquisitions from large special contract customers. Summarize where efforts have deviated from previously agreed upon action items and report on progress toward specific DSM targets for all states other than Oregon.*
- *Include in the 2014 conservation potential study information specific to PacifiCorp's service territory for all states other than Oregon that quantifies how much Class 2 DSM programs can be accelerated and how much it will cost to accelerate acquisition.*
- *Include a PacifiCorp service area specific implementation plan as part of the 2015 IRP filing. At twice yearly updates to the Commission, provide a summary of savings potential, gaps and how PacifiCorp's specific implementation plan and programs are achieving the identified potential.*
- *In future IRPs, PacifiCorp will provide yearly Class 1 and Class 2 DSM acquisition targets in both GWh and MW for each year in the planning period, by state.*

**2. Class 1 DSM**

PacifiCorp defines Class 1 DSM programs as those in which capacity savings occur as a result of active company control or advanced scheduling, such as dispatchable demand response and irrigation programs. The preferred portfolio does not include any Class 1 DSM until 2027, by which time more than 400 MW of gas plant and 650 MW of new wind are added. In this IRP, PacifiCorp has no action items related to Class 1 DSM.

*a. Participants' Comments*

NWEC and ODOE argue that the Commission should encourage PacifiCorp to increase the amount and sophistication of its overall analysis regarding demand response and other load control tools in the next IRP to evaluate the potential to reduce energy costs over the long-term.

ODOE suggests that PacifiCorp should conduct more detailed analysis of DSM opportunities in future IRPs consistent with IRP guideline 7. Going forward, ODOE recommends PacifiCorp pursue a Class 1 DSM pilot in Oregon and at least one other state before filing its next IRP.

NWEC is concerned that the company is undervaluing Class 1 DSM in this IRP. NWEC questions PacifiCorp's analysis regarding a west-side Class 1 DSM irrigation control program and requests closer scrutiny of the analysis and underlying model assumptions.

*b. Commission Resolution*

We take no action related to Class 1 DSM. We encourage PacifiCorp to continue to work with stakeholders and Staff to better understand the Class 1 DSM analysis and look for ways to improve it in the company's next IRP. At this time, we do not request PacifiCorp perform a DSM 1 pilot project.

**D. Renewable Resources**

PacifiCorp proposes five action items related to renewable resources, plus two action items specifically related to distributed generation. Action Items 1a, 1c, 1e, 2a, and 2b are business-as-usual activities and do not require acknowledgment.

**1. Renewable Portfolio Standards (Action Item 1b)**

Action Item 1b requests acknowledgment to use unbundled renewable energy credits (RECs) to comply with the Renewable Portfolio Standard (RPS) through an annual request for proposals (RFP) process. PacifiCorp claims that it is lower cost to meet RPS requirements through the acquisition of RECs than building new renewable resources.

*a. Participants' Comments*

Staff recognizes PacifiCorp's efforts to meet RPS requirements through the lowest cost manner, but felt that PacifiCorp should have projected the costs associated with those RECs. As a result of this gap, Staff recommended acknowledgment of Action Item 1b with the requirement that in the future REC prices be incorporated into portfolio analysis and that a forecasted range of REC prices be included in the IRP update and next IRP.

PacifiCorp responded that publishing the REC price projection in the IRP could influence prices when it sells or purchases RECs in the market to the harm of customers. Instead, it proposed to continue to monitor REC prices and consider upper limits of future REC prices in the context of state-specific RPS rules when evaluating compliance alternatives for a given state RPS program. Staff understands the difficulty and risks of developing and publishing the forward market price curves for RECs and it supports acknowledgement of Action Item 1b without modification.

*b. Commission Resolution*

We acknowledge Action Item 1b.

**2. REC Optimization (Action Item 1c)**

Action Item 1c involves issuing reverse RFP's on a quarterly basis to sell RECs not required to meet state RPS requirements.

