

February 4, 2014

***VIA ELECTRONIC FILING  
AND OVERNIGHT DELIVERY***

Public Utility Commission of Oregon  
3930 Fairview Industrial Drive SE  
Salem, Oregon 97302-1166

Attn: Filing Center

**Re: LC 57 PacifiCorp's Final Comments**

In accordance with the administrative law judge's December 3, 2013 ruling modifying the procedural schedule in this docket, PacifiCorp d/b/a Pacific Power submits for filing its Final Comments on PacifiCorp's 2013 Integrated Resource Plan, including Attachments A and B.

Confidential information is provided in accordance with the protective order in this docket, Order No. 13-095.

Please contact Gary Tawwater, Manager, Regulatory Affairs, at (503) 813-6805, for questions on this matter.

Sincerely,



R. Bryce Dalley  
Vice President, Regulation

Enclosures

cc: Service List – LC 57

## CERTIFICATE OF SERVICE

I certify that I served a true and correct copy of PacifiCorp's Final Comments on the parties listed below via electronic mail in compliance with OAR 860-001-0180.

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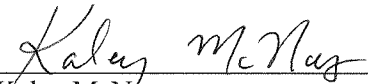
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Dated this 4<sup>th</sup> Day of February 2014.

  
Kaley McNay  
Coordinator, Regulatory Operations

**BEFORE THE PUBLIC UTILITY COMMISSION  
OF OREGON**

**LC 57**

In The Matter of

PACIFICORP d/b/a PACIFIC POWER

2013 Integrated Resource Plan.

PACIFICORP'S FINAL WRITTEN  
COMMENTS

**I. INTRODUCTION**

In accordance with the procedural schedule adopted by the administrative law judge in this proceeding, PacifiCorp respectfully submits these final written comments. PacifiCorp filed its 2013 Integrated Resource Plan (IRP) with the Public Utility Commission of Oregon (Commission) on April 30, 2013, and a Wind Integration Study Technical Memo on June 3, 2013. Parties filed comments and acknowledgment recommendations on August 22, 2013, and also provided comments at an October 28, 2013 public meeting. The Company submitted reply comments on November 26, 2013, and the following parties submitted final written comments on January 10, 2014: Commission Staff (Staff), the Citizens' Utility Board of Oregon (CUB), the Northwest Energy Coalition (NVEC), the Renewable Northwest Project (RNP), the Oregon Department of Energy (ODOE), the Industrial Customers of Northwest Utilities (ICNU), and the Sierra Club. CUB and Sierra Club also filed supplemental comments regarding the Environmental Protection Agency's (EPA's) pre-publication version of its final action on the State of Wyoming's Regional Haze state implementation plan (SIP) on January 17, 2014.

**II. EXECUTIVE SUMMARY AND RECOMMENDATIONS**

In its final written comments, PacifiCorp focuses on specific recommendations and suggestions outlined in the parties' final and supplemental comments, and the Company does not generally restate its position on topics that were addressed in its initial comments. Moreover,

PacifiCorp does not provide final comments on issues raised by the parties that were not accompanied by a specific recommendation. Finally, PacifiCorp notes that Staff and parties have recommended modifications or additions to certain action items, and in some cases, recommend new action items for inclusion in the Company's 2013 IRP Action Plan. The Company expresses its position on each of these recommendations in its reply comments. If the Commission chooses to accept the parties' recommended modifications or additions to the Company's 2013 IRP Action Plan, PacifiCorp respectfully requests that it do so through a clarification or exception in its order rather than modifying or redlining an action item or requiring the Company to file a modified action plan.

The parties' final comments and recommendations are focused on environmental investments at the Company's coal-fired generating units, the Company's proposal for a separate coal analysis docket, demand-side management (DSM) resources, renewable resources, and modeling assumptions and methods. PacifiCorp's final comments address each of these topics and are summarized as follows:

- In support of coal resource Action Items 8a (Naughton Unit 3), 8b (Hunter Unit 1), and 8c (Jim Bridger Unit 3 and 4) in this 2013 IRP, PacifiCorp has:
  - Studied a comprehensive range of alternatives to comply with environmental compliance obligations enforceable by state and/or federal law;
  - Considered a range of CO<sub>2</sub> price scenarios showing that the proposed investment decisions and associated actions are low cost in scenarios where high CO<sub>2</sub> prices are assumed;
  - Studied flexible compliance alternatives, where appropriate, that explore phase-out scenarios;
  - Studied how uncertain future environmental compliance obligations might affect current environmental investment decisions; and
  - Performed its analysis consistent with Oregon's IRP guidelines.
- PacifiCorp's proposal to initiate a new planning and review process will allow the Company to work with parties to develop parameters for coal investment analyses and allow the Company to seek acknowledgment of emissions control investments or alternatives for specific units that is aligned with the Company's decision-making process. If the Commission accepts PacifiCorp's recommendation to open a new

docket for this process, the Company anticipates filing action items for acknowledgement related to the pending Cholla Unit 4 selective catalytic reduction (SCR) investment decision in 2014.

- The Company is willing to review with the Commission and parties, through a confidential technical workshop, existing analysis on the planned Craig and Hayden environmental investments. Assuming the appropriate protections are put in place that restrict the use of information presented at the technical workshop, PacifiCorp will schedule the technical workshop within three months of the Commission order in this docket.
- The Sigurd-to-Red Butte transmission line is necessary to provide safe and reliable service to customers and to meet expected and forecasted customer energy demand. The project improves reliability and is necessary for compliance with regulatory requirements and reliability standards, benefitting customers. PacifiCorp's Action Item on this investment is aligned with Oregon's IRP Guidelines
- As recommended by Staff, PacifiCorp will provide twice yearly updates on the status of DSM IRP acquisition goals in 2014 and 2015.
- Consistent with Action Item 11a, PacifiCorp held a modeling process improvement workshop in September 2013 and looks forward to working with parties to implement modeling and process improvement recommendations in the 2015 IRP.

The Company prepared the 2013 IRP in accordance with the terms of Order No. 12-493, in which the Commission acknowledged the Company's 2011 IRP and revised Action Plan with exceptions, as well as Order Nos. 07-002 and 07-047, in which the Commission adopted the Oregon IRP Guidelines. In determining whether to acknowledge an IRP, the Commission considers the extent to which the plan satisfies the procedural and substantive requirements of Oregon's IRP Guidelines and whether the plan is reasonable at the time of acknowledgement. PacifiCorp respectfully requests that the Commission acknowledge the 2013 IRP.

### **III. WYOMING FEDERAL IMPLEMENTATION PLAN**

On January 10, 2014, the Environmental Protection Agency (EPA) released a pre-publication version of its final action on the Wyoming Regional Haze state implementation plan (SIP). In its final action, EPA partially approved and partially rejected the SIP, and also issued a

federal implementation plan (FIP) to cover those areas of SIP disapproval, establishing compliance requirements and schedules for specific Wyoming coal units under the Regional Haze program. For PacifiCorp's affected units, EPA largely accepted requirements set forth in the Wyoming SIP, with two exceptions. First, EPA requires the installation of SCR at Wyodak within five years of the effective date of EPA's final action, in addition to the low NO<sub>x</sub> burners (LNB) and overfire air (OFA) already installed and in service on the unit.<sup>1</sup> Second, EPA provides two alternative paths to compliance with the FIP for Dave Johnston Unit 3. One requires the installation of SCR within five years of the effective date of EPA's final action, with no requirements for unit shutdown. The second includes a requirement to operate the LNB/OFA already installed and in service on the unit and cease operation of the unit by December 31, 2027. Table 1 summarizes how EPA's final determination compares to the Wyoming SIP, prior EPA proposals, and assumptions applied in the 2013 IRP.

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<sup>1</sup> Five years starting 30 days after EPA publishes the FIP in the *Federal Register*. The FIP was published in the *Federal Register* on January 30, 2014 with an effective date of March 3, 2014.

