



# 2015 Integrated Resource Plan Volume I

*Let's turn the answers on.*

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Pacific Power  
Rocky Mountain Power

### Regional Haze Compliance Requirements

Core case definitions reflect one of four Regional Haze compliance scenarios, a reference scenario and three alternatives, developed for planning purposes. These scenarios are built around both known and prospective Regional Haze compliance requirements for specific coal generating units in PacifiCorp's fleet.<sup>70</sup> Assumed inter-temporal and fleet trade-off compliance alternatives, whether built around known or prospective Regional Haze compliance requirements, represent potential scenarios that might, pending agency support, achieve an appropriate balance of economic justification for PacifiCorp's customers and emissions reductions contributing to long-term visibility improvements in affected Class I areas. Table 7.2 summarizes Regional Haze compliance requirements for each of the four scenarios used during the 2015 IRP portfolio development process.

**Table 7.2 – State 111(d) Emission Rate Assumptions**

| Coal Unit*      | Reference          | Scenario 1         | Scenario 2         | Scenario 3         |
|-----------------|--------------------|--------------------|--------------------|--------------------|
| Dave Johnston 1 | Shut Down Dec 2027 | Shut Down Mar 2019 | Shut Down Mar 2019 | Shut Down Dec 2027 |
| Dave Johnston 2 | Shut Down Dec 2027 | Shut Down Dec 2027 | Shut Down Dec 2023 | Shut Down Dec 2027 |
| Dave Johnston 3 | SCR Mar 2019       | Shut Down Dec 2027 | Shut Down Dec 2027 | Shut Down Dec 2027 |
| Dave Johnston 4 | Shut Down Dec 2027 | Shut Down Dec 2032 | Shut Down Dec 2032 | Shut Down Dec 2027 |
| Hunter 2        | SCR Dec 2021       | Shut Down Dec 2032 | Shut Down Dec 2024 | Shut Down Dec 2032 |
| Huntington 1    | SCR Dec 2022       | Shut Down Dec 2036 | Shut Down Dec 2024 | SCR Dec 2022       |
| Huntington 2    | SCR Dec 2022       | Shut Down Dec 2021 | Shut Down Dec 2021 | Shut Down Dec 2029 |
| Jim Bridger 1   | SCR Dec 2022       | Shut Down Dec 2023 | Shut Down Dec 2023 | SCR Dec 2022       |
| Jim Bridger 2   | SCR Dec 2021       | Shut Down Dec 2032 | Shut Down Dec 2028 | SCR Dec 2021       |
| Wyodak          | SCR Mar 2019       | Shut Down Dec 2039 | Shut Down Dec 2032 | Shut Down Dec 2039 |

\*Common to all scenarios: Carbon 1&2 shut down 2015; Colstrip 3&4 SCR 2023/2022, respectively; Craig 1&2 SCR 2021/2018, respectively; Hayden 1&2 SCR 2015/2016, respectively; Naughton 1&2 shut down 2029; Naughton 3 gas conversion 2018, shutdown 2029; Hunter 1&3 SCR 2021/2024, respectively; and Bridger 3&4 SCR 2015/2016, respectively.

### Wholesale Electricity and Natural Gas Forward Prices

Three different wholesale electricity and natural gas forward price curve assumptions are used in core case definitions, a base case and two scenarios.<sup>71</sup> The base case forward price curve is PacifiCorp's September 2014 official forward price curve (OFPC), the most current official forward price curve available at the time 2015 IRP modeling was initiated. PacifiCorp's OFPC is derived using a combination of forward market observations, a transition period between market and fundamentals, and a fundamentals-based forecast.

The front 72 months of the OFPC represents where the forward market was trading at market close for a given trading day. For the September 2014 OFPC, prices over the front 72-months are based on market forwards as of September 30, 2014. The blending period of the FPC (months 73 through 84) is calculated by averaging the month-on-month market-based price from the prior year with the month-on-month fundamentals-based price from the subsequent year. The fundamentals portion of the natural gas OFPC is based upon recent third-party price forecasts. PacifiCorp reviews third party natural gas price forecasts each time it updates the OFPC, which occurs at least quarterly. PacifiCorp uses the third party natural gas price forecast in Aurora, an

<sup>70</sup> Detailed financial analysis of coal units with known Regional Haze compliance deadlines and implementation timelines for compliance alternatives that would require emission control retrofit decisions be made in the next two to four years, thereby falling within the 2015 IRP action plan window, is presented in Volume III of the 2015 IRP.

<sup>71</sup> Additional price curve scenarios, described later in Chapter 7, are used to evaluate stochastic risk of each portfolio with Planning and Risk.