*a. Participants' Comments*

Staff initially argued that this action item should not be acknowledged because it conflicted with the Multi-State Process (MSP) objective to acquire bundled RECs from other PacifiCorp jurisdictions. PacifiCorp responded that this issue is better suited for the MSP process and that until an agreement amongst the states is in place, it should continue to implement Action Item 1c. Staff now views this as a business-as-usual item that does

not require acknowledgement, but states that it will pursue the issue through the MSP process.

*b. Commission Resolution*

We agree that this is not an action item that needs acknowledgement and that it should be addressed in the MSP process.

**3. Solar (Action Item 1d)**

This action item seeks acknowledgement to issue an RFP to obtain Oregon solar photovoltaic resources to meet the small solar compliance obligations of House Bill 3039.

*a. Participants' Comments*

Staff comments that the ETO is providing incentive dollars to this project and that Staff's review demonstrates that the project appears to be beneficial to ratepayers. As such, Staff supports acknowledgement of this item.

*b. Commission Resolution*

We acknowledge Action Item 1d.

**4. Renewables Capacity Contribution (Action Item 1e)**

Action Item 1e involves tracking and reporting the statistics used to calculate capacity contribution from wind resources and available solar information as a means of testing the validity of the peak load carrying capability (PLCC) method.

*a. Participants' Comments*

RNW argues that subsequent proceedings should include updated capacity factors and values for renewable resources. RNW proposes that the Commission direct PacifiCorp to use the effective load carrying capacity (ELCC) methodology and supports Staff's recommendation to compare the capacity contributions using PLCC and ELCC. RNW also proposes a trigger point analysis for new renewable resources in the next IRP, which would identify the levelized cost of energy for wind and solar resources required to promote their selection in the System Optimizer.

NWEC raised concerns regarding the cost of photovoltaic solar used in this IRP and were unconvinced by PacifiCorp's response that PacifiCorp's consultant Cadmus based these costs upon the best information available.

Although PacifiCorp did not respond to NWEC's arguments related to costs of photovoltaic solar, it did state that it would consider both the Staff and RNW recommendation to compare the capacity contributions to wind and solar resources between alternative methods and RNW's trigger point analysis.

Staff argues that Action Item 1e is not the type of action item that requires acknowledgement, but supports and encourages PacifiCorp and the participants to work

together during the 2015 IRP input process to further develop and discuss these proposals.

*b. Commission Resolution*

We agree that this is the type of action item that does not require acknowledgment. We believe that the 2015 IRP input process is the appropriate forum to discuss these issues and appreciate PacifiCorp's and the participants' interests in discussing and providing more information on these issues in that process.

**D. Transmission**

*1. System Operational and Reliability Benefits Tool (SBT) (Action Item 9a)*

Following extensive input from stakeholders, PacifiCorp developed the System Operational and Reliability Tool (SBT) to identify and quantify transmission benefits not captured using traditional IRP analysis. In Action Item 9a, PacifiCorp proposed, and subsequently held a workshop to further review and refine the SBT. PacifiCorp also proposes to perform additional analysis on specific transmission projects.

Because Action Item 9a describes future processes and analysis to be completed, we agree with Staff that acknowledgment inappropriate. Nonetheless, we support the objectives of Action Item 9a that include the refinement of the SBT and completion of additional analysis of Energy Gateway West Segment D that evaluates the staging implementation of Segment D by sub-segment.

*2. Energy Gateway Permitting Actions (Action Item 9b)*

In its proposed Action Item 9b, PacifiCorp intends to continue with permitting actions for Populus to Windstar (Segment D), Populus to Hemingway (Segment E), Aeolus to Mona (Segment F), and West of Hemingway (Segment F).

*a. Participants' Comments*

Staff notes that although PacifiCorp provided a preliminary SBT analysis to quantify the benefits of Segment D, it will be making changes to the SBT. For segments E, F, and H, Staff understands that there will be uncertainty in developing these segments until it is closer to their anticipated in-service dates. However, Staff contends that such uncertainty should not hinder PacifiCorp's exploration of these projects in light of the preliminary benefits of these segments. As a result, Staff recommends acknowledgement of Action Item 9b with modifications.

