

October 5, 2018

***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 – 2018 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.”<sup>1</sup>*

*“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.”<sup>2</sup>*

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

As there are no significant changes since the last provided update dated January 2018, PacifiCorp is providing the attached written report. 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 and 2018 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 and adds a section for the Affordable Clean Energy Rule.

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<sup>1</sup> LC 57, Order No. 14-288

<sup>2</sup> LC 62, Order No. 16-071

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

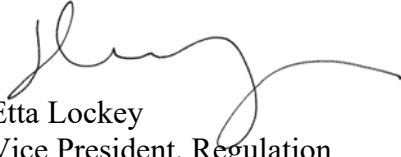
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Please direct any questions regarding this report to Natasha Siores at (503) 813-6583.

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

# Public Utility Commission of Oregon Semi-annual DSM Update October 2018



# Class 2 Energy Resource Acquisitions

State Wide Energy Savings Results (aMW)						
State	2017			2018		
	<i>Actuals</i>	<i>Target</i>	<i>% of Target Achieved</i>	<i>Actuals Through August</i>	<i>Target</i>	<i>% of Target Achieved</i>
CA	0.57	0.85	67%	0.38	0.84	46%
ID	1.61	2.01	80%	1.05	2.62	40%
OR	25.59	22.68	113%	7.44	22.57	33%
UT	36.43	38.06	96%	17.81	27.49	65%
WA	5.04	5.09	99%	2.40	3.92	61%
WY	4.48	5.00	90%	3.23	6.40	51%
<b>Total</b>	<b>73.72</b>	<b>73.69</b>	<b>100%</b>	32.32	63.83	<b>51%</b>

- Consistent with previous years, the Company anticipates significant savings in the final quarter.



# Additional Information

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

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



# PacifiCorp Bi-Annual Environmental Compliance and Transmission Investment Update

October 5, 2018 (First Update for 2018)





# 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
<b>Total</b>	<b>\$5.97 M</b>	<b>\$5.97 M</b>

## 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
<b>Total</b>	<b>\$5.26 M</b>	<b>\$10.18 M</b>	<b>\$12.00 M</b>	<b>\$12.29 M</b>	<b>\$39.73 M</b>

# 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
<b>Total</b>	<b>\$18.90 M</b>	<b>\$23.59 M</b>	<b>\$26.16 M</b>	<b>\$28.27 M</b>	<b>\$96.92 M</b>

# 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
<b>Total</b>	<b>\$31.10 M</b>	<b>\$40.71 M</b>	<b>\$40.55 M</b>	<b>\$33.46 M</b>	<b>\$145.82 M</b>