**Table 1. Wyoming Regional Haze Compliance Summary\***

Unit (MW)	WY SIP	EPA 2012 Proposal	2013 IRP Base Case	2013 IRP Stringent Case	EPA 2013 Re-Proposal	EPA Final FIP
Naughton 1 (158 MW)	LNB	LNB	LNB	LNB	SCR (within 5 yrs)	Approved WY SIP
Naughton 2 (205 MW)	LNB	LNB	LNB	LNB	SCR (within 5 yrs)	Approved WY SIP
Naughton 3 (330 MW)	SCR/BH (12/31/14)	SCR/BH (12/31/14)	Gas Conv. (6/30/15)	Gas Conv. (6/30/15)	SCR/BH (12/31/14)	Approved WY SIP
Jim Bridger 1 (531 MW)	SCR (12/31/22)	SCR (within 5 yrs)	SCR (12/31/22)	SCR (12/31/22)	SCR (12/31/22)	Approved WY SIP
Jim Bridger 2 (545 MW)	SCR (12/31/21)	SCR (within 5 yrs)	SCR (12/31/21)	SCR (12/31/21)	SCR (12/31/21)	Approved WY SIP
Jim Bridger 3 (523 MW)	SCR (12/31/15)	SCR (12/31/15)	SCR (12/31/15)	SCR (12/31/15)	SCR (12/31/15)	Approved WY SIP
Jim Bridger 4 (530 MW)	SCR (12/31/16)	SCR (12/31/16)	SCR (12/31/16)	SCR (12/31/16)	SCR (12/31/16)	Approved WY SIP
Dave Johnston 1 (106 MW)	LNB	LNB (7/31/18)	n/a	LNB (12/31/16)	LNB (12/31/18)	Approved WY SIP
Dave Johnston 2 (106 MW)	LNB	LNB (7/31/18)	n/a	LNB (12/31/18)	LNB (12/31/18)	Approved WY SIP
Dave Johnston 3 (220 MW)	LNB	SNCR (within 5 yrs)	LNB	SNCR (12/31/17)	SCR (within 5 yrs)	Retire 2027 or SCR within 5 yrs
Dave Johnston 4 (328 MW)	LNB	LNB	LNB	LNB	SNCR (within 5 yrs)	Approved WY SIP
Wyodak (335 MW)	LNB	SNCR (within 5 yrs)	LNB	SNCR (12/31/17) SCR (12/31/26)	SNCR (within 5 yrs)	SCR (within 5 yrs)

\*LNB = low NO<sub>x</sub> burners; SNCR = selective non-catalytic reduction; SCR = selective catalytic reduction; and BH = baghouse. The Wyoming Regional Haze SIP contemplates low-NO<sub>x</sub> burners at Dave Johnston Units 1 and 2 by the end of 2018. However, changes to the Wyoming Air Quality regulations are required before the state can mandate the controls.

For PacifiCorp's Naughton Unit 3, the EPA's final action approved the Wyoming SIP requirements for installation of LNB/OFA, SCR, and a baghouse on the unit. In its final action, EPA specifically states its support for the gas conversion of Naughton Unit 3 but notes that, because the Wyoming SIP documentation did not include a gas conversion option, EPA has no basis to disapprove the SIP requirement for LNB/OFA, SCR, and baghouse, with its authority and obligation to take action limited to the SIP as submitted by the state. PacifiCorp is currently working with the State of Wyoming Division of Air Quality to identify amendments necessary to SIP-related documentation to support the Naughton Unit 3 gas conversion and to clearly document the compliance requirements and timeline for implementation of the project under the



Regional Haze program. Until the State of Wyoming has successfully proceeded through all steps necessary to clearly establish Regional Haze compliance requirements and a timeline for the gas conversion, and the EPA has approved any required SIP amendments, the Company's Regional Haze obligations and compliance timeline for Naughton Unit 3 remain unchanged from the Wyoming SIP. In its final action, EPA stated its intent to act in an expedited manner on a SIP revision to reflect the conversion of Naughton Unit 3 to natural gas.

Throughout this docket, parties have commented on uncertainties related to EPA actions on the Wyoming SIP under the Regional Haze program. Now that EPA has taken final action on the Wyoming SIP, PacifiCorp makes the following observations. First, compliance requirements set forth in the approved portions of the Wyoming SIP and the EPA FIP for disapproved portions generally fall within the reasonably established range of assumptions analyzed in the portfolio development process used in the 2013 IRP. Second, the outcome of EPA's final action on the Wyoming SIP underscores the need to align analysis used to support a request for acknowledgement of environmental investments with enforceable unit-specific compliance requirements and timelines as set forth by a state and/or the EPA. As noted in PacifiCorp's initial reply comments, completing preliminary analysis of prospective environmental investments must be based on reasonably likely compliance alternatives that are consistent with current rules. Completing premature analysis does not provide meaningful information to support a specific resource action for which the Company would seek acknowledgment. Those outcomes in the EPA's final action that are new and binding compliance requirements will be thoroughly reviewed and analyzed in future regulatory filings, including the separate coal investment docket in Oregon if established.

#### IV. REPLY TO PARTIES' FINAL AND SUPPLEMENTAL COMMENTS

##### A. Environmental Investments in Coal Resources

###### 1. Coal Resource Action Items

###### a. Parties' Recommendations on Naughton Unit 3 (Action Item 8a)

Staff recommends acknowledgment of Action Item 8a, which outlines permitting and RFP activities, with a proposed revision committing PacifiCorp to perform additional analysis and seek acknowledgement of the gas conversion decision in the 2015 IRP. RNP recommends acknowledgement of Action Item 8a, and Sierra Club does not object to acknowledgement of Action Item 8a. NWEAC recommends the Commission not acknowledge any of PacifiCorp's coal resource action items on the basis the 2013 IRP does not satisfy Oregon IRP Guidelines 4.g. and 8.a.<sup>2</sup>

###### b. PacifiCorp's Comments on Naughton Unit 3 (Action Item 8a)

According to Staff, PacifiCorp's analysis of Naughton Unit 3 shows conversion in 2015 is least cost/least risk; however Staff believes there is insufficient analysis that supports a natural gas conversion in 2018. PacifiCorp included in the 2013 IRP its analysis supporting natural gas conversion, assumed to be implemented in 2015, as a lower cost alternative to installation of an SCR and baghouse that would otherwise be required by the end of 2014. Deferring the gas conversion to 2018 only improves the economics of gas conversion at Naughton Unit 3 because customers benefit from extended operation of an existing low-cost generating resource without incurring incremental capital expenditures for SCR and baghouse equipment. As Staff accurately observed, delaying conversion from 2015 to 2018 "is highly likely to manifest itself as a reduction in PVRR."

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<sup>2</sup> Because NWEAC's argument applies to all coal resource action items, NWEAC's argument (and PacifiCorp's response) is presented in this section only and not repeated for each coal-related action item.

PacifiCorp does not support Staff's proposed addition to Action Item 8a that would require the Company to seek acknowledgment of the 2018 gas conversion in the 2015 IRP. In Staff's final comments, it concludes gas conversion is the least cost alternative and recognizes that deferring the conversion from 2015 to 2018 will improve the economic benefits of this alternative. No additional analysis is required. Nonetheless, PacifiCorp will update the Commission and parties on the status of the Naughton Unit 3 gas conversion project in the 2015 IRP.

NWEC claims that the Company underestimates the risk of continued reliance on coal generation, does not adequately address the full range of future regulations, and did not analyze several coal units that should have been analyzed in this IRP. On this basis, NWEC asserts the Company has not sufficiently met Oregon IRP Guidelines 4.g. and 8.a. NWEC's claims are not convincing. PacifiCorp analyzed a wide range of CO<sub>2</sub> price scenarios, including two different hard cap scenarios in its portfolio development process, included costs to comply with prospective future regulations on coal combustion residuals and cooling water intake structures, and analyzed potential future Regional Haze compliance requirements based upon the best information available. PacifiCorp included detailed financial analysis of coal unit investments requiring near-term actions and evaluated longer-term compliance requirements among all owned coal units in the portfolio development process. PacifiCorp has fully complied with the Oregon IRP Guidelines.<sup>3</sup>

In summary, PacifiCorp provided a comprehensive and thorough analysis of the Naughton Unit 3 investment alternatives, covering a broad range of natural gas price and CO<sub>2</sub> price assumptions, which support its decision to convert Naughton Unit 3 to natural gas, and

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<sup>3</sup> PacifiCorp outlines how the 2013 IRP satisfies the Oregon IRP Guidelines in Appendix B, Volume II of the 2013 IRP beginning at page 36.

filed the 2013 IRP consistent with Oregon's IRP Guidelines. The Company requests that the Commission acknowledge Action Item 8a.

