

February 27, 2020

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 Second 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 2019 First Update, PacifiCorp is providing the attached written report for the period of July 1, 2019 through December 31, 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.

Public Utility Commission of Oregon

February 27, 2020

Page 2

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 flourish extending to the right.

Etta Lockey
Vice President, Regulation

Enclosures

PacifiCorp Semi-Annual Demand Side Management Update

Second Update for 2019



Class 2 Energy Resource Acquisitions

State Wide Energy Savings Results (aMW)			
State	2019		
	<i>Actuals</i>	<i>Target</i>	<i>% of Target Achieved</i>
CA	0.92	0.84	109%
ID	2.27	2.62	87%
OR	18.58	22.57	82%
UT	26.95	27.49	98%
WA	3.74	3.92	95%
WY	5.30	6.40	83%
Total	57.76	63.83	90%

Note: Savings results are estimated actuals at generation and are gross



Additional Information

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

<http://www.pacificorp.com/es/dsm.html>



PacifiCorp Semi-Annual Environmental Compliance and Transmission Investment Update

Second 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	\$5.77 M	\$2.36 M	\$44.74 M
PacifiCorp	\$23.76 M	\$15.15 M	\$9.54 M	\$11.32 M	\$59.77 M
NV Energy	\$5.71 M	\$4.62 M	\$5.92 M	\$6.62 M	\$22.87 M
Arizona Public Service	\$8.20 M	\$8.55 M	\$20.36 M	\$17.37 M	\$54.48 M
Puget Sound Energy	\$7.21 M	\$3.06 M	\$2.97 M	\$2.91 M	\$16.15 M
Portland General Electric	\$11.74 M	\$10.89 M	\$9.48 M	\$10.76 M	\$42.87 M
Idaho Power	\$8.45 M	\$8.33 M	\$5.36 M	\$6.09 M	\$28.23 M
Powerex	\$7.23 M	\$3.06 M	\$1.04 M	\$0.61 M	\$11.94 M
BANC/SMUD		\$8.81 M	\$4.37 M	\$2.68 M	\$15.86 M
Total	\$85.38 M	\$86.00 M	\$64.81 M	\$60.72 M	\$296.91 M