# EIM – Calculated Benefits

2018

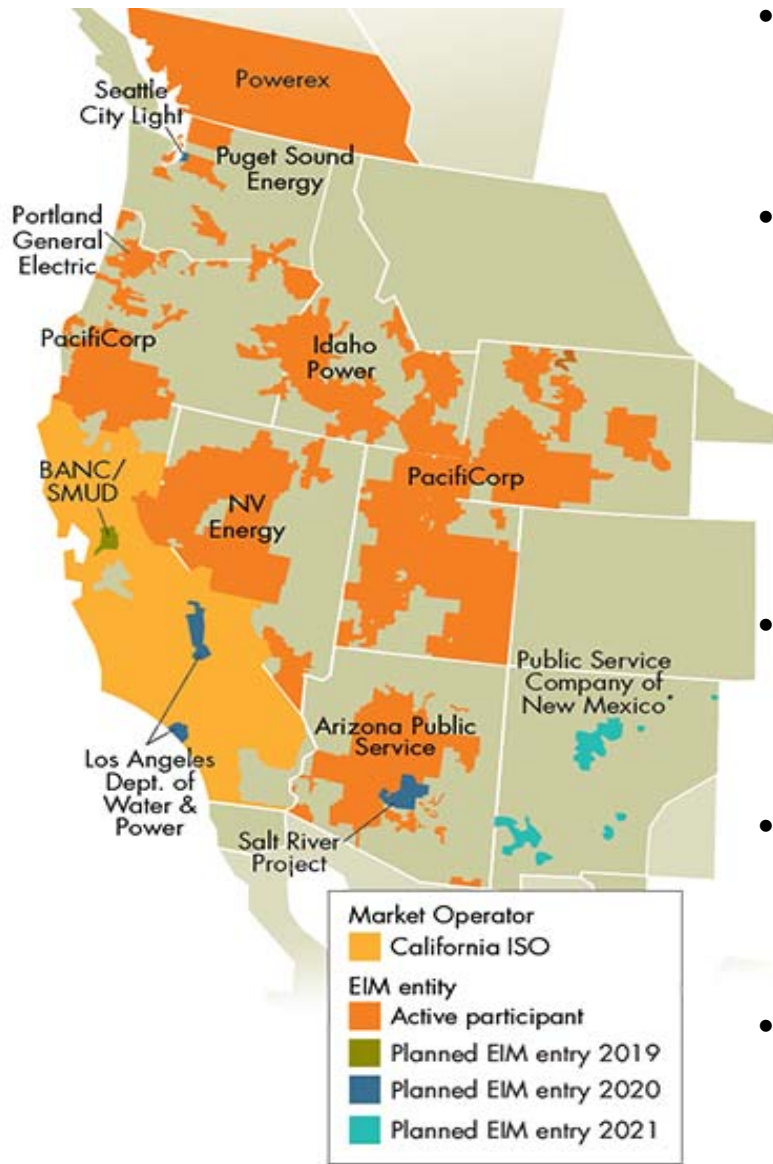
BAA	Jan-Mar 2018	Apr-Jun 2018	Total 2018
ISO	\$14.85 M	\$27.93 M	\$42.78 M
PacifiCorp	\$10.51 M	\$11.67 M	\$22.18 M
NV Energy	\$4.17 M	\$5.34 M	\$9.51 M
Arizona Public Service	\$5.90 M	\$8.59 M	\$14.49 M
Puget Sound Energy	\$3.01 M	\$2.32 M	\$5.33 M
Portland General Electric	\$3.64 M	\$5.34 M	\$8.98 M
Idaho Power		\$7.75 M	\$7.75 M
Powerex		\$2.27 M	\$2.27 M
<b>Total</b>	<b>\$42.08 M</b>	<b>\$71.21 M</b>	<b>\$113.29</b>

# Total EIM Benefits November 2014 – June 2018



<b>BAA</b>	<b>Total</b>
<b>ISO</b>	\$121.99 M
<b>PacifiCorp</b>	\$136.01 M
<b>NV Energy</b>	\$50.12 M
<b>Arizona Public Service</b>	\$55.03 M
<b>Puget Sound Energy</b>	\$16.75 M
<b>Portland General</b>	\$11.81 M
<b>Idaho Power</b>	\$7.75 M
<b>Powerex</b>	\$2.27 M
<b>Total</b>	<b>\$401.73 M</b>