*c. Parties' Recommendations on Hunter Unit 1 (Action Item 8b)*

Staff characterizes the baghouse and LNB investments required at Hunter Unit 1 as historical investments that are already under construction, and on this basis, does not recommend acknowledgement of Action Item 8b. RNP asserts that PacifiCorp's analysis fails to capture policy trends that will increase costs for coal resources, suggests the Commission give extra weight to analysis that assume high CO<sub>2</sub> price assumptions, and recommends that the Commission not acknowledge Action Item 8b. Sierra Club does not support acknowledgement of Action Item 8b on the basis that EPA has not approved the Utah SIP, that the Company's analysis did not contemplate future SCR requirements, and that the Company's modeling results are not robust.

*d. PacifiCorp's Comments on Hunter Unit 1 (Action Item 8b)*

In its final comments, Staff concludes that, based on current rules, alternatives to the baghouse and LNB investment required at Hunter Unit 1 include (1) installation of controls in the current timeframe, and (2) ceasing coal operations by April 2014. PacifiCorp agrees with this conclusion and emphasizes that it must make environmental investment decisions that consider alternatives within the current rules. Staff concedes that the fleet trade-off compliance alternatives evaluated by the Company at Staff's request are "hypothetical and speculative," yet Staff believes that these types of compliance alternatives were viable at the time the Company made the decision to install the baghouse and LNB equipment required at Hunter Unit 1. Considering there were no state or EPA requirements for SCR or SNCR equipment on Utah coal resources in May 2012, and that no such requirements exist today, a trade-off scenario was no

less hypothetical and speculative in May 2012 than it is today. PacifiCorp emphasizes that the available compliance alternatives at the time of its May 2012 decision to move forward with the baghouse and LNB projects are no different than those accurately outlined by Staff as being viable *under current rules*, that the Company has in fact evaluated these alternatives in the 2013 IRP, and that the resulting analysis supports Action Item 8b.

Staff further contends that Action Item 8b is not appropriate for the current IRP because construction has already started and the compliance deadline is April 2014. PacifiCorp disagrees for the following reasons: (1) the Hunter Unit 1 baghouse and LNB equipment are not yet in service and therefore should not be viewed as historical investments; (2) the planned in-service date for the baghouse and LNB equipment falls within the twenty-year planning period of the IRP; and (3) nothing in the Oregon IRP Guidelines prohibits the Commission from acknowledging action items that are expected to be completed within the planning period, even if work on the action item has already begun.

RNP suggests that base case CO<sub>2</sub> price assumptions are no longer reasonable given the current policy environment and states that the Commission should review the environmental investment analysis under a high CO<sub>2</sub> price scenario. While PacifiCorp does not agree with RNP that recent policy developments provide any clarity around the severity and timing of future CO<sub>2</sub> regulations, PacifiCorp notes, as it did in its initial comments, that the Hunter Unit 1 financial analysis included in Confidential Volume III of the 2013 IRP shows that the baghouse and LNB investments are the lowest cost alternative when high CO<sub>2</sub> prices, beginning in 2018, are assumed.

Sierra Club contends that the baghouse and LNB investments are not required at this time because EPA has not approved the Utah SIP for NO<sub>x</sub> and PM. Sierra Club also claims that Utah

is “effectively estopped from pursuing enforcement actions” if the Company did not comply with the SIP. PacifiCorp does not agree with Sierra Club’s claims, and neither does the Utah Department of Environmental Quality (DEQ). PacifiCorp recently asked the Utah DEQ whether compliance obligations at Hunter Unit 1 are enforceable. The Utah DEQ confirmed that the requirements are enforceable and noted that the requirements remain enforceable under state law, irrespective of EPA’s action. PacifiCorp’s letter and the Utah DEQ’s response are provided as Attachment A to these final comments.

Sierra Club further criticizes PacifiCorp for not analyzing the baghouse and LNB investments under a scenario assuming an SCR might be required in the 2017 timeframe when making its decision to move forward with baghouse and LNB projects. PacifiCorp did in fact analyze how the economics of the baghouse and LNB investments would be affected if a near-term SCR were required at Hunter Unit 1, and this sensitivity was included in Confidential Volume III using assumptions consistent with those adopted for the 2013 IRP. The sensitivity shows that the baghouse and LNB investments remain favorable when costs for a hypothetical SCR are assumed in 2018.<sup>4</sup>

Sierra Club also claims that PacifiCorp’s modeling is erroneous and unstable by noting that the resource mix changed between the two scenarios used to analyze the Hunter Unit 1 investments—one scenario assuming a future SCR requirement in 2026 and one scenario assuming a future SCR requirement in 2018. Contrary to Sierra Club’s claims, PacifiCorp’s modeling is not erroneous and unstable. Changes in system costs between scenarios can influence the resource mix and cause changes to system energy and system costs. These changes do not necessarily indicate that the model is unstable or that inputs are erroneous. In fact, one would expect the impact of accelerating an assumed SCR requirement from 2026 to 2018 on the

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<sup>4</sup> The results are summarized in Confidential Volume III of the 2013 IRP, Table V3.4, at page 5.

present value revenue requirement (PVRR) benefits of the 2014 baghouse and LNB investment to be approximately equal to the time value of money differential in SCR capital costs between the two scenarios. This figure calculates to approximately [REDACTED], which is within \$2 million of the [REDACTED] modeled impact as calculated using the System Optimizer model and as reported in the 2013 IRP. The Company's model results are most definitely not erroneous and unstable.

In summary, PacifiCorp has modeled compliance alternatives for Hunter Unit 1 consistent with current regulatory requirements that would meet the 2014 compliance obligations enforceable in the state of Utah. The analysis supports the baghouse and LNB investments as the lowest cost alternative, even when high CO<sub>2</sub> prices are assumed and even when prospective future SCR costs are accelerated to 2018. The baghouse and LNB investments fall within the IRP planning period, have not yet been placed in service, and despite claims to the contrary, the Company's analysis is anything but unstable and erroneous. The 2013 IRP was filed consistent with Oregon IRP Guidelines, and PacifiCorp requests that the Commission acknowledge Action Item 8b in the 2013 IRP Action Plan.

*e. Parties' Recommendations on Jim Bridger Units 3 and 4 (Action Item 8c)*

Staff recommends acknowledgement despite claims that there are deficiencies in the Company's analysis. RNP does not recommend acknowledgement of this action item, citing the same concerns it raised for Hunter Unit 1. Sierra Club recommends that the Commission not acknowledge this action item, claiming that: (1) retiring Bridger would allow the Company to defer Energy Gateway transmission investments; (2) the decision to maintain Bridger is "largely traceable" to mine reclamation fund assumptions; and (3) the Company's carbon price forecast is insufficient to capture the risk of impending federal regulations.

*f. PacifiCorp's Comments on Jim Bridger Units 3 and 4 (Action Item 8c)*

Staff claims there are deficiencies in the Company's analysis of the Jim Bridger Unit 3 and Unit 4 SCR investments; however, it concludes that additional analysis may not change the results. Staff also highlights that the Jim Bridger plant is a critical asset in the PacifiCorp system. PacifiCorp's analysis of the Jim Bridger Unit 3 and Unit 4 SCR investments, required in 2015 and 2016, respectively, is comprehensive, covering viable compliance alternatives across a range of natural gas and CO<sub>2</sub> price assumptions. PacifiCorp further analyzed sensitivities exploring phase-out scenarios assuming Jim Bridger Unit 3 and Unit 4 could continue to operate without the SCR investments through 2020 and 2021, respectively. At the request of Staff, PacifiCorp produced yet another scenario in which the phase-out retirement dates were extended to 2022 and 2023. These studies continue to show the SCR installations at Jim Bridger Unit 3 and Unit 4 are the lowest cost alternative. While PacifiCorp does not agree that its analysis is deficient, PacifiCorp supports Staff's recommendation and agrees with Staff's comments highlighting the importance of the Jim Bridger plant as a system resource.