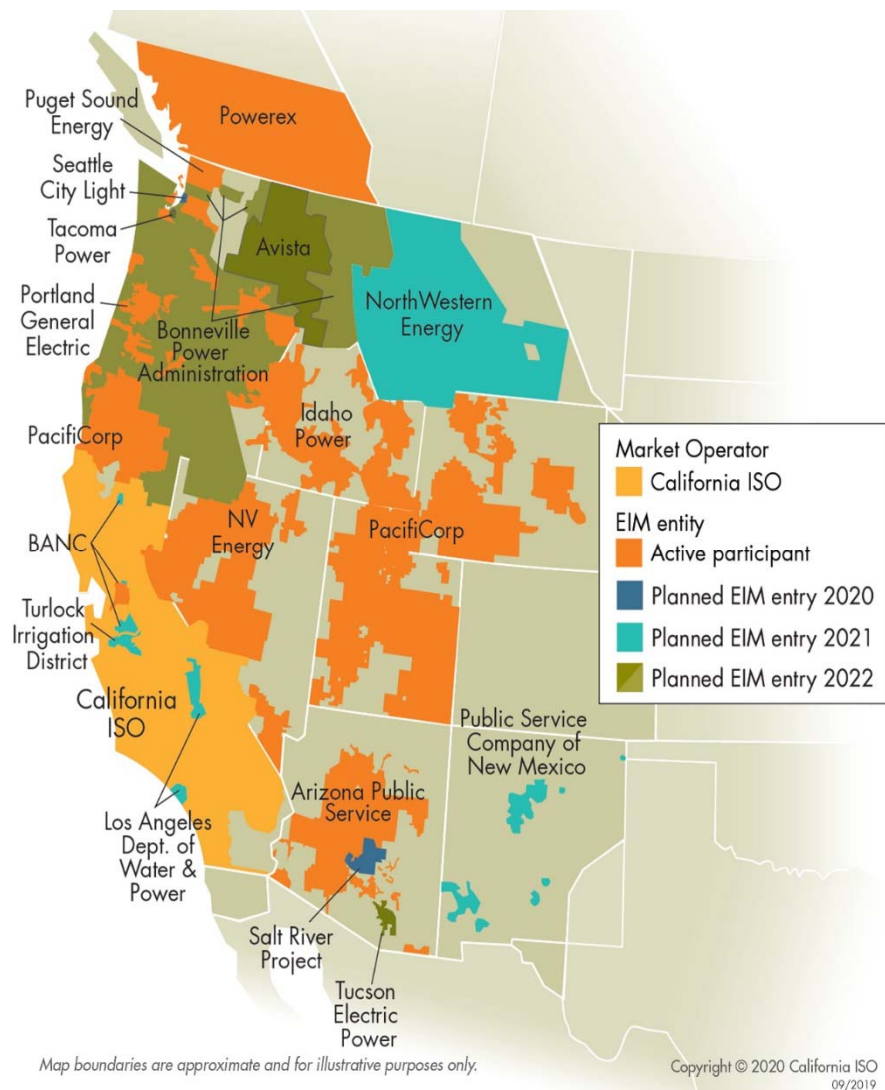
Total EIM Benefits

November 2014 – December 2019



BAA	Total
ISO	\$191.89 M
PacifiCorp	\$235.28 M
NV Energy	\$89.03 M
Arizona Public Service	\$140.32 M
Puget Sound Energy	\$41.25 M
Portland General	\$73.27 M
Idaho Power	\$55.11 M
Powerex	\$19.78 M
BANC/SMUD	\$15.86 M
Total	\$861.79 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 spring 2022.

Regional Activities



- Due to regional ISO governance issues, California Governor Brown postponed plans to submit a proposal for the Legislature to consider in the 2016 Legislative Session
- California Assembly bills 726 and 813 were amended mid-2017 addressing the next steps the ISO should take on a governance structure that allows for expansion into a Regional ISO
- In September 2017, California Assembly member Holden announced the Assembly bills would not move forward this year – “still more to discuss including the role of the Legislature in review of any proposed governance structure of a new ISO”
- In August 2018, the California Assembly did not pass a revised version of Assembly Bill 813, which would have created a path to a regional ISO
- In October 2019, the California ISO began 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



Over \$6 billion total investment planned; \$2.4 billion placed in-service

- Gateway West
 - BLM record of decision on 8 of 10 segments November 2013
 - BLM record of decision on last 2 segments April 2018
 - Planned in-service 2023-2024 (earliest)
- Aeolus-to-Jim Bridger/Anticline
 - Segment D2 of Gateway West
 - Planned in-service Q4 2020
- Gateway South
 - BLM record of decision December 2016
 - Planned in-service 2023
- Boardman-to-Hemingway
 - BLM record of decision December 2017
 - Oregon Energy Facility Siting Council site certificate target date June 2021
 - Planned in-service 2026
- **Segments In-Service**
 - Populus-to-Terminal November 2010
 - Mona-to-Oquirrh May 2013
 - Sigurd-to-Red Butte May 2015
 - Wallula to McNary January 2019



This map is for general reference only and reflects current plans. It may not reflect the final routes, construction sequence or exact line configuration.



Clean Power Plan

Clean Power Plan (CPP)



- March 2017, President Trump issued an Executive Order directing the EPA to review the CPP
- April 2017, the Circuit Court of Appeals abates the lawsuits on the CPP for 60 days; lawsuit continues to be on hold
- October 2017, EPA proposed to repeal the CPP and issued an Advanced Notice of Proposed Rulemaking to solicit information on the best system for emission reduction; EPA also requested the court case remain in abeyance until completion of rulemaking
- PacifiCorp submitted comments on the ANPR on February 26, 2018 and the proposed CPP Repeal on April 28, 2018
- August 2018, EPA proposed Affordable Clean Energy (ACE) Rule to replace CPP
- June 2019, EPA finalized the ACE Rule and repealed the CPP