The Sierra Club questions why PacifiCorp intends to permit and construct additional transmission in Wyoming. Sierra Club argues that neither the 2011 IRP nor the 2013 IRP establish a compelling reason for the expenditure of billions of dollars in transmission between existing sources. In general, Sierra Club opposes new transmission into eastern Wyoming until PacifiCorp demonstrates a commitment to acquire renewable resources in that region.

PacifiCorp does not oppose Staff's proposed modification to Action Item 9b, and states that it will continue to refine the SBT in preparation for the 2015 IRP, but notes that there

may be limitations on the analysis that can be performed at the time of the next IRP. Nonetheless, PacifiCorp notes that the in-service dates for segments D, E, F, and H are several years in the future. In response to Sierra Club, PacifiCorp clarifies that it is not requesting acknowledgement of the Energy Gateway Projects, but only the near-term permitting activities required to maintain options for moving forward.

*b. Commission Resolution*

We acknowledge Action Item 9b, modified to read as follows:

- *Continue permitting Segments D, E, F, and H until PacifiCorp files its 2015 IRP, at which time a SBT analysis for these segments will be performed.*

**3. *Sigurd-to-Red Butte***

PacifiCorp seeks acknowledgement for completing construction of the Sigurd-to-Red Butte (S2RB) transmission line. PacifiCorp originally sought acknowledgment of the transmission project in the 2011 IRP, but we did not acknowledge the line at that time

*a. Participants' Comments*

ICNU notes concerns have been raised in Oregon regarding whether or not PacifiCorp's transmission plans adequately account for expected future conditions and concerns have been raised in Washington regarding whether or not PacifiCorp is focused on building transmission rather than other alternatives, such as smart grid technology. ICNU argues that PacifiCorp has already begun construction of this transmission line and suggests that the Commission can avoid disputes regarding this issue by declining to acknowledge the line on the basis that PacifiCorp has already decided to build it and has begun construction of the transmission line without required input and consideration in the IRP.

Staff and RNW recommend acknowledgment of Action Item 9c. Staff argues that the primary beneficiaries of the line are PacifiCorp's network transmission customers and their loads in southwest Utah. As a result, Staff contends that the allocation of costs should be commensurate with the benefits received by each network transmission customer or state. This allocation of costs should be addressed in an appropriate forum, such as the MSP process or general rate case proceeding, or both.

*b. Commission Resolution*

Based upon the representations of PacifiCorp that it was compelled, under the terms of its Open Access Transmission Tariff, to accept its network customers load growth projections, we acknowledge Action Item 9c. However, we have serious concerns about the adequacy of the analysis of the S2RB transmission line and we will make sure the ratemaking process is rigorous and focused on allocating the costs and risks where they appropriately belong. Oregon ratepayers should not be put at risk for unrealistic load projections or lack of full consideration of lower cost alternatives.

## **E. Modeling Assumptions and Methods**

In Action Item 10a, PacifiCorp proposes to schedule a workshop with stakeholders to discuss potential improvements in its IRP modeling and process. Consistent with this action item, PacifiCorp held a workshop in September 2013 and is currently examining ways to achieve a wider range of portfolio diversity and ways to accommodate more risk analysis using the PaR model. In addition, PacifiCorp states its intention to update its stochastic parameters for the 2015 IRP and plans to have a workshop to discuss stochastic modeling as part of the 2015 IRP public process, as well as evaluating methods to develop capacity contribution assumptions for renewable resources.

Although many participants commented on Action Item 10a and offered suggestions on ways the company can improve its analysis, we conclude that Action Item 10a does not require acknowledgement from us. We appreciate the participants' continued efforts to improve modeling assumptions and methods, and believe that the 2015 IRP public process can be used to improve the IRP analysis.

