

December 6, 2019

VIA ELECTRONIC MAIL

Public Utility Commission of Oregon
201 High St. SE, Suite 100
Salem, Oregon 97301-3398

Attention: Filing Center

Re: LC 62 and LC 67 – PacifiCorp’s Written Report on DSM IRP Acquisition Goals, Environmental Compliance and Transmission Investments – 2019 First Update

PacifiCorp d/b/a Pacific Power provides the attached report in compliance with the following provision included in Order No. 14-252, as modified in Order No. 14-288, streamlined in Order No. 16-071, and clarified by the Commission at the December 20, 2016 Public Meeting:

“Beginning in the fourth 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.”¹

“We highlight the reporting requirement that the company continue to provide twice yearly updates on the status of DSM IRP acquisition goals at regular public meetings. Include in these updates information on future plant and transmission investment decisions, as a streamlined continuation of Order No. 14-288.”²

“If there’s not a lot of change from quarter to quarter you can submit a report rather than come in.”³

As there are no significant changes since the 2018 Second Update, PacifiCorp is providing the attached written report for the period of January 1, 2019 through June 30, 2019. The report consists of two updated PowerPoint slide decks: the Semi-Annual DSM Update and the Environmental Compliance and Transmission Investment Update.

The Semi-Annual DSM Update slide deck provides an update on the 2017, 2018, and 2019 targeted energy savings forecast by state. The Environmental Compliance and Transmission Investment Update slide deck includes updates throughout, building upon information provided in PacifiCorp’s last update.

¹ LC 57, Order No. 14-288.

² LC 62, Order No. 16-071.

³ Public Utility Commission of Oregon, December 20, 2016 Public Meeting, Archived Video at 1:44:26.

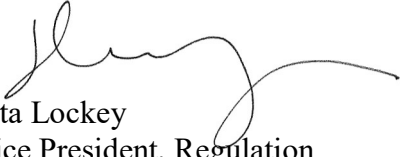
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Please direct any questions regarding this report to Cathie Allen, Regulatory Affairs Manager, at (503) 813-5934.

Sincerely,

A handwritten signature in black ink, appearing to read 'Etta Lockey', with a long, sweeping horizontal line extending to the right.

Etta Lockey
Vice President, Regulation

Enclosures



October 2019



Class 2 Energy Resource Acquisitions

State Wide Energy Savings Results (aMW)			
State	2019		
	<i>Actuals through June 2019</i>	<i>Year End Target</i>	<i>% of Target Achieved</i>
CA	0.31	0.59	53%
OR	7.03	20.82	34%
WA	1.63	4.80	34%
UT	10.28	29.16	35%
ID	1.04	2.07	50%
WY	1.80	6.77	27%
Total	22.08	64.21	34%

Note: Savings results are gross at generation. Result for 2019 will be available in first quarter of 2020.



Additional Information

For additional information, see “Reports & Program Evaluations by Jurisdictions” on PacifiCorp website

<https://www.pacificorp.com/environment/demand-side-management.html>



PacifiCorp Bi-Annual Environmental Compliance and Transmission Investment Update

First Update for 2019





Transmission Updates

Transmission Updates



- EIM Update
- Regional Activities
- Transmission Project Development

EIM – Calculated Benefits



2014

BAA	Nov-Dec 2014	Total 2014
ISO	\$1.24 M	\$1.24 M
PacifiCorp	\$4.73 M	\$4.73 M
Total	\$5.97 M	\$5.97 M

2015

BAA	Jan-Mar 2015	Apr-Jun 2015	Jul-Sep 2015	Oct-Dec 2015	Total 2015
ISO	\$1.45 M	\$2.46 M	\$3.48 M	\$5.28 M	\$12.67 M
PacifiCorp	\$3.81 M	\$7.72 M	\$8.52 M	\$6.17 M	\$26.22 M
NV Energy				\$0.84 M	\$0.84 M
Total	\$5.26 M	\$10.18 M	\$12.00 M	\$12.29 M	\$39.73 M

EIM – Calculated Benefits



2016

BAA	Jan-Mar 2016	Apr-Jun 2016	Jul-Sep 2016	Oct-Dec 2016	Total 2016
ISO	\$6.35 M	\$7.88 M	\$5.44 M	\$8.67 M	\$28.34 M
PacifiCorp	\$10.85 M	\$10.51 M	\$15.12 M	\$8.99 M	\$45.47 M
NV Energy	\$1.70 M	\$5.20 M	\$5.60 M	\$3.07 M	\$15.57 M
Arizona Public Service				\$5.98 M	\$5.98 M
Puget Sound Energy				\$1.56 M	\$1.56 M
Total	\$18.90 M	\$23.59 M	\$26.16 M	\$28.27 M	\$96.92 M