RNP's recommendation on Jim Bridger Unit 3 and Unit 4 is based on the same concerns it raised with Hunter Unit 1. Consistent with PacifiCorp's reply to RNP regarding the Hunter Unit 1 action item, PacifiCorp notes that the Jim Bridger Unit 3 and Unit 4 SCR investments remain the least cost alternative when high CO<sub>2</sub> prices are paired with either base case or high natural gas prices.<sup>5</sup>

Sierra Club believes that PacifiCorp's analysis should assign avoided Energy Gateway transmission costs to an early retirement alternative at the Jim Bridger plant. PacifiCorp's analysis includes the Windstar to Populus Energy Gateway transmission project. This potential investment is independent of the decision to install SCRs at the Jim Bridger facility considering

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<sup>5</sup> The results are summarized in Confidential Volume III of the 2013 IRP, Table V3.9, at page 9.



that the transmission investment would provide reliability benefits, increase access to potential future generating resources including wind resources, and allow for a more efficient use of the transmission system. Sierra Club's claims are flawed in that it inappropriately assumes that all of the cost savings associated with removing the Windstar to Populus transmission project from the analysis should be assigned to a potential decision to retire Jim Bridger Unit 3 and Unit 4 without accounting for the loss of benefits that this transmission line would provide to customers. In short, Sierra Club's position fails to recognize the long-term benefits associated with this potential transmission investment.<sup>6</sup>

Sierra Club also claims that mine reclamation cost assumptions used in the Company's analysis are not appropriate. Sierra Club's comments are unsupported. PacifiCorp's analysis uses a comprehensive set of assumptions, including mine reclamation cost assumptions, uniquely developed for each compliance alternative. If coal operations at Jim Bridger Unit 3 and Unit 4 cease in 2015 and 2016, respectively, the mine plan at Bridger Coal Company would be affected due to reduced coal needs at the Jim Bridger plant. The reclamation costs assumed in PacifiCorp's analysis are consistent with expected changes in the mine plan if the SCRs are not installed, thereby ceasing coal-fueled operation of Jim Bridger Unit 3 and Unit 4.

In summary, PacifiCorp modeled compliance alternatives for Jim Bridger Unit 3 and Unit 4 consistent with current regulatory requirements that would meet the 2015 and 2016 compliance obligations enforceable in the state of Wyoming and approved by EPA. The analysis supports the SCR investments as the lowest cost alternative even when high CO<sub>2</sub> prices, paired with base case and high natural gas price assumptions, are assumed. Analysis of two different

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<sup>6</sup> PacifiCorp conducted an Energy Gateway sensitivity in the Jim Bridger Unit 3 and Unit 4 Wyoming Certificate of Public Convenience and Necessity Docket (Docket No. 20000-418-EA-12). This sensitivity was completed by removing Energy Gateway transmission investments and Wyoming wind resources from both the SCR and gas conversion alternative model runs. The sensitivity resulted in a PVRR(d) of [REDACTED] favorable to the SCR investments at Jim Bridger Units 3 and 4.

phase-out scenarios, assuming both units can continue operating without an SCR investment through 2020/2021 and 2022/2023, are less favorable than installing SCRs in 2015/2016. Sierra Club's claims that Energy Gateway transmission costs should be avoided and assigned entirely to an early retirement alternative is flawed. In contrast to Sierra Club's unsupported claims, PacifiCorp's analysis is driven by a comprehensive set of assumptions uniquely developed for the compliance alternatives considered. PacifiCorp filed its 2013 IRP consistent with Oregon IRP Guidelines, and the Company requests that the Commission acknowledge Action Item 8c in the 2013 IRP Action Plan.

*g. Parties' Recommendations on Cholla Unit 4 (Action Item 8d)*

Staff recommends that the Commission revise the Company's Action Item 8d to require the Company to file an analysis on Cholla Unit 4 in a separate coal investment docket. Sierra Club recommends the Commission require the Company to make a date certain filing, preferably within the next four months, on the pending Cholla Unit 4 SCR decision.

*h. PacifiCorp's Comments on Cholla Unit 4 (Action Item 8d)*

PacifiCorp provides its final comments on its proposed recommendation to use a new planning and review process in Oregon later in these comments. Consistent with its commitment outlined in Action Item 8d, PacifiCorp will continue to evaluate compliance alternatives for Cholla Unit 4 and will provide an update on its efforts in the 2013 IRP Update, and accordingly, PacifiCorp recommends the Commission acknowledge Action Item 8d as filed. While PacifiCorp anticipates filing a Cholla Unit 4 analysis through its proposed coal investment docket, the Company does not support Staff's recommended edits to Action Item 8d and does not support Sierra Club's recommendation to set a prescriptive deadline for such a filing. PacifiCorp believes it is premature to establish an action item committing the Company to seek

acknowledgement of its Cholla Unit 4 investment decision in a new docket before receiving the Commission's order in this docket.

2. *New Actions for Craig and Hayden*

a. *Parties' Recommendations on Craig and Hayden*

Staff recommends a new Action Item (Action Item 8e) for the Company's 2013 IRP Action Plan that would commit PacifiCorp to request acknowledgement of the environmental investments required at the Craig and Hayden units within six months of the Commission's determination in this IRP. Sierra Club recommends the Commission require PacifiCorp to produce economic analysis of Craig and Hayden immediately.

b. *PacifiCorp's Comments on Craig and Hayden*

PacifiCorp does not support Staff's proposed Action Item 8e as an addition to the Company's 2013 IRP Action Plan. Similarly, the Company does not support Sierra Club's recommendation. As noted above in its comments on the Cholla Unit 4 action item (Action Item 8d), PacifiCorp believes it is premature to establish an action item committing the Company to seek acknowledgement of Craig and Hayden environmental investments, presumably through the Company's proposed planning and review process docket, before receiving a Commission order in this docket. Nonetheless, PacifiCorp understands that the Commission and parties want to understand how the environmental investments required at the Craig and Hayden units compare to alternatives despite the Company's inability to deterministically influence the outcome under the participation agreements at each facility. To this end, the Company is willing to review with the Commission and parties, through a confidential technical workshop, existing analysis on the planned Craig and Hayden environmental investments. Assuming the appropriate protections are put in place that restrict the use of information presented at the

technical workshop, PacifiCorp will schedule the technical workshop within three months of the Commission order in this docket.

3. *Separate Coal Investment Docket*

a. *Parties' Recommendations/Suggestions Regarding a Separate Coal Investment Docket*

Staff supports a separate docket for those cases where the compliance timeline does not line up with the standard IRP schedule. Staff recommends that the Company conduct the same analysis as presented in Confidential Volume III, plus the additional analyses that it identified as necessary for future IRPs, and states that the new docket would not diminish the need for rigor within the current IRP process. Staff further states that the new docket would not operate as pre-approval of investment decisions and would be limited to PacifiCorp's coal fleet.

CUB does not explicitly comment on the Company's proposed planning and review process for coal investments. However, CUB provides suggestions for future analysis, whether performed in the IRP or an alternative process. RNP believes the best way to incorporate a more rigorous coal analysis is to extend the IRP process, but supports the separate docket if the Commission finds that Staff's proposed supplementary analyses cannot be included in this IRP. Sierra Club supports the separate coal docket and provides detailed comments on how the process would work and the analyses and information that should be provided. NWECA is open to exploring a separate coal docket, but notes that the Company's willingness to participate in the separate docket should not compensate for inadequate analysis in this IRP.

ICNU objects to a separate coal docket. ICNU believes the proposed process would result in pre-approval, which would violate Oregon law and the Oregon IRP guidelines. ICNU claims that PacifiCorp is requesting a process that would seek a conditional finding of prudence. ICNU further comments that if the Commission is going to consider a new process to

acknowledge coal investments, it should do so in a generic docket and consider revising the current IRP guidelines.

*b. PacifiCorp's Comments on a Separate Coal Investment Docket*

In its reply comments in this docket, PacifiCorp proposed a new, ongoing docket to allow the parties to develop parameters for coal investment analyses and allow the Company to seek acknowledgment of specific emissions control investments or alternatives. In its initial comments, PacifiCorp proposed that the initial purpose of the docket would be to obtain certainty about the analysis to be conducted. Parties' final comments outlining suggested parameters for future analysis of environmental investment decisions provide a strong foundation to guide the types of analysis that might be needed in the proposed coal investment docket. While there are some consistent themes in the parties' recommendations, additional work is required before a specific modeling framework can be established that is acceptable to both the Company and the parties.

PacifiCorp recognizes that parties want future analyses, whether conducted within the IRP when the IRP planning cycle align with future investment decisions or in the proposed separate coal investment docket, to consider flexible compliance alternatives and transmission implications for specific investment decisions. PacifiCorp also recognizes that parties want improved transparency on model inputs and outputs and want to have an opportunity to define specific scenarios.