## **F. Water Issues, Energy Storage, Risk Metric, Load Forecast**

### *1. Participants' Comments*

In addition to addressing specific action items, many participants provided general comments in response to PacifiCorp's 2013 IRP and its analysis. First, both NRDC and ODOE raise concerns about water issues. ODOE notes that PacifiCorp included the costs associated with one significant federal water-related rulemaking (cooling water intakes), but not another (new industry toxic discharge guidelines). NRDC contends that PacifiCorp did not adequately analyze power system vulnerabilities due to climate change phenomena, including water availability, heat and drought, particularly in the southwestern United States where PacifiCorp's system is interconnected.

Second, ODOE recommends that PacifiCorp's IRP action plan include an energy storage pilot and requests that the Commission direct PacifiCorp to provide more comprehensive treatment of energy storage in future IRPs. ODOE notes that the 2011 IRP action plan included a commitment from PacifiCorp on an energy storage demonstration project in Utah that was later canceled, and that this IRP does not recommend further action on energy storage.

Third, Staff challenges how PacifiCorp ranks portfolios. Staff contends that the company's risk metric should be the upper tail mean PVRR alone, rather than the upper tail mean PVRR minus the mean PVRR. Staff concedes, however, that changing the risk metric here would not have altered the outcome of the initial screening process for the 2013 IRP.

Fourth, Staff and ICNU express concerns about PacifiCorp's modeling of future loads. Staff questions whether the company adequately accounts for future load reductions due to net metering. Staff and ICNU contend that PacifiCorp's assumption of zero long-term direct access loads is not reasonable.

PacifiCorp responds to the participants' assertions, but commits to continue to address the concerns in further discussion and as part of the 2015 IRP process. Staff agrees with PacifiCorp that these issues should be addressed during the 2015 IRP public process.

2. *Commission Resolution*

We appreciate the participants' comments on these issues, and agree with Staff that they should be appropriately discussed and debated in the 2015 IRP public process.

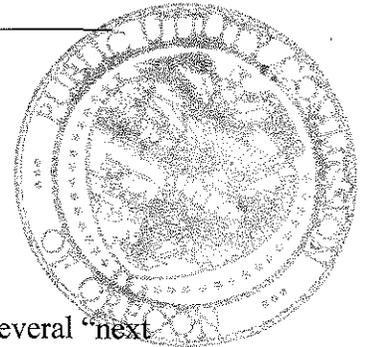
**III. ORDER**

IT IS SO ORDERED that the Integrated Resource Plan, filed by PacifiCorp, dba Pacific Power, is acknowledged consistent with the terms of this order and the attached Appendices A and B.

Made, entered, and effective JUL 08 2014.

  
**Susan K. Ackerman**  
Chair

  
**John Savage**  
Commissioner



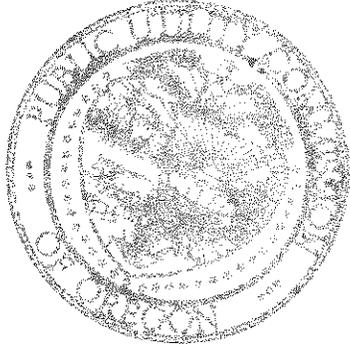
Commissioner Bloom concurs:

I support today's order as consistent with our IRP policy. We have outlined several "next steps" for PacifiCorp in this order, particularly with regard to the prudence review we will undertake for the Sigurd to Red Butte (S2RB) transmission line in a future rate case. I echo these "next steps" and provide additional explanation of my expectations.

In our future rate review of the S2RB transmission line, I would specifically like the company, Staff, and intervenors to review the factual and legal basis for PacifiCorp's position, that its OATT and FERC rules regarding a customer's load forecast somehow mandated the construction of the S2RB transmission line. If PacifiCorp and stakeholders had procedural options to question the customer's load forecast, short of PacifiCorp unilaterally modifying or rejecting it, these options should be brought to the Commission's attention. Alternatively, if PacifiCorp and stakeholders must blindly accept any load forecast, I would like to see the specific rules or OATT language that mandates this result.

In the rate proceeding, I would also like the parties to explore the factual and legal issues related to the fact that S2RB may not be "used and useful" in Oregon. Are there quantifiable benefits to Oregon ratepayers, either directly from power flowing from a resource to Oregon, or indirectly from cost reductions via exchange contracts?