# Prospects for EIM Expansion



*\*Pending state commission approval*

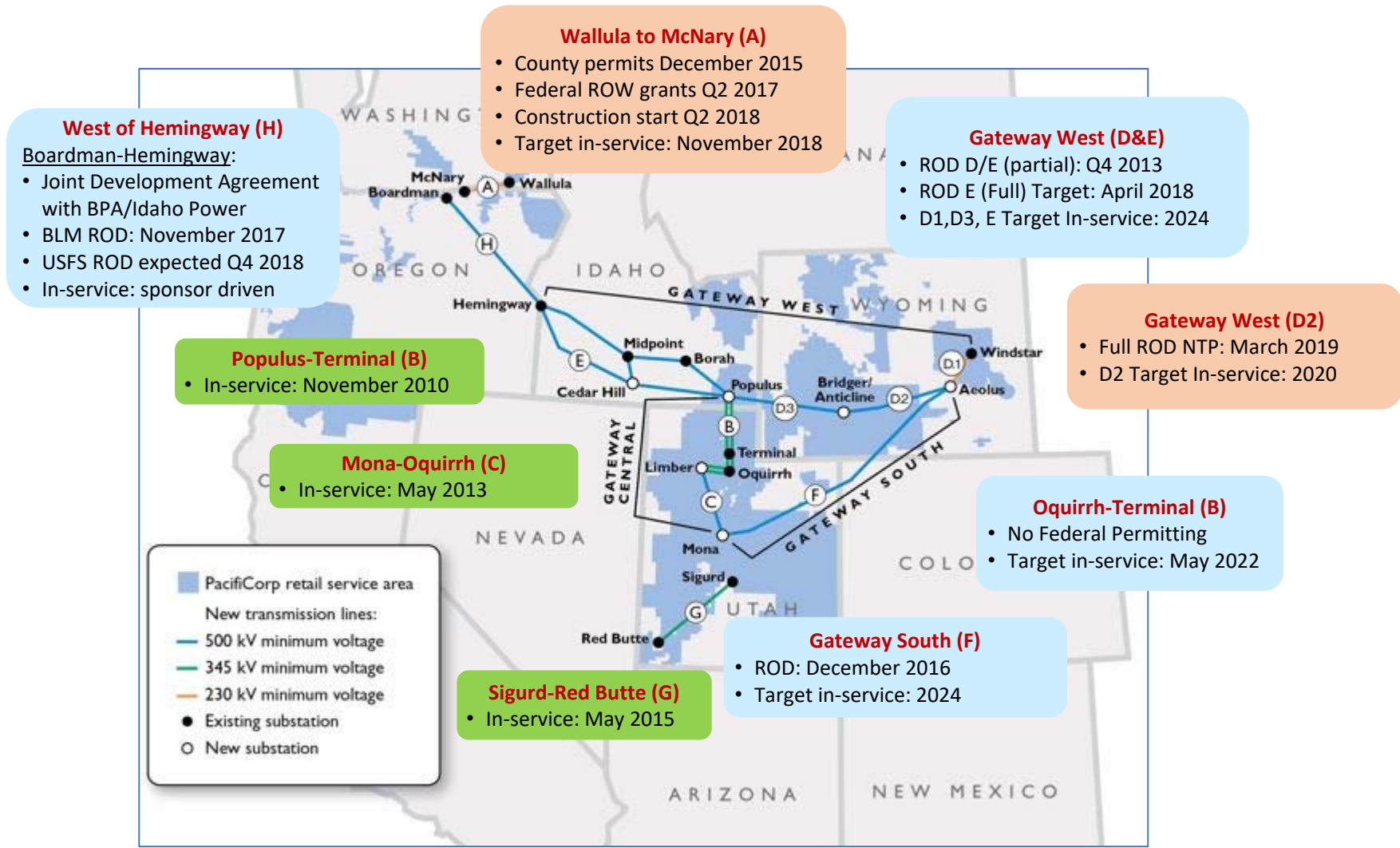
- PacifiCorp is supportive of broader market participation & coordination; CAISO approach/EIM design is highly scalable for added participation
- NV Energy EIM implementation occurred December 1, 2015, Puget Sound Energy and Arizona Public Service EIM implementation occurred October 1, 2016, Portland General Electric EIM implementation occurred October 1, 2017, and Idaho Power Company and Powerex Corp EIM implementation occurred April 4, 2018
- Balancing Authority of Northern California, with the Sacramento Municipal Utilities District, is scheduled to join the EIM starting April 2019
- Salt River Project, the Los Angeles Department of Water and Power, and Seattle City Light are scheduled to join the EIM starting April 2020
- Public Service Company of New Mexico is scheduled to join the EIM starting April 2021, pending state commission approval

# 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
- PacifiCorp is working with other EIM entities and the California ISO to explore potential options for extending the EIM to a day-ahead framework—the California ISO intends to open a stakeholder process mid-year 2019 if there is sufficient interest from EIM entities

# Energy Gateway Program Status







# Clean Power Plan

# Clean Power Plan (CPP)

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- 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 published the repeal of the CPP and issued an Advanced Notice of Proposed Rulemaking 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
- August 2018, EPA proposed Affordable Clean Energy (ACE) Rule to replace CPP



# Affordable Clean Energy (ACE) Rule

# ACE Rule

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- Proposed ACE Rule published in the Federal Register on August 31, 2018
- Public hearing scheduled for October 1, 2018; comment period closes October 30, 2018
- ACE Rule proposes a change to the definition of “Best System of Emission Reduction” or “BSER” for CO<sub>2</sub> 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