EIM – Calculated Benefits



2017

BAA	Jan-Mar 2017	Apr-Jun 2017	Jul-Sep 2017	Oct-Dec 2017	Total 2017
ISO	\$9.50 M	\$15.31 M	\$7.63 M	\$4.52 M	\$36.96 M
PacifiCorp	\$11.47 M	\$8.80 M	\$10.31 M	\$6.83 M	\$37.41 M
NV Energy	\$3.50 M	\$5.70 M	\$8.55 M	\$6.45 M	\$24.20 M
Arizona Public Service	\$5.23 M	\$8.25 M	\$11.08 M	\$10.00 M	\$34.56 M
Puget Sound Energy	\$1.40 M	\$2.65 M	\$2.98 M	\$2.83 M	\$9.86 M
Portland General Electric	--	--	--	\$2.83 M	\$2.83 M
Total	\$31.10 M	\$40.71 M	\$40.55 M	\$33.46 M	\$145.82 M

EIM – Calculated Benefits

2018



BAA	Jan-Mar 2018	Apr-Jun 2018	Jul-Sep 2018	Oct-Dec 2018	Total 2018
ISO	\$14.85 M	\$27.93 M	\$21.02 M	\$4.14 M	\$67.94 M
PacifiCorp	\$10.51 M	\$11.67 M	\$17.82 M	\$21.68 M	\$61.68 M
NV Energy	\$4.17 M	\$5.34 M	\$11.09 M	\$4.95 M	\$25.55 M
Arizona Public Service	\$5.90 M	\$8.59 M	\$20.78 M	\$10.03 M	\$45.30 M
Puget Sound Energy	\$3.01 M	\$2.32 M	\$4.44 M	\$3.91 M	\$13.68 M
Portland General Electric	\$3.64 M	\$5.34 M	\$9.47 M	\$9.12 M	\$27.57 M
Idaho Power		\$7.75 M	\$13.31 M	\$5.82 M	\$26.88 M
Powerex		\$2.27 M	\$2.65 M	\$2.92M	\$7.84 M
Total	\$42.08 M	\$71.21 M	\$100.58 M	\$62.57 M	\$276.44