As noted above, ICNU does not support the Company's proposal to open a separate coal investment docket. In reply, PacifiCorp emphasizes that it would not be seeking pre-approval of specific coal unit investments. Rather, if the Commission accepts the Company's proposal to open a separate coal investment docket, the Company would use that process to seek

acknowledgement of actions required to implement the investment decision for a specific coal unit aligned with the decision-making timeframe for that investment. The proposed actions would be supported by analysis using IRP modeling tools and included in the Company's filing, much like an IRP action item. PacifiCorp would expect the process to proceed in a similar manner to the current IRP acknowledgement process, allowing parties to file comments and the Company to file reply comments that the Commission would consider before issuing an acknowledgement order.

If the Commission accepts the Company's proposal for a separate coal investment docket, the Company will coordinate with Oregon parties to schedule a series of workshops. The workshops would be used to achieve agreement among the parties on the analytical framework used to perform economic analysis of environmental investment decisions; outline the type of information that will be supplied with the Company's filing; and to outline parameters for a procedural schedule that will allow parties and the Company to seek discovery and file comments before a Commission acknowledgement order.

As noted above, PacifiCorp would use the proposed separate coal investment docket to seek acknowledgement of actions on the Cholla Unit 4 SCR investment decision and anticipates that this filing would be made in 2014. PacifiCorp does not support CUB's comments that PacifiCorp update the current IRP with potential Wyodak and Dave Johnston Unit 3 environmental investment analyses. Given the recent EPA action in Wyoming, which establishes a compliance deadline in the first quarter of 2019, PacifiCorp anticipates including its analysis of the Wyodak and Dave Johnston Unit 3 SCR investment decisions in the 2015 IRP.

4. *Analysis of Coal Investments in the IRP*

a. *Staff Comments on When Coal Analysis Should be Included in the IRP*

Staff believes that the Company should “do a full examination of alternatives in its IRPs and include anything with the potential for action within five years, whether or not the Company believes it is sufficiently ‘ripe.’”

b. *PacifiCorp’s Comments on When Coal Analysis Should be Included in the IRP*

PacifiCorp does not support Staff’s recommendation to establish a prescriptive requirement to analyze anything with the potential for action within five years. As noted above, PacifiCorp does support working with parties to develop an analytical framework, implemented through the IRP and the proposed coal investment docket, which will consider flexible compliance alternatives and transmission implications for specific investment decisions, and that improves transparency and stakeholder participation when reviewing inputs and scenarios. Staff’s recommendation is overly broad, and PacifiCorp is best positioned to determine when to file analysis of future coal investment decisions, taking into consideration compliance deadlines, implementation schedules for compliance alternatives, and regulatory review timelines. The very purpose of the proposed coal investment docket is to provide the Commission and parties an opportunity to review the Company’s analysis supporting coal resource actions at the time decisions are being made. Moreover, Staff’s recommendation would divert time and resources toward performing preliminary and hypothetical analyses that, given the premature nature of the studies, the Company could not use to support specific actions in the IRP Action Plan or future decisions.

## **B. Transmission**

### *1. Transmission Action Items*

#### *a. Parties' Recommendations on Energy Gateway Permitting (Action Item 9b)*

Staff supports continued permitting actions and recognizes uncertainty in developing these segments until anticipated in-service dates. However, Staff proposes modification to Action Item 9b that removes existing near-term targets identified in the Company's Action Item 9b. Staff proposes the Action Item read as follows: "Continue permitting Segments D, E, F, and H until PacifiCorp files its 2015 IRP, when SBT analysis for additional Energy Gateway segments will be performed." Sierra Club states that it opposes efforts to build new transmission into eastern Wyoming until the Company backs its investments with a commitment to acquire renewable resources in the region.

#### *b. PacifiCorp's Comments on Energy Gateway Permitting (Action Item 9b)*

PacifiCorp does not oppose Staff's recommendation on Action Item 9b. In light of the SBT workshops conducted in 2013, and given stakeholder feedback, PacifiCorp will continue to refine the SBT in preparation for the 2015 IRP and in accordance with Action Item 9a. Given the ongoing effort and commitment to further refine the SBT, there may be limitations to the analysis that can be performed at the time of the 2015 IRP. In addition, as Staff notes, the in-service dates for these segments are several years in the future. Thus, although the assumptions necessary to produce a robust SBT analysis may not be final at the time of the 2015 IRP, PacifiCorp will continue to evaluate the projects and develop an analysis for the Commission's consideration.

In response to Sierra Club's comments, PacifiCorp notes that its IRP Action Plan was developed consistent with Oregon IRP Guideline 4.m., which requires "an action plan with



resource activities the utility intends to undertake over the next two to four years.” PacifiCorp’s 2013 IRP preferred portfolio includes Wyoming wind resources beginning 2024 as needed to meet the Oregon and assumed federal renewable portfolio standards (RPS). In its 2013 IRP Action Plan, PacifiCorp is not seeking acknowledgement of the Segment D project nor the Wyoming wind resources in the preferred portfolio, because actions related to these resources fall outside of the two to four year action plan window. Action Item 9b does not commit PacifiCorp to building Energy Gateway projects, but identifies near-term permitting activities required to maintain the option to move forward with Energy Gateway projects as supported in future planning activities.

*c. Parties’ Recommendations on Sigurd-to-Red Butte (Action Item 9c)*

Staff and RNP recommend acknowledgement of the Sigurd-to-Red-Butte transmission line. In its final comments, Staff notes that because the primary beneficiaries are the Company’s network transmission customers (and their loads in Utah), the allocation of costs should be commensurate with the benefits received by each customer or state, but—as Staff acknowledges—the Multi-State Process to review the inter-jurisdictional allocation methodology or a general rate case would be the appropriate venue for raising that argument.

ICNU is the only party that recommends that the Commission not acknowledge the Sigurd-to-Red-Butte transmission line. Citing to Oregon IRP Guidelines, ICNU claims that it is inappropriate to include this Action Item in this IRP because the Company “decided to build and began construction on this transmission line without the required input and consideration.”

*d. PacifiCorp’s Comments on Sigurd-to-Red Butte (Action Item 9c)*

PacifiCorp appreciates the recommendation from RNP and Staff that the Commission acknowledge the Sigurd-to-Red Butte transmission line and reiterates that the project is

necessary to provide safe and reliable service to customers and to meet expected and forecasted customer energy demand. While the project benefits the local areas where it is constructed, it also benefits the wider interconnected transmission system. Given the nature of the flow of electricity, electricity flows across the entire transmission system at any instant in time as a function of the physics of the entire interconnected network and the level of generation and load present at that given time. When a new transmission line or substation is added, it immediately carries its full share of the total energy being transmitted by the system.

The project improves reliability and compliance with regulatory requirements and reliability standards, benefitting customers. As Staff correctly notes in its final comments regarding the Sigurd-to-Red Butte transmission line, “this project is not only a resource option for the Company’s network customers, such as PacifiCorp Energy, Utah Associated Municipal Power Association (UAMPS), and Deseret Generation & Transmission Cooperative, Inc. (DG&T), to serve their respective retail load, but also, most importantly, allows the Company to comply with mandatory FERC, NERC, and WECC reliability obligations.”

PacifiCorp disagrees with ICNU’s interpretation that Action Item 9c does not comply with the Oregon IRP Guidelines. The Sigurd-to-Red Butte transmission line has not yet been placed in service, falls within the twenty-year planning period of the IRP, and nothing in the Oregon IRP Guidelines prohibits the Commission from acknowledging action items that are expected to be completed within the planning period, even if work on the action item has already begun. In fact, Oregon IRP Guideline 5 reads “In addition, utilities should consider fuel transportation and electric transmission facilities as resource options, taking into account their value for making additional purchases and sales, accessing less costly resources in remote locations, acquiring alternative fuel supplies, and improving reliability.” PacifiCorp has done

this with consideration of the Sigurd-to-Red Butte transmission line as a resource option in the IRP. Staff agrees that the Company has met this requirement. In its final comments, Staff states: “Additionally, the Company appropriately included in its 2013 IRP the P2W and S2RB transmission projects because they comply substantially with Guideline 5 of the IRP Guidelines adopted in Order No. 07-002, which states that utilities should consider electric transmission facilities as resource options taking into account [among other things] their value for improving reliability.”