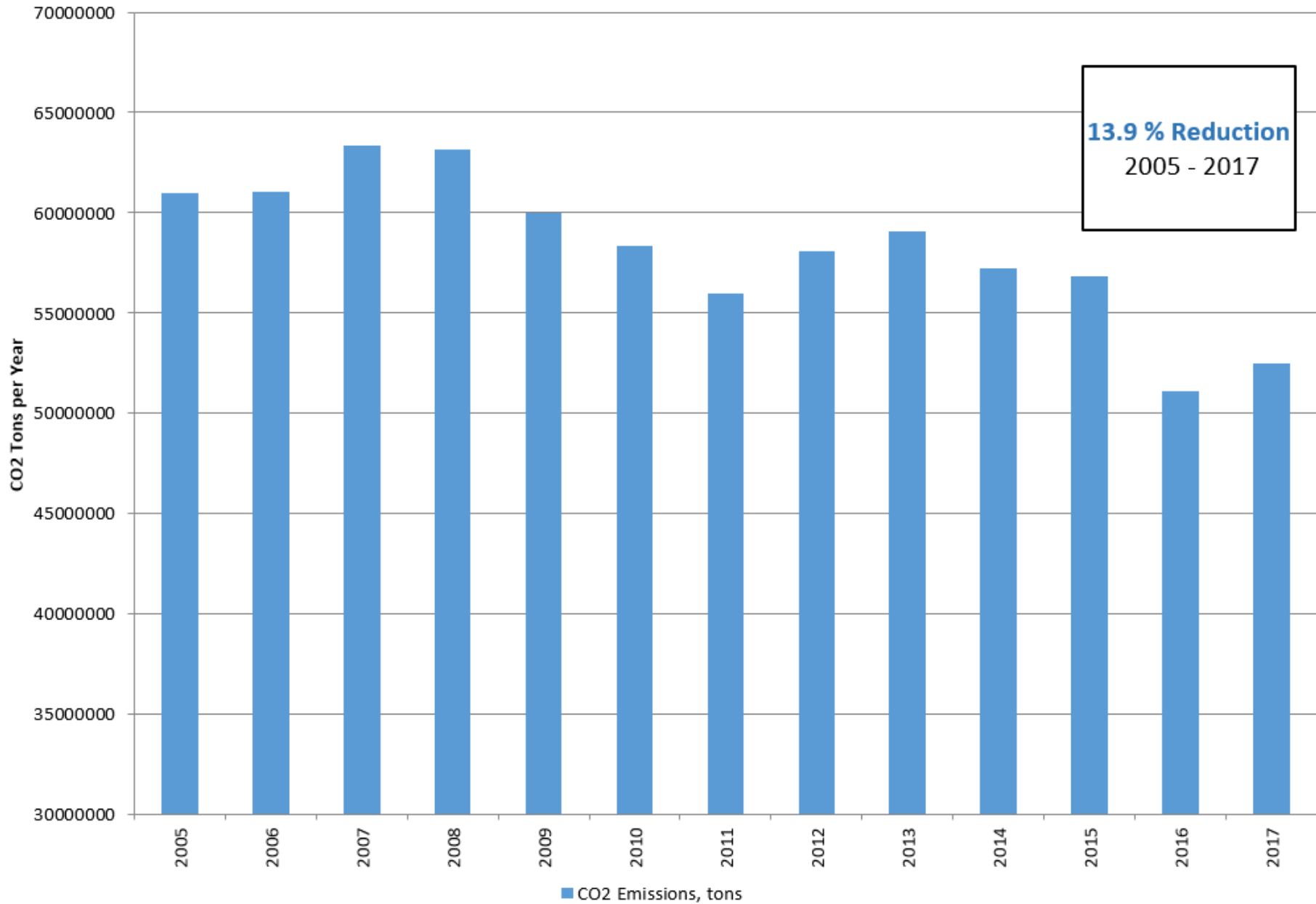
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- EPA assessed economic effects of HRI project costs at \$50 per kW and \$100 per kW, providing 2.5% HRI and 4.5% HRI
- PacifiCorp has historically implemented HRI projects to enhance efficiency and reduce fuel consumption; thus HRI projects are routinely 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
- PacifiCorp is developing comments on the ACE Rule in conjunction with Berkshire Hathaway Energy and its individual businesses