Considering these or other quantifiable benefits, I expect the parties to analyze whether S2RB should be included in the company's rate base.



A handwritten signature in cursive script, appearing to read "S. Bloom", is written above a horizontal line.

**Stephen M. Bloom**  
Commissioner

## Appendix A - Adopted Recommendations

***Reporting and Requirements for Future IRPs***

Beginning in the third quarter of 2014, PacifiCorp will appear before the Commission to provide quarterly updates on coal plant compliance requirements, legal proceedings, pollution control investments, and other major capital expenditures on its coal plants or transmission projects. PacifiCorp may provide a written report and need not appear if there are no significant changes between the quarterly updates.

In future IRPs, PacifiCorp will provide:

- Timelines and key decision points for expected pollution control options and transmission investments; and
- Tables detailing major planned expenditures with estimated costs in each year for each plant or transmission project, under different modeled scenarios.

***Craig and Hayden***

Within three months of the order in this proceeding, PacifiCorp will schedule and hold a confidential technical workshop to review existing analysis on the planned Craig and Hayden environmental investments.

***Wyodak***

For the 2015 IRP the following *inter-temporal* and *fleet trade-off* analysis related to the SCR requirement on Wyodak by 2019 will be used as a frame of reference:

		Inter-temporal Scenarios			
		EPA requirement	Time 1	Time 2	Time 3
Wyodak Plant Action	SCR Retrofit	SNCR Retrofit / early retirement	Gas Conversion	Retirement	
Timeline	2019	2019 /2030	2022	2027	

	Fleet Trade-Off Scenarios				
	EPA requirement	Fleet 1	Fleet 2	Fleet 3	Fleet 4
Wyodak	SCR Retrofit in 2019	No Action	No Action	No Action	No Action
Dave Johnston Units 1 & 2	No Action	Retirement in 2027	No Action	Gas Conversion in 2022	No Action
Dave Johnston Unit 4	No Action	No Action	Retirement in 2027	No Action	Gas Conversion in 2022

- The timing and options will be finalized with stakeholders at the workshops for the 2015 IRP.
- This analysis will include considerations for the necessity of Gateway West with reduced capacity in eastern Wyoming.
- Workshops will be held, including at least one with the Commissioners, to refine the list of specific fleet analyses to be performed in the IRP. Staff will bring its final recommendations to the Commission at a Public Meeting and participants will have an opportunity to comment on the final recommendations at that time.

#### ***Carbon Analysis***

Prior to the end of 2014, PacifiCorp will work with participants to explore options for how PacifiCorp plans to model and perform analysis in the 2015 IRP related to what is known about the requirements of §111(d) of the Clean Air Act.

#### ***Screening Tool***

As part of the 2015, 2017, and 2019 IRP, PacifiCorp will provide an updated version of the screening tool spreadsheet model that was provided to participants in the 2011 (docket LC 52) IRP Update

#### ***Class 2 DSM Recommendations:***

- Provide twice yearly updates on the status of DSM IRP acquisition goals to the Commission in 2014 and 2015, including a summary of DSM acquisitions from large special contract customers. Summarize where efforts have deviated from previously agreed upon action items and report on progress toward specific DSM targets for all states other than Oregon.
- Include in the 2014 conservation potential study information specific to PacifiCorp's service territory for all states other than Oregon that quantifies how much Class 2 DSM programs can be accelerated and how much it will cost to accelerate acquisition.

- Include a PacifiCorp service area specific implementation plan as part of the 2015 IRP filing. At twice yearly updates to the Commission, provide a summary of savings potential, gaps and how PacifiCorp's specific implementation plan and programs are achieving the identified potential.
- In future IRPs, PacifiCorp will provide yearly Class 1 and Class 2 DSM acquisition targets in both GWh and MW for each year in the planning period, by state.