ICNU’s assertion that the Company decided to build and began construction on the Sigurd-to-Red Butte transmission line without the required input and consideration is false. The Sigurd-to-Red Butte transmission line has been included in numerous public proceedings including the permitting process and IRP process, which have involved a diverse group of stakeholders (many times including ICNU). As for the IRP, the Sigurd-to-Red Butte transmission line was included as a segment of the Energy Gateway project as early as the 2008 IRP (filed March 2009).<sup>7</sup> The anticipated project completion timing of the segment was updated in the 2008 IRP Update. The project was also included in the 2011 IRP and 2011 IRP Update, and of course this IRP. All of these IRPs offered opportunities for public input, which PacifiCorp has considered. In the end, the Sigurd-to-Red Butte transmission line has been demonstrated to provide increased reliability and positive benefits supporting Commission acknowledgement of Action Item 9c.

## **C. Demand Side Management**

### *1. Parties Recommendations on DSM (Action Item 7a)*

Staff supports Action Item 7a activities related to testing assumptions supporting accelerating acquisition of cost-effective Class 2 DSM resources in the 2014 conservation

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<sup>7</sup> See discussion in PacifiCorp’s 2008 IRP at page 281.

potential study. Staff requests being involved with the development of the scope of the study. Staff also recommends an implementation study be conducted that is specific to PacifiCorp's service area to develop more meaningful and practical information about how much DSM can be accelerated for PacifiCorp's programs and 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. Finally, Staff recommends PacifiCorp add to Action Item 7a an item for twice yearly updates on the status of DSM IRP acquisition goals to the Commission in 2014 and 2015 at regular public meetings.

NWEC does not support acknowledgement of Action Item 7a, arguing that PacifiCorp's targets for energy efficiency programs in states other than Oregon are too low. According to NWEC, Oregon customers are funding higher levels of conservation compared to energy efficiency achieved in other states and are therefore "subsidizing ratepayers in other states" by paying for supply-side system costs in equal measure. NWEC recommends that the Commission require EG-C15 Class 2 DSM targets and require regular updates be provided to the Oregon Commission on Class 2 DSM action items.

ICNU recommends the Commission not acknowledge DSM action items, arguing they do not target enough DSM resources in states outside of Oregon. ODOE recommends the Commission direct PacifiCorp to conduct a more detailed analysis of demand response opportunities in future IRPs and recommends PacifiCorp pursue a Class 1 DSM pilot in Oregon and at least one other state before filing the next IRP.

## *2. PacifiCorp's Comments on DSM (Action Item 7a)*

The 2014 conservation potential study is already underway. PacifiCorp will schedule a date to review the scope of the study with Staff. Staff collaboration on developing the scope of

the study is not feasible at this time because the contract for the study was finalized in June 2013 to ensure DSM inputs are available when modeling begins for the 2015 IRP. The 2014 conservation potential study will provide the baseline for acquisition of Class 2 DSM beyond the current IRP action plan and will identify the potential for accelerated Class 2 DSM resources, projected savings, and costs. This updated conservation potential study will be used to develop an implementation plan to deliver the Class 2 DSM resources selected in the 2015 IRP, recognizing that implementation plans in each state must be approved by that state. The Company agrees with Staff's assessment that DSM plans need to be specific to each state. PacifiCorp's states all have robust DSM plans with a mix of load control programs, energy efficiency programs, and tiered rate structures that promote better management of load, reduced load, and a higher level of resource efficiency in general. The plans do and should reflect differences in how each state contributes to the Company's resource position, as the Company optimizes its pursuit of Class 2 DSM opportunities available and employs strategies to better manage loads and their impact on system peaks through the pursuit of cost-effective load management opportunities/programs. As recommended by Staff, PacifiCorp will provide twice yearly updates on the status of DSM IRP acquisition goals in 2014 and 2015.

The Company has addressed its rationale for not considering Case C15 as the preferred portfolio in the 2013 IRP and in its initial comments. PacifiCorp does not restate its position here, but emphasizes it does not support NWECA's recommendation that the Commission acknowledge Case C15 as the preferred portfolio. Furthermore, PacifiCorp disagrees with NWECA's assertion that Oregon customers are funding higher levels of conservation compared to energy efficiency achieved in other states and are therefore "subsidizing ratepayers in other states" by paying for supply-side system costs in equal measure. As stated in the Company's

initial comments, this comparison ignores the contributions of equally beneficial load management investments, does not account for the tracking and reporting of market transformation savings, and fails to recognize differences in conservation opportunity reflective in factors such as average use per residential customer (11,000 kWh per year in Oregon verses 9,000 and 9,500 kWh per year in Utah and Wyoming, respectively). The Company stands by its initial comments, which provide detailed information that specifically address parties' claims raised in this docket.

ICNU characterized PacifiCorp's initial comments on DSM as primarily "technical details" aimed to "explain away why it is planning to invest not as much conservation in other states." PacifiCorp disagrees with ICNU's assertion and stands by its initial comments, which provide detailed information that specifically address parties' claims raised in this docket. ICNU provides no substantive recommendations for an implementation plan that would deliver results. PacifiCorp further notes that "technical details" drive many aspects of the IRP process and are critical to least cost/least risk planning principles.

ODOE recommends a more detailed analysis of Class 1 DSM programs in future IRPs. In making its recommendation, ODOE does not identify how it views PacifiCorp's current consideration of Class 1 DSM resources to be deficient. PacifiCorp includes as resource alternatives a range of different Class 1 DSM products. These resource alternatives have been and will continue to be included in the conservation potential studies that are used to develop inputs for portfolio development modeling. In the 2013 IRP, these resources were not selected in the front ten years of the IRP planning horizon as cost effective resources when compared to other alternatives. This outcome is consistent with reduced loads and relative low wholesale

power prices. For this reason, PacifiCorp does not support ODOE's recommendation to implement a Class 1 DSM pilot program in Oregon.

#### **D. Renewable Resources**

##### *1. Renewable Resource Actions*

##### *a. Staff's Recommendation on RPS Compliance (Action Item 1b)*

Staff recommends acknowledgement of Action Item 1b regarding RPS compliance on the condition that PacifiCorp include expected renewable energy credit (REC) costs into the portfolio analysis, include a forecasted range of REC prices in the IRP Update and the 2015 IRP. Staff also supports Action Items 1e, 2a, and 2b, but does not believe these items require acknowledgement.

##### *b. PacifiCorp's Comments on RPS Compliance (Action Item 1b)*

PacifiCorp does not support Staff's recommendation for conditional acknowledgment of Action Item 1b. As stated in its initial comments, the Company is concerned that publishing a REC price projection in the IRP could influence prices when the Company sells or purchases RECs in the market. This could harm customers and would not be in the public interest. The Company believes that it is reasonable to consider the upper limits of future REC prices in the context of state-specific RPS rules and current market conditions when evaluating compliance alternatives for any given state RPS program.<sup>8</sup> Through its planning processes, PacifiCorp will continue to monitor REC prices and update its RPS compliance plans consistent with state RPS rules and consistent with changes in market conditions.

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<sup>8</sup> Please refer to Chapter 8, Volume I of the 2013 IRP beginning at page 224 under the heading "Final Selection".

*c. Staff's Recommendation on REC Optimization (Action Item 1c)*

Staff recommends the Commission not acknowledge Action Item 1c related to the sale of RECs not required to meet state RPS compliance obligations on the basis that these RECs should be made available to Oregon.

*d. PacifiCorp's Comments on REC Optimization (Action Item 1c)*

As stated in its initial comments, PacifiCorp explained that Staff's position to allow RECs allocated to other states to be used for Oregon RPS compliance is an alternative cost allocation method better suited for the Multi-State Process (MSP). In its final comments, Staff reaffirms its position and explains that it is "currently working through the Multi-State Process (MSP) to acquire bundled RECs from other PacifiCorp jurisdictions. Because the action item conflicts with this objective, Staff does not recommend acknowledgement of this Action Plan item." PacifiCorp maintains its position and further believes that it is not appropriate for IRP Action Items, developed consistent with Oregon's IRP Guidelines, to be shelved because Oregon has been discussing acquiring RECs from other jurisdictions through the MSP process. Until a specific agreement among states is in place that will accommodate the transfer of RECs from other jurisdictions to Oregon, PacifiCorp will continue to implement Action Item 9c as filed.