EIM – Calculated Benefits

2019

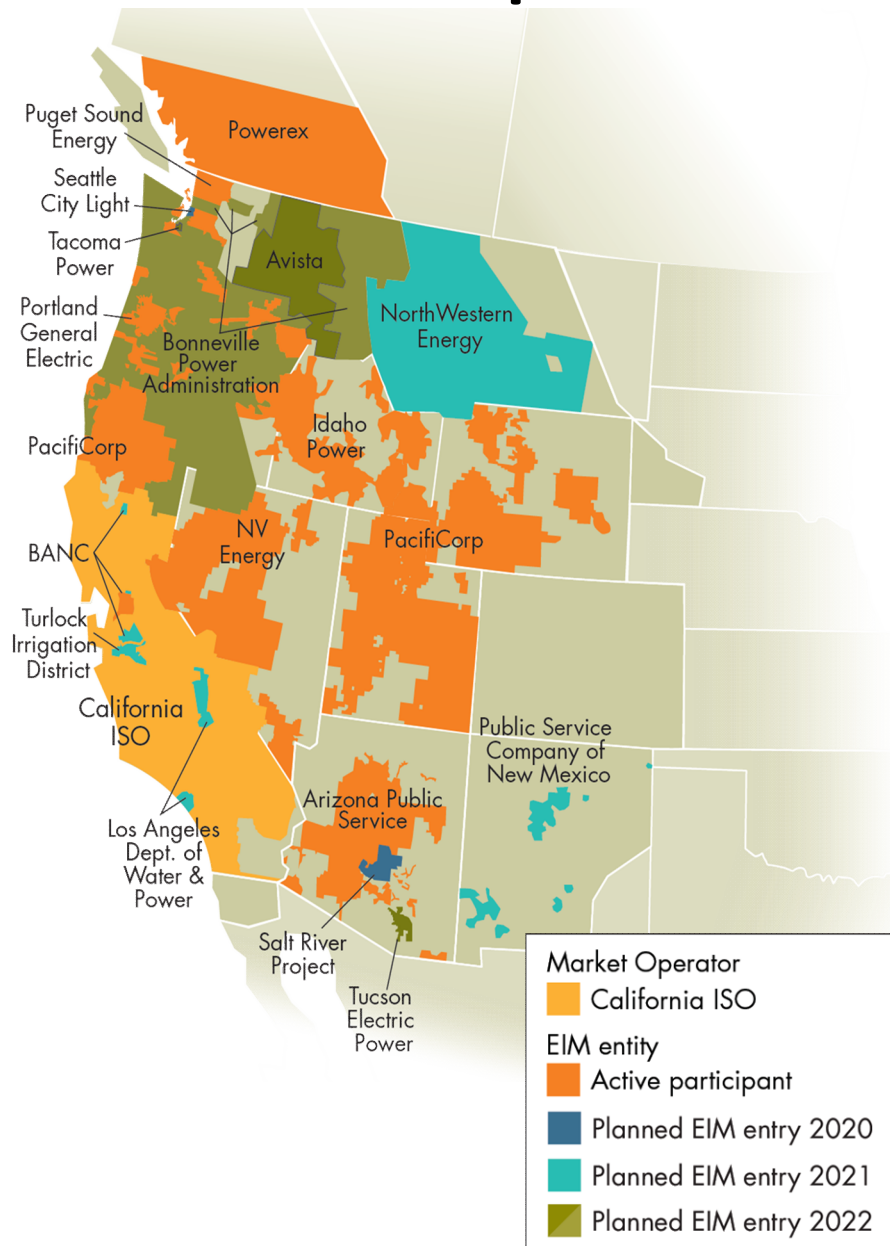
BAA	Jan-Mar 2019	Apr-Jun 2019	Jul-Sep 2019	Oct-Dec 2019	Total 2019
ISO	\$13.08 M	\$23.53 M			\$36.61 M
PacifiCorp	\$23.76 M	\$15.15 M			\$38.91 M
NV Energy	\$5.71 M	\$4.62 M			\$10.33 M
Arizona Public Service	\$8.20 M	\$8.55 M			\$16.75 M
Puget Sound Energy	\$7.21 M	\$3.06 M			\$10.27 M
Portland General Electric	\$11.74 M	\$10.89 M			\$22.63 M
Idaho Power	\$8.45 M	\$8.33 M			\$16.78 M
Powerex	\$7.23 M	\$3.06 M			\$10.29 M
BANC/SMUD		\$8.81 M			\$8.81 M
Total	\$85.38 M	\$86.00 M			\$171.38 M

Total EIM Benefits November 2014 – June 2019



BAA	Total
ISO	\$183.76 M
PacifiCorp	\$214.42 M
NV Energy	\$76.49 M
Arizona Public Service	\$102.59 M
Puget Sound Energy	\$35.37 M
Portland General	\$53.03 M
Idaho Power	\$43.66 M
Powerex	\$18.13 M
BANC/SMUD	\$8.81 M
Total	\$736.26 M

