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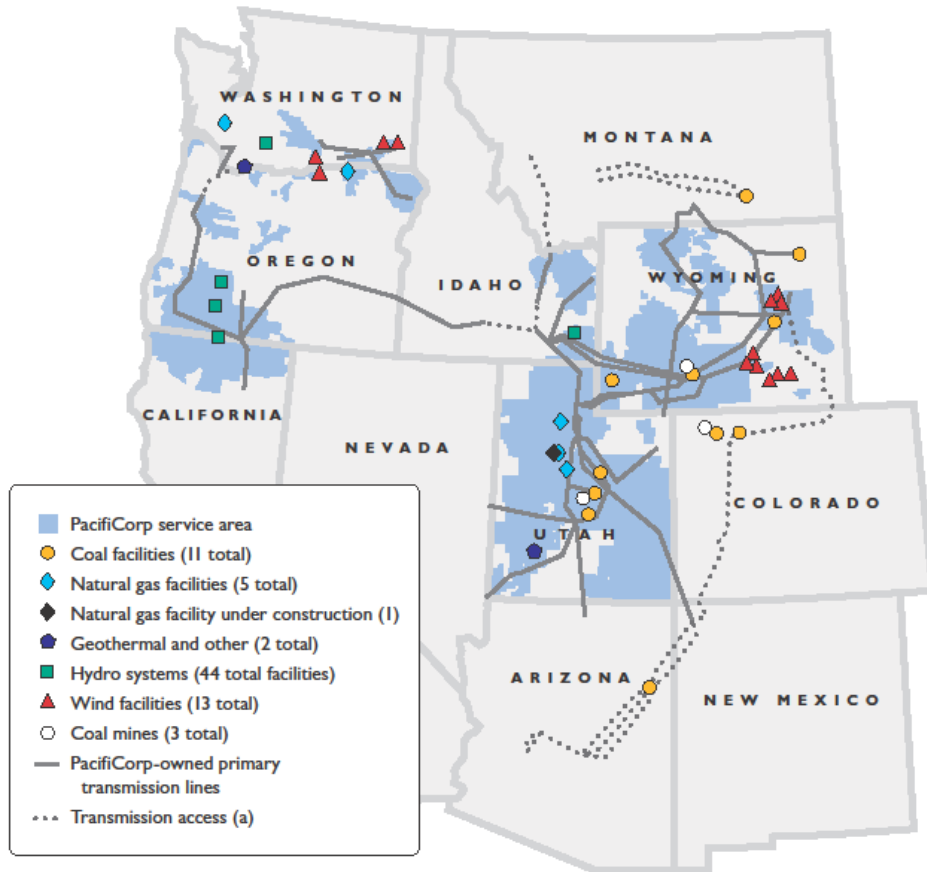
*Interim Environment, Energy & Technology Committee
Discussion*

September 11, 2013



Let's turn the answers on.

System Overview



- ❖ Headquartered in Portland, Oregon
- ❖ 6,300 employees
- ❖ 1.8 million electricity customers
- ❖ 136,000 square miles of service territory
- ❖ 11,224 net MW generation capacity⁽¹⁾
- ❖ Generating capacity by fuel type⁽¹⁾
 - Coal 55%
 - Natural gas 25%
 - Hydro⁽²⁾ 10%
 - Wind, geothermal and other⁽²⁾ 10%

(a) Access to other entities' transmission lines through wheeling arrangements

(1) Net owned megawatts in operation and under construction as of Dec. 31, 2012
 (2) All or some of the renewable energy attributes associated with generation from these generating facilities may be: (a) used in future years to comply with renewable portfolio standards or other regulatory requirements or (b) sold to third parties in the form of renewable energy credits or other environmental commodities

Environmental Regulations – Regional Haze

- ❖ The Regional Haze Rules were developed as a long-term program to achieve natural visibility conditions in specific national parks and wilderness areas by 2064. The Regional Haze Rules are not a health-based standard.
- ❖ Initial planning period focuses on application of Best Available Retrofit Technologies (BART) to control sources of haze-causing emissions from units constructed between 1962 and 1977
- ❖ PacifiCorp operates or has an ownership interest in 26 coal-fueled units; 19 of those units are BART-eligible
- ❖ PacifiCorp will be wholly or partially responsible for installation of 12 selective catalytic reduction (SCR) system retrofits, 2 selective non-catalytic reduction (SNCR) system retrofits, and installation of low-NO_x burners at three units – all within the next 5 to 8 years – if EPA finalizes Regional Haze actions as currently proposed
- ❖ These requirements do not include PacifiCorp's 4 BART-eligible units in Utah, which EPA has yet to address
- ❖ Long term compliance requirements will affect not only BART-eligible units, but also units like Dave Johnston Units 1 and 2, Hunter Unit 3, and Colstrip Units 3 and 4

Regional Haze Compliance - Wyoming

Comparison of Wyoming SIP and EPA FIP Proposals

Unit	Unit Capacity (MW)	Wyoming Regional Haze SIP Technology	EPA 2012 Proposal Technology	EPA 2013 Re-Proposal Technology
Naughton 1	156	LNB	LNB	SCR (within 5 years)
Naughton 2	201	LNB	LNB	SCR (within 5 years)
Naughton 3	330	SCR/BH (12/31/14)	SCR/BH (12/31/14)	SCR/BH (12/31/14)
Jim Bridger 1	531	SCR (12/31/22)	SCR (within 5 years)	SCR (12/31/22)
Jim Bridger 2	527	SCR (12/31/21)	SCR (within 5 years)	SCR (12/31/21)
Jim Bridger 3	523	SCR (12/31/15)	SCR (12/31/15)	SCR (12/31/15)
Jim Bridger 4	530	SCR (12/31/16)	SCR (12/31/16)	SCR (12/31/16)
Dave Johnston 1	106	LNB*	LNB (7/31/18)	LNB (7/31/18)
Dave Johnston 2	106	LNB*	LNB (7/31/18)	LNB (7/31/18)
Dave Johnston 3	220	LNB	SNCR (within 5 years)	SCR (within 5 years)
Dave Johnston 4	330	LNB	LNB	SNCR (within 5 years)
Wyodak	335	LNB	SNCR (within 5 years)	SNCR (within 5 years)

* Wyoming Regional Haze SIP contemplates low-NO_x burners would be installed at Dave Johnston Units 1 and 2 by the end of 2018. However, changes to the Wyoming Air Quality regulations are required before the state can mandate the controls.