*e. Staff's Recommendation on Solar (Action Item 1d)*

Staff recommends acknowledgement of Action Item 1d, stating it is satisfied the Company's approach to fulfilling its solar compliance obligation through the RFP process is reasonable and is also the best choice for establishing compliance.

*f. PacifiCorp's Comments on Solar (Action Item 1d)*

PacifiCorp appreciates Staff's review and supports its recommendation.



2. *Renewable Resources Trigger Point Analysis*

a. *RNP's Recommendation on a Renewable Resource Trigger Point Analysis*

RNP recommends that the Company include a trigger point analysis in the next IRP that identifies cost and performance assumptions that lead to selection of renewable resources in System Optimizer.

b. *PacifiCorp's Comments on a Renewable Resource Trigger Point Analysis*

PacifiCorp appreciates RNP's comments and will consider its recommendation as the Company works with stakeholders to develop scenarios and sensitivities in the 2015 IRP. PacifiCorp looks forward to working with RNP in defining potential parameters for a trigger point analysis during the 2015 IRP public input process.

**E. Load Forecast**

1. *Parties' Recommendations/Suggestions on Load Forecasting*

Staff expresses concerns that the Company's modeling may not be adequately accounting for potential future load reductions due to net metering. Staff disagrees with PacifiCorp's position that its forecast methodology accurately anticipates net metering growth and therefore it does not need to account for net metering growth in the IRP. Staff states that net metering is growing at approximately 40 percent per year, which PacifiCorp did not consider. Staff also notes that another risk factor is the potential loss of retail loads to direct access in Oregon, stating that it is unreasonable in light of the five-year opt-out docket (UE 267) to assume zero long-term direct access load.

ICNU asserts that the Commission should direct PacifiCorp to account for projected future loads that select permanent direct access and remove these loads from the load forecast.

At the very least, PacifiCorp should include in its IRP no less amount of permanent direct access load in its IRP than is projected to be in its five-year opt-out program (at issue in docket UE 267).

## *2. PacifiCorp's Comments on Load Forecasting*

The Company appreciates Staff comments on net metering and looks forward to working through this issue in the 2015 IRP. PacifiCorp continues to believe its forecast methodology accurately anticipates net metering growth. Additionally, the 40 percent per year growth rate mentioned by Staff should be taken in context. It is unlikely that such a high growth rate would be sustainable over the long term. Additionally, Staff's growth rate starts with net metering close to zero, therefore minor additions lead to high, yet unsustainable, growth rates.

Both Staff and ICNU commented that the Company should not have assumed that there would be no "long-term" direct access customers in the 2013 IRP. PacifiCorp does not currently provide a "permanent opt-out" direct access program and offers one-year and three-year programs that allow the customer to return to cost-of-service rates. PacifiCorp's proposed five-year opt-out is still under consideration and has not yet been approved. In addition, while PGE does not currently include or plan for the load of those customers who have selected the five-year direct access program, they also do not forecast additional customers that may choose the five-year opt-out program in the future. At this time, the Company is unable to forecast which customers will choose the direct access five-year opt-out program due to the specifics of each customer's load profile, economic circumstances, risk tolerance, or pricing they may have received from a qualified electricity service supplier. As stated in its initial comments, the Company notes that it will evaluate whether any of its planning assumptions will need to be modified after the final order is issued in Docket UE 267.

## **F. Risk Metric**

### *1. Staff's Suggestions on Risk Metrics*

Staff maintains that PacifiCorp's approach using the upper-tail mean PVRR less the stochastic mean PVRR as the risk metric for the initial screening of candidate portfolios is unacceptable. Staff states that fixed costs may be identical among the Monte Carlo iterations but are not identical among all the portfolios. According to Staff, PacifiCorp is skewing the risk assessment by subtracting variable mean PVRR from the upper-tail PVRR.

### *2. PacifiCorp's Comments on Risk Metrics*

PacifiCorp appreciates Staff's additional comments on the risk metric used in the 2013 IRP during the initial screening process, which eliminates those portfolios with the highest cost and highest risk outcomes. The Company recommends addressing Staff's concerns by including a discussion of the risk metric as an agenda item in the 2015 IRP public process, allowing stakeholders to discuss alternatives when evaluating risk in the initial screening process. PacifiCorp emphasizes that the outcome of the initial screening process for the 2013 IRP would not have changed if Staff's proposed methodology were used.

## **G. Other Recommended Action Items**

### *1. ODOE's Recommendations on the Action Plan*

ODOE recommends that the Company's Action Plan should include an energy storage pilot comprised of a suite of demonstration projects. ODOE maintains that PacifiCorp did not comply with Oregon Guideline 8.a. and recommends the Commission determine which action items might be too risky if a broader range of carbon prices had been used in the IRP.

## *2. PacifiCorp's Comments on ODOE's Recommendation*

PacifiCorp does not support ODOE's recommendation to implement an energy storage pilot in Oregon. PacifiCorp's portfolio development process allows for energy storage resources to be selected in each of the cases analyzed in the 2013 IRP.<sup>9</sup> Results from the 2013 IRP portfolio development analysis and accompanying risk analysis do not currently support implementing an energy storage pilot program in Oregon. PacifiCorp routinely updates cost and performance assumptions through the normal course of its planning activities and will continue to assess energy storage resources in future IRPs. As stated in its initial comments, and contrary to ODOE's claims, the Company maintains that it has performed this IRP consistent with Oregon IRP Guideline 8.a.

### **H. Modeling and Reporting**

#### *1. Parties' Recommendations on Modeling and Reporting*

Staff argues that PacifiCorp's modeling could use improvements in the following areas: (1) the diversity of portfolios created through SO; (2) the natural gas input to the PaR model biases the analysis in favor of coal by underestimating cost risk of natural gas resources; (3) the PaR model is not varying coal prices, CO<sub>2</sub> prices, or other environmental compliance costs stochastically, unlike other key variables, which mutes risk and biases the model towards coal heavy portfolios; and (4) stochastic treatment of system loads are favoring overbuilt scenarios.

ODOE recommends the Commission order PacifiCorp to conduct a stochastic capacity credit study using 8,760 hours of data per year. ODOE also recommends the Commission direct PacifiCorp to report on water issues directly associated with plant operations, risk assessments, and risk management techniques to avoid water conflicts within the fleet and to incorporate cost

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<sup>9</sup> Cost and performance assumptions for all resource alternatives, including energy storage resources, are outlined in Volume I, Chapter 6, Table 6.1 of the 2013 IRP.

estimates for compliance and water management upgrades into portfolio modeling. ODOE supports PacifiCorp's approach to incorporate dry cooling as a standard measure for new gas units and its provisions in the Action Plan to consider water availability as a key factor for siting new gas units.

## *2. PacifiCorp's Comments on Modeling and Reporting*

Consistent with Action Item 11a, PacifiCorp held a modeling process improvement workshop in September 2013. Following this workshop, PacifiCorp received comments from its stakeholder group, including comments from Staff. The Company is currently considering these comments in its planning for the 2015 IRP and is working on recommendations that will be discussed with stakeholders to achieve a wider range of portfolio diversity and to accommodate more risk analysis using the Planning and Risk (PaR) model. PacifiCorp also plans to update its stochastic parameters for the 2015 IRP and plans to have a workshop to discuss stochastic modeling with stakeholders as part of the 2015 IRP public process. PacifiCorp looks forward to discussing Staff's modeling improvement ideas and to further understand its concerns, including those related to stochastic modeling of loads, in the 2015 IRP.<sup>10</sup>

PacifiCorp does not support ODOE's recommendation that the Commission require the Company to conduct a stochastic capacity credit study using 8,760 hours of data per year. In planning for the 2015 IRP, PacifiCorp is evaluating methods to develop capacity contribution assumptions for renewable resources. The Company's initial review of reliability-based methods for estimating capacity contribution assumptions shows that methods have been developed to approximate reliability-based methods such as the effective load carrying capability (ELCC) method. Reliability-based methods such as the ELCC are computationally intensive, and

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<sup>10</sup> It is not clear how Staff concludes stochastic modeling of loads favors "overbuilt scenarios" considering that portfolios developed in the 2013 IRP are built to a 13 percent planning reserve margin and therefore no portfolio is "overbuilt" when compared to other portfolios.

approximation methods that often require less data have been developed and studied in the literature. Studies have been done that indicate approximation methods can approach ELCC metrics if a suitable number of hours are considered. Based upon the Company's initial review of methods used to calculate capacity contribution for renewable resources, ODOE's recommendation may be overly prescriptive and would prevent the Company from exploring alternatives that achieve the intended result in a way that requires significantly less data and computational horsepower.