Prospects for EIM Expansion



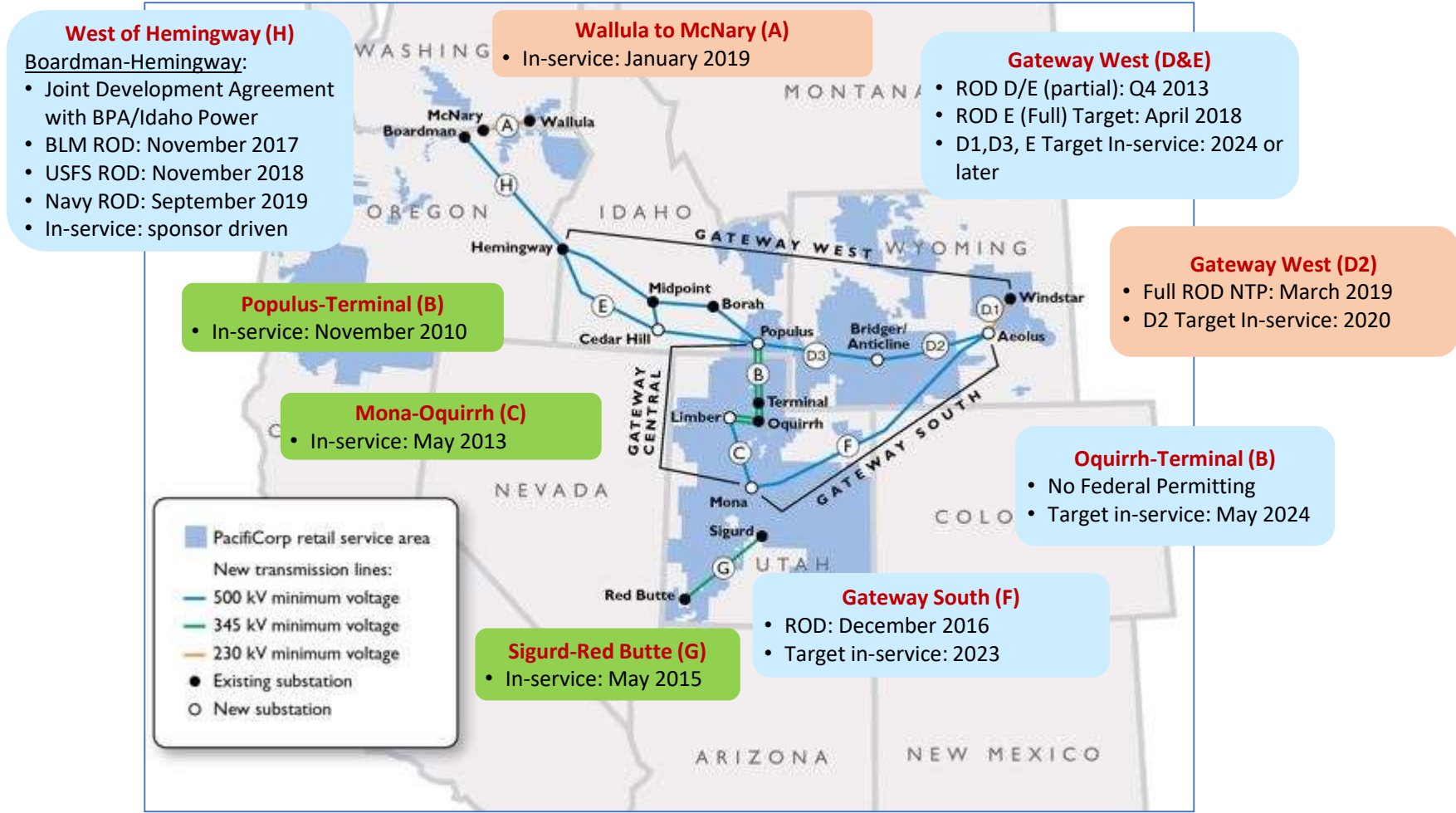
- PacifiCorp is supportive of broader market participation & coordination; CAISO approach/EIM design is highly scalable for added participation.
- NV Energy EIM implementation occurred December 2015, Puget Sound Energy and Arizona Public Service EIM implementation occurred October 2016, Portland General Electric EIM implementation occurred October 2017, Idaho Power Company and Powerex Corp EIM implementation occurred April 2018, and Balancing Authority of Northern California, with the Sacramento Municipal Utilities District EIM implementation occurred April 2019.
- Salt River Project and Seattle City Light are scheduled to join the EIM starting April 2020. Public Service Company of New Mexico, the Los Angeles Department of Water and Power, Northwestern Energy, Turlock Irrigation District, and Balancing Authority of Northern California Phase 2 are scheduled to join the EIM starting April 2021. Avista, Tacoma Power, Tucson Electric Power and Bonneville Power Administration are scheduled to join the EIM in April 2022.

Regional Activities



- In October 2019, the California ISO will begin a stakeholder process to consider formation of an Extended Day-Ahead Market (EDAM) that would potentially facilitate day-ahead unit commitment and optimization across the Balancing Authority Areas currently participating in the EIM that elect to utilize this additional option.

Energy Gateway Program Status





Clean Power Plan

Clean Power Plan (CPP)



- March 2017, President Trump issued an Executive Order directing the EPA to review the CPP
- October 2017, EPA published the repeal of the CPP and issued an Advanced Notice of Proposed Rulemaking (ANPR) to solicit information on the best system for emission reduction; EPA also requested the case remain in abeyance until completion of rulemaking
- PacifiCorp submitted comments on the ANPR on February 26, 2018 and the CPP Repeal on April 28, 2018
- June 2019, EPA published the final ACE Rule which repealed the Clean Power Plan



Affordable Clean Energy (ACE) Rule

ACE Rule



ACE Rule proposes a change to the definition of “Best System of Emission Reduction” or “BSER” for CO₂ emissions