## PacifiCorp System CO<sub>2</sub> Emissions





# **State Greenhouse Gas Emissions Policy Update**

# State Greenhouse Gas (GHG) Update

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## Oregon

- At end of the 2017 session, the Clean Energy Jobs bill, Senate Bill 1070, was introduced in an attempt to address state and regional cap-and-trade policies and more investment in clean energy jobs. The bill did not pass, but had the support of 1/3 of the legislature.
- On January 8, 2018, draft bill language for both House and Senate versions of a “Cap and Invest” program were introduced. These became HB 4001 and SB 1507 and while both bills passed out of their respective policy committees and moved to the rules committees, ultimately neither passed in the short 2018 session.
- In March of 2018, the formation of a Joint Interim Committee on Carbon Reduction Committee and a new Carbon Policy Office (under Governor Kate Brown) was announced. Leading up to the 2019 session, the Carbon Policy Office has been engaging stakeholders in discussions regarding the design and implementation of a potential Cap and Trade/Invest program.



# State GHG Update

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## Washington

- In the 2018 session, five versions of SB 6203, a Carbon Tax bill were released. The various versions were aimed at imposing a tax ranging from \$12 to \$20 a metric ton (MT) of CO<sub>2</sub> and eventually escalating up to \$30/MT. The Bill did not pass.
- In 2018, Initiative 1631, a potential Carbon Emissions Fee received enough support to be certified for the November 2018 ballot. The initiative imposes a 'fee' of \$15/MT and increases by \$2/MT each year until the state's GHG reduction goals are met.
  - The revenue from the fee would be dedicated to climate and environmental projects in the state.

## California

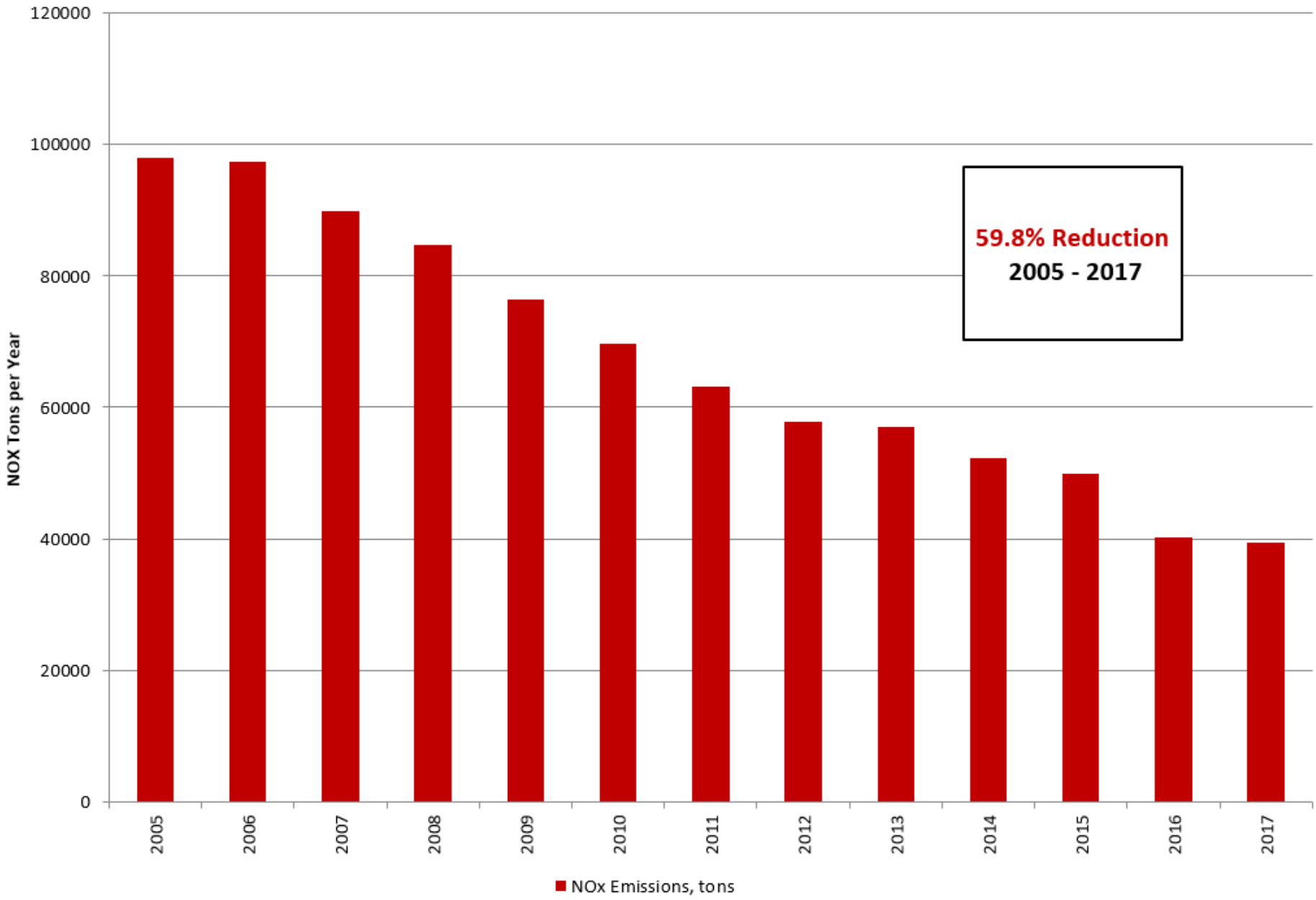
- The California Air Resources Board is proposing some changes to the Cap and Trade program in order to implement AB 398, the Bill which extended the program through 2030.
- On September 8, 2018, Senate Bill 100 (SB 100) was signed into law, which increased the state's RPS target from 50% to 60% by 2030.
  - 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