The Company appreciates ODOE's comments and recognition of the importance of water in traditional thermal power generation facilities and raising the issues over potential water scarcity. The importance of securing reliable sources of water has been part of the Company's long-term historical development of power generation resources; as a consequence, the Company has adopted the strategy of acquiring senior water rights and long-term storage rights. The Company annually reviews upcoming water requirements and supplies to ensure supply and storage adequacy. It should be noted that as thermal resources are retired (such as the Carbon Plant) or converted to gas (such as Naughton Unit 3) and as coal-fired generating resources change their operating profile, there will be corresponding reduction in the need for water. The Company proposes that further discussion be held with parties in the 2015 IRP public process to determine the form of any water supply risk assessments that should be performed and how those assessments might be incorporated into future IRPs.

With regard to ODOE's second recommendation, the Company has incorporated costs for cooling water intake guidelines and will include costs in future IRPs for effluent guidelines. These costs are expected to be part of the cost to operate the facilities affected by these


guidelines. The Company appreciates ODOE's support of the Company's proposal to utilize a dry cooling technology as a design standard.

#### **IV. CONCLUSION**

PacifiCorp's 2013 IRP complies with the Commission's standards and guidelines. The 2013 IRP also reflects a balanced consideration of customer interests and is well supported by portfolio modeling and prudent planning assumptions leading to selection of a least cost preferred portfolio and Action Plan that is consistent with the long-run public interest. PacifiCorp appreciates the comments received from an active and engaged stakeholder group and continues to urge stakeholder participation throughout the IRP development process to foster constructive dialogue.

PacifiCorp requests that the Commission support its proposed planning and review process, implemented in a docket separate from the IRP, which will allow parties to review a more timely analysis of coal unit investment decisions before a prudence review in a general rate case. PacifiCorp further requests that the Commission acknowledge the 2013 IRP and the 2013 IRP Action Plan.

DATED: February 4, 2014

  
Sarah K. Wallace  
Senior Counsel  
PacifiCorp d/b/a Pacific Power

## ATTACHMENT A





*William K. Lawson  
1407 W. North Temple, Suite 310  
Salt Lake City, Utah 84116  
801-220-4581*

December 4, 2013

Mr. Bryce Bird  
Director, Utah Division of Air Quality  
Utah Department of Environmental Quality  
195 North 1950 West  
Salt Lake City, Utah 84116

**RE: Hunter Unit 1 Pollution Control Projects**

Dear Mr. Bird:

As you are aware, PacifiCorp is in the process of installing pollution control equipment at Hunter Unit 1 as prescribed in the Utah State Implementation Plan and associated permits. The projects are scheduled to be completed in the spring of 2014, and include the installation of low NO<sub>x</sub> burners to reduce nitrogen oxide emissions and conversion of the existing electrostatic precipitator to a baghouse to reduce particulate matter and mercury emissions. In addition, the baghouse conversion will facilitate closure of the existing stack bypass, which will allow the unit to meet the SO<sub>2</sub> limit also prescribed by the Utah State Implementation Plan and associated permits.

Given that EPA disapproved Utah's Regional Haze State Implementation Plan for NO<sub>x</sub> and PM, and because of a perceived lack of a specific requirement to reduce SO<sub>2</sub> emissions at Hunter Unit 1 under the 309 program, some of our stakeholders question whether PacifiCorp is legally required to proceed with the installation of these projects at Hunter Unit 1 pursuant to the spring 2014 schedule prescribed in the Utah State Implementation Plan. PacifiCorp has also been challenged regarding the enforceability of any such state of Utah requirements absent final EPA action on the Utah Regional Haze State Implementation Plan for NO<sub>x</sub> and PM. Given these concerns, PacifiCorp is seeking the Utah Division of Air Quality's responses to the following questions:

1. Does PacifiCorp have a legally enforceable requirement to install controls to reduce NO<sub>x</sub>, PM, mercury and SO<sub>2</sub> emissions? If so, what are the underlying regulatory bases for those requirements?
2. Are these emission reduction requirements at Hunter Unit 1 enforceable absent approval of the Utah SIP by EPA?

Mr. Bryce Bird  
Hunter Unit 1 Pollution Control Projects  
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Please advise PacifiCorp as to the state of Utah's position on the questions raised above along with a brief explanation as to how and why you require PacifiCorp to proceed with the aforementioned Hunter Unit 1 projects and associated emission reductions, if that is indeed the case.

Thank you for your consideration of this important matter,

A handwritten signature in black ink, appearing to read "William K. Lawson", with a long horizontal flourish extending to the right.

William K. Lawson  
Director, Environmental Services  
PacifiCorp Energy

cc: Dave McNeill, Utah Division of Air Quality  
Colleen Delany, Utah Division of Air Quality  
Chad Teply, PacifiCorp Vice President, Resource Development

## ATTACHMENT B



State of Utah

GARY R. HERBERT  
Governor

SPENCER J. COX  
Lieutenant Governor

Department of  
Environmental Quality

Amanda Smith  
Executive Director

DIVISION OF AIR QUALITY  
Bryce C. Bird  
Director

DAQP-078-13

December 20, 2013

Mr. William K. Lawson  
Director, Environmental Services  
PacifiCorp Energy  
1407 W. North Temple, Suite 310  
Salt Lake City, Utah 84116

Dear Mr. Lawson,

Thank you for your letter dated December 4, 2013 regarding the installation of pollution control equipment at Hunter Unit 1. The pollution control projects at PacifiCorp's Hunter and Huntington plants are key elements of Utah's Regional Haze SIP and have provided significant visibility benefits since the first unit was upgraded in 2006. The Environmental Protection Agency's (EPA) partial disapproval of Utah's Regional Haze SIP has raised some questions about the status of the SIP as it applies to Hunter Unit 1. In your letter, you requested clarification regarding two questions.

1. Does PacifiCorp have a legally enforceable requirement to install controls to reduce NO<sub>x</sub>, PM, mercury and SO<sub>2</sub> emissions? If so, what are the underlying regulatory bases for those requirements?

Response: PacifiCorp is required to install pollution control equipment at Hunter Unit 1 to reduce NO<sub>x</sub>, PM, mercury and SO<sub>2</sub>. On March 18 2008, the Division of Air Quality issued an approval order, DAQEAN010237001208, that authorized the installation of new emission control equipment at Hunter Power Plant, Unit 1, and established new enforceable emission limits for PM, NO<sub>x</sub>, SO<sub>2</sub>, and CO. The permitted rates established in this approval order for SO<sub>2</sub>, NO<sub>x</sub>, and PM are included in Utah's Regional Haze SIP, Section D.6, Table 5 with an in-service date for the upgrades to be installed on Hunter Unit 1 in the Spring of 2014. Utah determined that the emission rates established for Hunter Unit 1 in Table 1 met the requirement for Best Available Retrofit Technology (BART) for NO<sub>x</sub> and PM as required by 40 CFR 51.309(d)(4)(vii). A SIP revision and a new BART determination for NO<sub>x</sub> and PM would be required to change these emission rates. Under the provisions of R307-401-8(1)(b)(ix) any approval order issued by DAQ must meet the conditions established in the SIP so the current approval order could not be revised to remove any enforceable emission limits established in the SIP. R307-424-4 establishes

enforceable emission rates for mercury that are applicable to Hunter Unit 1. 40 CFR Part 63 Subpart UUUUU contains additional mercury requirements that are applicable to existing electrical generating units no later than April 16, 2015.

2. Are these emission reduction requirements at Hunter Unit 1 enforceable absent approval of the Utah SIP by EPA?

Response: Utah's Regional Haze SIP, rules, and approval orders are enforceable under State law, irrespective of EPA's action.

The State of Utah has challenged EPA's partial disapproval of Utah's Regional Haze SIP because we believe that the SIP meets the requirements established in the Regional Haze Rule. We are separately working on a SIP revision to provide additional documentation regarding BART at Hunter Unit 1, as requested by EPA. Please let me know if you have any additional questions about this issue.

Sincerely,

A handwritten signature in black ink, appearing to read "Bryce C. Bird", with a stylized flourish at the end.

Bryce C. Bird  
Director

CD:BCB:svw