

2017 INTEGRATED RESOURCE PLAN Volume I

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During the final screening process, the results of any further resource portfolio developments are ranked by risk-adjusted mean PVRR, the primary metric used to identify top performing portfolios. Portfolio rankings are reported for the low, base, and high price curve scenarios under both CPP scenarios. The average portfolio rank among each of the price curve scenarios is also produced. Resource portfolios with the lowest risk-adjusted mean PVRR receive the highest rank. Final screening also considers system cost PVRR data from SO and other comparative portfolio analysis. At this stage, PacifiCorp reviews additional stochastic metrics from PaR looking to identify if expected and upper-tail ENS results and CO₂ emissions results can be used to differentiate portfolios that might be closely ranked on a risk-adjusted mean PVRR basis.

Case Definitions

Case definitions specify a combination of planning assumptions used to develop each unique resource portfolio during the resource portfolio development step of each screening stage. Regional Haze cases provide a range of compliance alternatives detailing coal unit retirement strategies. Core cases include combinations of alternative assumptions tailored to target specific resource technologies and that promotes resource diversity. Sensitivity cases isolate the impact to resource portfolio and system costs when modifying a single assumption. The resource portfolio and system cost data from sensitivity cases are compared to a benchmark case portfolio appropriate to the timing and needs of the sensitivity.

Regional Haze Case Definitions

Seven Regional Haze compliance scenarios were developed for planning purposes (the ‘reference’ case plus Regional Haze cases 1 through 6). In addition to analyzing known and prospective Regional Haze compliance requirements, PacifiCorp’s portfolio development process incorporates compliance cost assumptions related to the Mercury and Air Toxics Standard (MATS), coal combustion residuals (CCR), effluent limit guidelines (ELG), and cooling water intake structures as may be required under the Clean Water Act (CWA).

Each Regional Haze case considered in the portfolio development process drives the timing and magnitude of run-rate capital and operations and maintenance costs for each individual coal unit in PacifiCorp’s fleet. For instance, if a specific Regional Haze case assumes an early retirement for a given coal unit as part of a compliance plan, the run-rate operating costs for that unit are customized to reflect the assumed early closure date. This can include changes to the timing of planned maintenance throughout the twenty year planning horizon and avoidance of future costs related to known or assumed MATS, CCR, ELG or CWA compliance requirements, as applicable. If it poses a reasonable scenario, a given coal plant may continue operating until end-of-life, retire in an earlier year, convert to gas plant operations, or undergo a selective catalytic reduction (SCR) retrofit to continue operations with reduced emissions.

Regional Haze Case 6 is an endogenous retirement case, created in response to stakeholder feedback received during the public input process. The endogenous retirement case differs in approach from the designated retirement strategies embodied in the reference case and Regional Haze cases 1 through 5. Specifically, under Regional Haze Case 6:

- SO is configured to choose early retirement or SCR installation as competitive compliance outcomes.
- Cost impacts of early retirement alternatives are approximated for the following coal units: Hunter 1, Hunter 2, Huntington 1, Huntington 2, Jim Bridger 1, and Jim Bridger 2.
- Cost impacts assume that early retirement, if chosen by SO, occurs at the end of the month prior to the month SCR equipment would otherwise be installed.

Individual unit outcomes under any Regional Haze compliance case will ultimately be determined by ongoing rulemaking, results of litigation, and future negotiations with state and federal agencies, partner plant owners, and other vested stakeholders. While the Regional Haze case definitions represent a range of strategic paths to be evaluated, no individual unit commitments are being made at this time.

Table 7.10 summarizes Regional Haze case key assumptions for the seven compliance scenarios. The 2015 IRP Update assumptions are also included for reference.