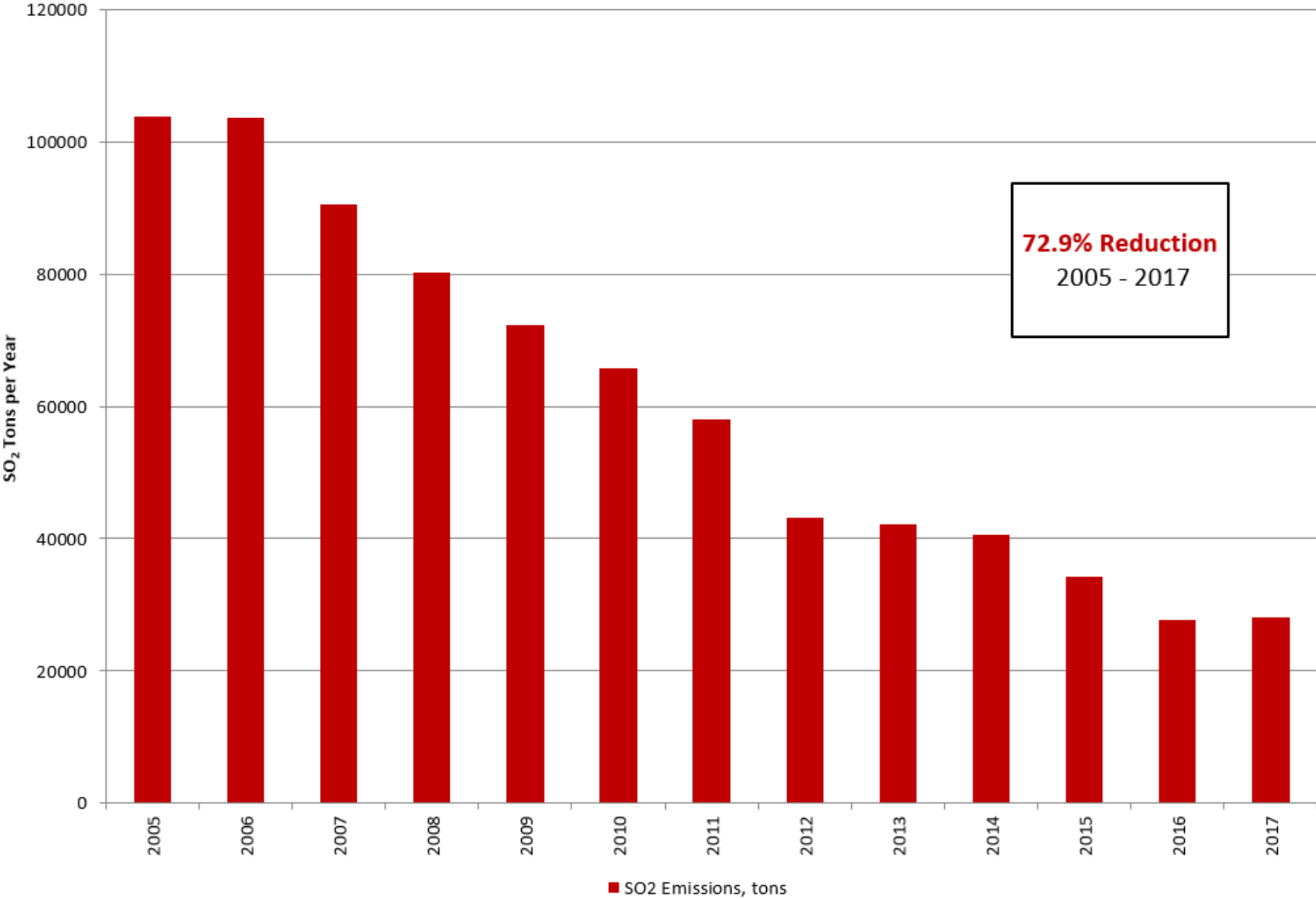


# PacifiCorp NO<sub>x</sub> Emissions





# PacifiCorp SO<sub>2</sub> Emissions



# 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 10<sup>th</sup> Circuit Court of Appeals to hold the litigation in abeyance pending the rule's reconsideration
- September 2017, the 10<sup>th</sup> 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
- EPA is working with petitioners on development & analysis of technical information related to its reconsideration, including CAMx air quality modeling
- Litigation remains on hold

# Wyoming Regional Haze Compliance

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- 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: [Will be 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)
- 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

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- 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; finalizing the settlement requires notice and comment rulemaking and is anticipated to take up to two years to complete
- The court denied Environmental groups motion asking the court to bifurcate certain claims and to reconsider its decision to abate the case pending settlement
- PacifiCorp is in compliance with all requirements relating to the SIP

# Non-Operated Plants Regional Haze Compliance



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## 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<sub>x</sub> 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<sub>x</sub> best available retrofit technology (BART) determination for Craig Unit 1





# National Ambient Air Quality Standards

# National Ambient Air Quality Standards

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## One-hour NO<sub>2</sub> & SO<sub>2</sub> Standards