Affordable Clean Energy (ACE) Rule

ACE Rule



- Proposed ACE Rule published in the Federal Register on August 31, 2018
- October 2018, PacifiCorp submitted comments on the ACE Rule in conjunction with Berkshire Hathaway Energy and its individual businesses
- Final ACE Rule published in the Federal Register on July 8, 2019
- ACE Rule changed 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 Sootblower
 - Rebuild/Replace Boiler Feed Pumps
 - Air Heater & Duct Leakage Control
 - Variable Frequency Drives
 - Steam Turbine Blade Path Upgrade
 - Redesign/Replace Economizer
 - Improved Best Operating and Maintenance O&M Practices

ACE Rule continued



- EPA assessed economic effects of HRI project costs at \$50 per kW and \$100 per kW, providing 2.5% HRI and 4.5% HRI
- 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



State Greenhouse Gas Emissions Policy Update

State Greenhouse Gas (GHG) Update



Oregon

- In the 2020 short session, the Senate introduced an updated version of the cap and trade bill from the 2019 legislative session – SB 1530. Many changes have been made to the bill, but the treatment of investor-owned utilities remains the same. The House has also introduced a bill identical to SB 1530A, House Bill 4167.
- The Oregon Department of Environmental Quality is conducting a rulemaking to adopt rules by January 2020 for mandatory reporting of emissions by electricity suppliers and other covered entities in the state, streamline existing reporting, require third-party verification of Greenhouse Gas and Clean Fuels Program data, and establish criteria for enforcement of greenhouse gas reporting requirements.

State GHG Update



Washington

- In the 2020 session, the Senate introduced SB 5981, which would implement a greenhouse gas emissions cap and trade program.
- The House and the Senate introduced versions of a bill (SB 6628/HB 2892) that would create authority for Ecology to monitor and limit emissions from indirect emitters of greenhouse gases in response to a Washington Supreme Court ruling that found Ecology did not have the authority to regulate emissions for producers and distributors of natural gas and petroleum products.
- The House and the Senate both introduced versions of a greenhouse gas reduction bill (HB 2311/SB 6272) that would limit statewide emissions based on more recent assessments of climate change science.
- In the 2020 session, SB 2472, incorporating comprehensive measurements of greenhouse gas emissions from certain fossil fuels into state environmental laws, was proposed. Its key provisions include:
 - Creating emissions factors for greenhouse gas emissions
 - Require an analysis of greenhouse gas emissions for permitting
 - Reporting on greenhouse gas emissions from the storage of fossil fuels

State GHG Update



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 five 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

Utah Regional Haze Compliance



- January 2020, EPA published proposed approval of an alternative SIP submitted by Utah, which shows improved visibility through modeling, makes the shutdown of the Carbon plant federally enforceable and adopts the NOx controls and emission limits on the Hunter and Huntington plants, including on an additional non-BART unit at Hunter. The proposal withdraws the federal implementation plan requirements to install SCR on Hunter Units 1 and 2 and Huntington Units 1 and 2.
- February 2020, EPA held a public hearing on the proposed SIP approval in Price, Utah.
- PacifiCorp will file written comments supportive of EPA by March 2020.
- Litigation remains on hold

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: Remove 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)
- April 2017, after appeals, EPA and Basin Electric negotiated settlement agreement and filed a joint motion in the 10th Circuit to hold the Basin-specific issues in abeyance

Wyoming Regional Haze Compliance

- PacifiCorp, Wyoming and Basin Electric submitted motions requesting the court hold all of the consolidated appeals of challenged portions of the Wyoming Regional Haze FIP in abeyance while the Basin Electric settlement is processed and promulgated by EPA
- The 10th Circuit Court of Appeals granted the motion to hold entire case in abeyance pending Basin's settlement; the Basin settlement required notice and comment rulemaking and was finalized in 2017
- The court denied environmental groups motion asking the court to bifurcate certain claims and to reconsider its decision to abate the case pending settlement and continued the stay while parties worked with the court mediator
- October 2019, as part of mediation, PacifiCorp submitted a Request for Reconsideration of the EPA's FIP to install SCR on Wyodak.
- February 2020, the court granted an additional 90-day abatement while EPA, PacifiCorp and the state of Wyoming continue to explore potential settlement of the dispute.