## Appendix B – Final Action Plan

**1. Renewable Resource Actions**

## ACKNOWLEDGED AS PROPOSED

***Action Item 1b - Renewable Portfolio Standard Compliance***

With renewable portfolio standard (RPS) compliance achieved with unbundled renewable energy credit (REC) purchases, the preferred portfolio does not include incremental renewable resources prior to 2024. Given that the REC market lacks liquidity and depth beyond one year forward, the Company will pursue unbundled REC requests for proposal (RFP) to meet its state RPS compliance requirements.

- Issue at least annually, RFPs seeking then current-year or forward-year vintage unbundled RECs that will qualify in meeting Washington renewable portfolio standard obligations.
- Issue at least annually, RFPs seeking historical, then current-year, or forward-year vintage unbundled RECs that will qualify for Oregon renewable portfolio standard obligations. As part of the solicitation and bid evaluation process, evaluate the tradeoffs between acquiring bankable RECs early as a means to mitigate potentially higher cost long-term compliance alternatives.
- Issue at least annually, RFPs seeking then current-year or forward-year vintage unbundled RECs that will qualify for California renewable portfolio standard obligations.

## ACKNOWLEDGED AS PROPOSED

***Action Item 1d - Solar***

- Issue an RFP in the second quarter of 2013 soliciting Oregon solar photovoltaic resources to meet the Oregon small solar compliance obligation (Oregon House Bill 3039). Coordinate the selection process with the Energy Trust of Oregon to seek 2014 project funding. Complete evaluation of proposals and select potential winning bids in the fourth quarter of 2013.
- Issue a request for information 180 days after filing the 2013 IRP to solicit updated market information on utility scale solar costs and capacity factors.

**7. Demand Side Management (DSM) Actions**

## ACKNOWLEDGED AS REVISED

***Action Item 7a - Class 2 DSM***

Acquire 1,425 – 1,876 GWh of cost-effective Class 2 energy efficiency resources by the end of 2015 and 2,034 – 3,180 GWh by the end of 2017.

- Collaborate with the Energy Trust of Oregon on a pilot residential home comparison report program to be offered to Pacific Power customers in 2013 and 2014. At the conclusion of the pilot program and the associated impact evaluation, assess further expansion of the program.

- Implement an enhanced consolidated business program to increase DSM acquisition from business customers in all states excluding Oregon.
  - Utah base case schedule is 1<sup>st</sup> quarter 2014 with an accelerated target of 3<sup>rd</sup> quarter 2013.
  - Washington base case schedule is 4th quarter 2014, with an accelerated target of 1st quarter 2014.
  - Wyoming, California, and Idaho base case schedule is 4th quarter 2014, with an accelerated target of 2nd quarter 2014.
- Accelerate to the 2nd quarter of 2014, an evaluation of waste heat to power where generation is used to offset customer requirements – investigate how to integrate opportunities into the DSM portfolio.
- Increase acquisitions from business customers through prescriptive measures by expanding the “Trade Ally Network”.
  - Base case target in all states is 3rd quarter 2014, with an accelerated target of 4th quarter 2013
- Accelerate small-mid market business DSM acquisitions by contracting with third party administrators to facilitate greater acquisitions by increasing marketing, outreach, and management of comprehensive custom projects by 1st quarter 2014.
- Increase the reach and effectiveness of “express” or “typical” measure offerings by increasing qualifying measures, reviewing and realigning incentives, implementing a direct install feature for small commercial customers, and expanding the residential refrigerator and freezer recycling program to include commercial units.
  - Utah base case schedule is 1st quarter 2014 with an accelerated target of 3rd quarter 2013.
  - Washington base case schedule is 4th quarter 2014, with an accelerated target of 1st quarter 2014.
  - Wyoming, California, and Idaho base case schedule is 4th quarter 2014, with an accelerated target of 2nd quarter 2014.
- Increase the reach of behavioral DSM programs:
  - Evaluate and expand the residential behavioral pilot.
    - Utah base case schedule is 2nd quarter 2014, with an accelerated target of 4th quarter 2013.
  - Accelerate commercial behavioral pilot to the end of the first quarter 2014.
  - Expand residential programs system-wide pending evaluation results.
    - System-wide target is 3rd quarter 2015, with an accelerated target of 3rd quarter 2014.
- Increase acquisition of residential DSM resources:
  - Implement cost effective direct install options by the end of 2013.
  - Expand offering of “bundled” measure incentives by the end of 2013.
  - Increase qualifying measures by the end of 2013.
  - Review and realign incentives.
    - Utah schedule is 1st quarter 2014
    - Washington base case schedule is 2nd quarter 2014, with accelerated target of 1st quarter 2014.
    - Wyoming, California, and Idaho base case schedule is 3rd quarter 2014, with an accelerated target of 2nd quarter 2014