- NO<sub>2</sub>: All areas of the country designated as unclassifiable/attainment
- SO<sub>2</sub>: In January 2018 EPA published the Air Quality Designations for the 2010 SO<sub>2</sub> 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<sub>2.5</sub>) Standard

- In May 2017 EPA reclassified Salt Lake City and Provo to Serious Nonattainment
- Utah has until December 31, 2019 to demonstrate attainment through modeling or monitoring

## 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

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- 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
- First annual groundwater monitoring and corrective action reports were posted online, as required by rule, prior to March 2, 2018
- Utah adopted the federal final rule in September 2016, PacifiCorp is in compliance with all requirements
- Aug. 2017, EPA proposed permitting guidance on how states' CCR programs should comply with the requirements of the final rule.
- It is anticipated that Utah and Wyoming will submit applications for approval of their respective CCR programs prior to the end on 2019
- July 2018, EPA posted Final CCR Rule, Phase I Part I; rule extends certain deadlines and incorporates some risk-based analysis
- 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 response from EPA is forthcoming.



# Clean Water Act

# Clean Water Act

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## Effluent Limit Guidelines (ELG)

- EPA published the final ELG for steam electric generating units in the *Federal Register* on November 3, 2015
- The revisions will impact PacifiCorp's Dave Johnston, Naughton, and Wyodak facilities
- 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