Wyoming Regional Haze Compliance

- February 2019, PacifiCorp submitted a “Reasonable Progress Reassessment” for the Jim Bridger plant to the Wyoming Division of Air Quality (WDAQ). The Reasonable Progress Reassessment is an innovative proposal that, if approved, would implement new plant-wide emission limits at Jim Bridger, in lieu of the requirement to install SCR equipment on Jim Bridger Units 1 and 2 (currently required by the end of 2022 and 2021, respectively).
- April 2019, PacifiCorp met with Wyoming and EPA in Washington D.C. to discuss the Bridger Reasonable Progress Reassessment. EPA raised nine issues relating to the Reassessment for further consideration, and PacifiCorp worked with WDAQ to address the nine issues.
- July 2019, the Bridger Reasonable Progress Reassessment was published for public comment.

Wyoming Regional Haze Compliance

- August 2019, PacifiCorp participated in a public hearing held by WDAQ and commented in support of the proposed adoption of the Bridger Reassessment. PacifiCorp provided written and oral comments, explaining that its application provides enhanced visibility benefits, is technically and legally sound, and should be adopted by Wyoming.
- WDAQ is evaluating the Reassessment in light of public comments and will submit it to EPA for final review once a final decision is reached.

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 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 a clean data determination for Salt Lake based on Utah's submission of monitoring data showing it had not exceeded the standard for three years. Utah is still required to implement the SIP for sources and the action did not constitute a re-designation to attainment

National Ambient Air Quality Standards

Ozone Standard

- EPA finalized a lower ozone standard in October 2015
- In May 2018 the Wasatch Front in Utah 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
- Required groundwater monitoring found 4 impoundments and 2 landfills have impacted groundwater and require remediation. Public meetings were held in July 2019 to seek public input on potential remedies. PacifiCorp is preparing remedies for each site based on regulatory requirements and the public input.
- Utah adopted the federal final rule as state law in September 2016, PacifiCorp is in compliance with all requirements.
- August 2017, EPA proposed permitting guidance on how states' CCR programs should comply with the requirements of the final rule.
- July 2019, Wyoming proposed adoption of a state CCR law, which now awaits legislative approval in 2021.
- It is anticipated that Utah and Wyoming will submit applications for approval of their respective CCR programs prior to the end on 2021

Coal Combustion Residuals



- July 2018, EPA posted Final CCR Rule, Phase 1 Part 1; rule extends certain deadlines and incorporates some risk-based analysis
- August 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 response from EPA is forthcoming.
- November 2019, EPA posted a proposed CCR Rule, Phase 1 Part A, which addresses the DC Court Ruling. The rule requires all unlined impoundments to cease receiving material by August 20, 2020. The rule allows continued operation of these impoundments under certain conditions for a limited time. This rule directly impacts the Jim Bridger and Naughton plants.
- January 2020, PacifiCorp submitted comments on the CCR Phase I Part A rule in conjunction with Berkshire Hathaway Energy and its individual businesses.



Clean Water Act

Clean Water Act



Effluent Limit Guidelines (ELG)

- PacifiCorp operates three plants subject to the ELGs including Dave Johnston, Naughton, and Wyodak
- EPA published the final ELG for steam electric generating units in the *Federal Register* on November 3, 2015
- September 2017, EPA postponed compliance dates for FGD and bottom ash transport water to “as soon as possible beginning” November 1, 2020 and announced its intent to conduct new rulemaking
- November 2019, EPA proposed revisions to the bottom ash and FGD sections of the rule, relaxing some of the requirements of the 2015 rule while also limiting continued discharge some types of water with bottom or fly ash subject to specific exemptions
- January 2020, PacifiCorp submitted comments on the ELG proposed revisions in conjunction with Berkshire Hathaway Energy and its individual businesses