- Accelerate acquisitions by expanding refrigerator and freezer recycling to incorporate retail appliance distributors and commercial units – 3rd quarter 2013.
- By the end of 2013, complete review of the impact of accelerated DSM on Oregon and the Energy Trust of Oregon, and re-contract in 2014 for appropriate funding as required.
- Include in the 2013 IRP Update Class 2 DSM decrement values based upon accelerated acquisition of DSM resources.
- Include in the 2014 conservation potential study an analysis testing assumptions in support of accelerating acquisition of cost-effective Class 2 DSM resources, and apply findings from this analysis into the development of candidate portfolios in the 2015 IRP.
- Provide twice yearly updates on the status of DSM IRP acquisition goals to the Commission in 2014 and 2015, including a summary of DSM acquisitions from large special contract customers. Summarize where efforts have deviated from previously agreed upon action items and report on progress toward specific DSM targets for all states other than Oregon.
- Include in the 2014 conservation potential study information specific to PacifiCorp's service territory for all states other than Oregon that quantifies how much Class 2 DSM programs can be accelerated and how much it will cost to accelerate acquisition.
- Include a PacifiCorp service area specific implementation plan as part of the 2015 IRP filing. At twice yearly updates to the Commission, provide a summary of savings potential, gaps and how PacifiCorp's specific implementation plan and programs are achieving the identified potential.
- In future IRPs, PacifiCorp will provide yearly Class 1 and Class 2 DSM acquisition targets in both GWh and MW for each year in the planning period, by state.

## 8. Coal Resource Actions

### ACKNOWLEDGED AS REVISED

#### *Action Item 8a - Naughton Unit 3*

- Continue permitting and development efforts in support of the Naughton Unit 3 natural gas conversion project. The permit application requesting operation on coal through year-end 2017 is currently under review by the Wyoming Department of Environmental Quality, Air Quality Division.
- Issue a request for proposal to procure gas transportation for the Naughton plant as required to support compliance with the conversion date that will be established during the permitting process.
- Issue an RFP for engineering, procurement, and construction of the Naughton Unit 3 natural gas retrofit as required to support compliance with the conversion date that will be established during the permitting process.
- Evaluate the Naughton Unit 3 investment decision in the 2015 IRP with updated analysis, including the shutdown versus conversion options.

ACKNOWLEDGED AS REVISED

***Action Item 8d - Cholla Unit 4***

Continue to evaluate alternative compliance strategies that will meet Regional Haze compliance obligations, related to the U.S. Environmental Protection Agency's Federal Implementation Plan requirements to install SCR equipment at Cholla Unit 4. Provide an analysis of the Cholla Unit 4 compliance alternatives in a special, designated IRP Update within six months of the final order in LC 57 and well enough in advance to allow for all viable pollution control alternatives to be adequately considered and pursued.

**9. Transmission Actions**

ACKNOWLEDGED AS REVISED

***Action Item 9b - Energy Gateway Permitting***

Continue permitting Segments D, E, F, and H until PacifiCorp files its 2015 IRP, at which time a SBT analysis for these segments may be performed.

ACKNOWLEDGED AS PROPOSED

***Action Item 9c - Sigurd to Red Butte 345 kilovolt Transmission Line***

Complete project construction per plan.