Table 7.10 - Regional Haze Case Assumptions

Plant	2015 IRP Update (Pref. Port.)	2017 IRP (Ref. Case)	2017 IRP (Alt. Case RH-1)	2017 IRP (Alt. Case RH-2)	2017 IRP (Alt. Case RH-3)	2017 IRP (Alt. Case RH-4)	2017 IRP (Alt. Case RH-5)	2017 IRP (Alt. Case RH-6)
Hunter 1	SCR 2021 Ret. 2042	SCR 2021 Ret. 2042	No SCR;NO _x + 2021 Ret. 2042	No SCR Ret. 2031	No SCR;NO _x + 2026 Ret. 2042	SCR 2021 ⁽¹⁾ Ret. 2042	RH-1	SCR 8/4/2021 Ret 7/31/2021
Hunter 2	No SCR Ret. 2032	SCR 2021 Ret. 2042	No SCR;NO _x + 2021 Ret. 2042	No SCR Ret. 2031	No SCR;NO _x + 2027 Ret. 2042	No SCR;NO _x + 2027 ⁽¹⁾ Ret. 2042	RH-1	SCR 8/4/2021 Ret 7/31/2021
Huntington 1	SCR 2022 Ret. 2036	SCR 2021 Ret. 2036	No SCR Ret. 2036	No SCR Ret. 2036	No SCR;NO _x + 2026 Ret. 2036	SCR 2021 ⁽²⁾ Ret. 2036	RH-1	SCR 8/4/2021 Ret 7/31/2021
Huntington 2	No SCR Ret. 2029	SCR 2021 Ret. 2036	No SCR Ret. 2036	No SCR Ret. 2036	No SCR;NO _x + 2027 Ret. 2036	No SCR;NO _x + 2027 ⁽²⁾ Ret. 2036	RH-1	SCR 8/4/2021 Ret 7/31/2021
Jim Bridger 1	SCR 2022 Ret. 2037	SCR 2022 Ret. 2037	No SCR Ret. 2032	No SCR Ret. 2024	No SCR Ret. 2028	No SCR;NO _x + 2022 ⁽¹⁾ Ret. 2032	RH-3	SCR 12/31/2022 Ret 12/30/2022
Jim Bridger 2	SCR 2021 Ret. 2037	SCR 2021 Ret. 2037	No SCR Ret. 2035	No SCR Ret. 2028	No SCR Ret. 2032	SCR 2021 ⁽¹⁾ Ret. 2037	RH-3	SCR 12/31/2021 Ret 12/30/2021
Naughton 3	No Gas Conv. Ret. 2017	Gas Conv. 2019 ⁽³⁾ Ret. 2029	No Gas Conv. Ret. 2017	Gas Conv. 2019 ⁽³⁾ Ret. 2029	No Gas Conv. Ret. 2017	Gas Conv. 2019 ⁽³⁾ Ret. 2029	RH-2	No Gas Conv. Ret. 2017
Cholla 4	No Gas Conv. Ret. Apr-2025	Gas Conv. 2025 Ret. 2042	No Gas Conv. Ret. Apr-2025	No Gas Conv. Ret. 2020	No Gas Conv. Ret. Apr-2025	No Gas Conv. Ret. Apr-2025	RH-2	No Gas Conv. Ret. Apr-2025
Craig 1	SCR 2021 Ret. 2034	No SCR Ret. 2025	No SCR Ret. 2025	Gas Conv. 2023 ⁽⁴⁾ Ret. 2034	No SCR Ret. 2025	No SCR Ret. 2025	RH-1	No SCR Ret. 2025

¹ The Alternative Regional Haze cases for Hunter units 1 and 2 and Jim Bridger units 1 and 2 have been developed for analysis purposes only with consideration given to the fact that the emissions profiles for the units are effectively identical in the Regional Haze context. The compliance actions in this scenario could effectively be swapped and provide the same Regional Haze compliance outcome. The matrix presentation of different compliance actions between the units is necessary for analysis data preparation, but does not dictate or represent pre-determined individual partner plant owner strategies or preferences or individual unit strategies or preferences.

² The Alternative Regional Haze cases for Huntington 1 and 2 have been developed for analysis purposes only with consideration given to the fact that the emissions profiles for the units are effectively identical in the Regional Haze context. The compliance actions for the units in this scenario could effectively be swapped and provide the same Regional Haze compliance outcome. The matrix presentation of different compliance actions between the units is necessary for analysis data preparation, but does not dictate or represent pre-determined individual unit strategies or preferences.

³ Naughton 3 will cease coal fueled operation by year-end 2017, under this scenario.

⁴ Craig 1 will cease coal fueled operation by end of August 2023, under this scenario.