- BSER limited to specific Heat Rate Improvement (“HRI”) projects for coal-fired electric generating units, identified as “candidate technologies”:
 - Neural Network/Intelligent Sootblowers
 - Boiler Feed Pumps
 - Air Heater & Duct Leakage Control
 - Variable Frequency Drives
 - Blade Path Upgrade (Steam Turbine)
 - Redesign/Replace Economizer
 - Improved O&M Practices

ACE Rule continued



- PacifiCorp has historically implemented HRI projects to enhance efficiency and reduce fuel consumption; thus HRI projects are routinely evaluated and implemented with appropriate permitting where economically justified
- HRI projects are typically accounted for through run rate capital and individual unit performance inputs that are imbedded in PacifiCorp's System Optimizer (SO) modeling
- October 2018, BHE submitted comments to EPA on the proposed ACE Rule
- June 2019, EPA published the ACE Rule and repealed the Clean Power Plan



State Greenhouse Gas Emissions Policy Update

State Greenhouse Gas (GHG) Update



Oregon

- In the 2019 session, House Bill 2020 was introduced in an attempt to establish a cap-and-trade program, called the Oregon Climate Action Program, implement an allowance trading market and create a Carbon Policy Office. The bill did not pass.
- The Oregon Department of Environmental Quality intends to institute a rulemaking by the end of 2019 to adopt rules by January 2020 for mandatory reporting of emissions by electricity suppliers and other covered entities in the state.

State GHG Update



Washington

- In the 2019 session, SB 5116, the Clean Energy Transformation Act was passed. Its key provisions include:
 - Coal out of rates by 2025
 - 80% renewable by 2030 with compliance options for remaining 20%
 - 2% cost cap measured over a four-year compliance period; if the cost cap is triggered, the utility is deemed to be in compliance
 - Compliance penalty = \$100/MWh with multiplier depending on type of fossil generation
 - Sets mandate of 100% carbon free electricity sector by 2045

California

- No major carbon-related legislation passed during the 2019 session of the California legislature.
- On September 8, 2018, Senate Bill 100 (SB 100) was signed into law, which increased the state's RPS target from 50% to 60% by 2030.
 - SB 100 also directed the state agencies to plan for a longer-term goal of 100 percent of total retail sales of electricity in California coming from eligible renewable resources and zero-carbon resources by December 31, 2045.



Regional Haze

Utah Regional Haze Compliance



- July 2016, EPA published its final action on UT Regional Haze SIP. requiring SCR on Hunter Units 1 and 2 and Huntington Units 1 and 2 within 5-years.
- September 2016, PacifiCorp and other parties filed a request for reconsideration and an administrative stay with EPA.
- July 2017, EPA sent letters to PacifiCorp and the state of Utah indicating its intent to reconsider its FIP; the agency also filed a motion with the 10th Circuit Court of Appeals to hold the litigation in abeyance pending the rule's reconsideration.
- September 2017, the 10th Circuit granted the petition for stay and the request for abatement; the compliance deadline of the FIP and the litigation was stayed indefinitely pending EPA's reconsideration; the litigation remains on hold.

Utah Regional Haze Compliance



- January 2019, the Utah Department of Environmental Quality submitted a SIP revision to the EPA for review.
- April 2019, the revised SIP was issued for a 45-day public comment period.
- June, 2019, the Utah Air Quality Board voted to approve the Utah Regional Haze SIP Revision which incorporates and adopts the BART Alternative into the SIP and makes the Carbon Plant shutdown enforceable and removes the requirement to install SCR on Hunter Units 1 and 2 and on Huntington Units 1 and 2. The SIP requires final approval by the EPA.

Wyoming Regional Haze Compliance

- January 2014, EPA issued a regional haze FIP partially approving certain parts of the state of Wyoming's SIP
- EPA approved the following SIP requirements:
 - Jim Bridger Units 3&4 Installed SCR in 2015, 2016
 - Jim Bridger Units 1&2 Install SCR by 2021 and 2022
 - Naughton Unit 3: Was removed from coal-fueled service in January 2019, with option to convert to gas
 - Naughton Units 1&2: Install LNB and OFA (.26 lb/MMBtu Nox rate)
 - Dave Johnston Unit 4: install LNB and OFA (.15 /b/MMBtu Nox rate)
 - Dave Johnston Unit 1&2: no new controls
 - Dave Johnston Unit 3: EPA offered two alternative compliance paths in the FIP: (1) install LNBS and OFA and shut-down by 2027 or (2) install LNB/OFA and SCR.
 - Wyodak Unit 1: Install SCR within five years of the final rule (challenged by PacifiCorp)

Wyoming Regional Haze Compliance

- February 2019, PacifiCorp submitted a proposed SIP revision to the Wyoming Air Quality Division. The Reasonable Progress Reassessment SIP submittal proposed plant-wide NOx and SO2 emission limits in lieu of installing SCR on Jim Bridger Units 1 and 2. PacifiCorp also submitted an application to the Wyoming Air Quality Division for issuance of an air permit to authorize the proposed RP Reassessment plant-wide emission limits in lieu of SCR on Units 1 and 2.
- May 2019, PacifiCorp submitted a modified (repackaged) version of the proposed regional haze SIP for Jim Bridger to WDEQ.
- June 2019, PacifiCorp confirmed its intent to refile a Request for Reconsideration to the EPA to provide updated costs relating to installation of SCR at Wyodak.

Non-Operated Plants Regional Haze Compliance



Colorado

- Tri-State's environmental compliance staff and counsel negotiated an agreement in principle with EPA, CDPHE, WildEarth Guardians, and the National Parks Conservation Association on an alternate Regional Haze compliance strategy incorporating accelerated retirement for Craig Unit 1. The agreement will result in a year-end 2025 shutdown with certain interim NO_x emission reduction commitments from the partner owners.
- The state of Colorado's Air Quality Board approved the agreement during a hearing held on December 15, 2016.
- CDPHE submitted SIP amendment documentation to EPA Region VIII on May 27, 2017.
- EPA approved Colorado's regional haze SIP, effective August 6, 2018. Revisions to the SIP include source-specific revisions to the NO_x best available retrofit technology (BART) determination for Craig Unit 1.



National Ambient Air Quality Standards

National Ambient Air Quality Standards



One-hour NO₂ & SO₂ Standards

- NO₂: All areas of the country designated as unclassifiable/attainment
- SO₂: In January 2018 EPA published the Air Quality Designations for the 2010 SO₂ NAAQS Round 3
- Counties of Emery, Campbell, Lincoln and eastern Sweetwater were classified as attainment/unclassifiable
- Converse County will not be designated until December 2020

Fine Particulate (PM_{2.5}) Standard

- In May 2017 EPA reclassified Salt Lake City and Provo to Serious Nonattainment
- In October 2019 EPA approved the monitoring data demonstrating attainment for Salt Lake. Utah is still required to implement the SIP for sources and the action did not constitute a re-designation to attainment

Ozone Standard

- EPA finalized new ozone standard in October 2015
- In May 2018 the Wasatch Front was designated as Marginal Compliance for Ozone and has three years to develop a plan to meet the standard



Coal Combustion Residuals

Coal Combustion Residuals



- PacifiCorp operates six impoundments and four landfills (with three additional impoundments currently in the process of being closed) that are subject to the CCR rule.
 - The Dave Johnston Ash Pond, Hunter Landfill, and Huntington Landfill moved into the corrective action phase in May, 2019.
 - The Jim Bridger FGD 1, Naughton FGD 1, and Naughton FGD 2 moved into the corrective action phase in June, 2019.
- Second annual groundwater monitoring and corrective action reports were posted online, as required by rule, prior to March 2, 2019.
- It is anticipated that Utah and Wyoming will submit applications for approval of their respective CCR programs in the fall of 2020 and the spring of 2021, respectively.
- Aug. 2018, the D.C. Circuit Court of Appeals issued a decision on certain provisions under the CCR rule relating to timing of closure, finding that some aspects of rule were arbitrary and capricious. The court vacated certain provisions and remanded the issues to EPA to address in accordance with the ruling. A pre-publication of the proposed rule was issued on November 4, 2019.



Clean Water Act

Clean Water Act



Effluent Limit Guidelines (ELG)

- EPA published the final ELG for steam electric generating units in the *Federal Register* on November 3, 2015
- September 2017, EPA postponed compliance dates and announced its intent to conduct new rulemaking for FGD and bottom ash transport water; the postponement places the earliest compliance date for both waste streams as soon as possible beginning November 1, 2020
- November 2019, EPA published a proposed rule revising discharge requirements for FGD wastewater and bottom ash transport water. The proposed rule will be open for a 60-day public comment period