Regional Haze Emissions Reductions and Costs

- ❖ Emissions reductions under the Utah and Wyoming Regional Haze programs began in 2005
- ❖ \$900 million of capital expenditures between 2005 and 2012 in Wyoming alone; resulting in NO_x, SO₂ and PM emissions reductions of 52% between 2005 and 2012
- ❖ In addition, approximately \$900 million (\$600 million in Wyoming) remains to be spent from 2013 through 2022 on Regional Haze projects currently required by approved state and federal implementation plans (including partner plants)
- ❖ The additional emissions controls required by the re-proposed EPA Regional Haze federal implementation plan in Wyoming will provide imperceptible visibility improvements at a cost in excess of \$300 million
- ❖ This amount does not address any future EPA action at the four BART-eligible units in Utah, despite the expenditure of approximately \$400 million to date to comply with Utah Regional Haze requirements

Other Emissions Regulations

- ❖ Mercury and Air Toxics Standards (MATS)
 - Rule proposed in March 2011; final rule released December 21, 2011
 - Compliance deadline April 16, 2015
 - Currently being litigated at the federal level

- ❖ National Ambient Air Quality Standards (NAAQS)
 - One-hour NO_x standard final in January 2010; EPA expects to re-designate attainment areas based upon expanded ambient monitoring network by 2017
 - One-hour SO₂ standard final in June 2010; EPA continues to work on attainment area designations which were due by June 2012; state implementation plans (SIPs) to address non-attainment areas due by early 2014, with compliance deadline no later than August 2017
 - Fine particulate (PM_{2.5}) standard notification in May 2010 from EPA to states failing to submit compliant SIPs (including UT and WY)
 - Ozone standard to be readdressed in 2013 pursuant to President Obama's September 2011 directive to EPA; currently expect proposal in December 2013 and final standard by September 2014

Other Environmental Regulations (Ash/Water)

❖ Coal Combustion Residuals (CCR)

- Rule proposed by EPA in 2010
- EPA action on public comments not expected until 2014
- Fleetwide proxy Subtitle D CCR compliance projects are incorporated into system planning, pending final rulemaking

❖ Clean Water Act §316(b)

- Rule proposed by EPA in 2011
- Final rule to be issued by June 2013
- Fleetwide proxy Clean Water Act §316(b) intake compliance projects are incorporated into system planning, pending final rulemaking

❖ Effluent Guidelines

- Rule proposed by EPA in 2013
- Final rule to be issued by May 2014
- Proxy compliance projects not yet incorporated into current system planning, pending further rulemaking progress



Greenhouse Gas Regulation

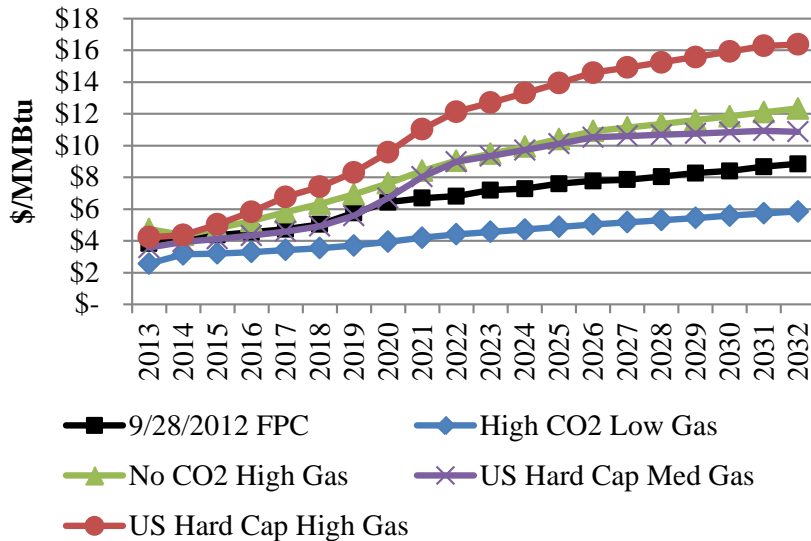
- ❖ Greenhouse gas New Source Performance Standards (NSPS) for new fossil-fueled electric generating units proposed in April 2012 at a level of 1000 lbs/MWh; to be re-proposed in September 2013 pursuant to President Obama's Climate Action Plan unveiled on June 25, 2013
- ❖ President's Climate Action Plan includes a timetable for EPA to regulate carbon dioxide emissions from power plants
- ❖ EPA to publish a new proposed rule regulating carbon dioxide emissions from new power plants by September 20, 2013, and to finalize the rule in a "timely fashion"
- ❖ EPA to publish a new proposed rule regulating carbon dioxide emissions from existing power plants by June 1, 2014, and to finalize the rule by June 1, 2015
- ❖ The final rule for existing sources is to include a requirement that states submit implementation plans to the EPA no later than June 30, 2016
- ❖ The re-proposed greenhouse gas NSPS for new sources will set the stage for legal reviews of Clean Air Act §111(d) applicability to existing sources

2013 IRP Highlights – Planning Environment

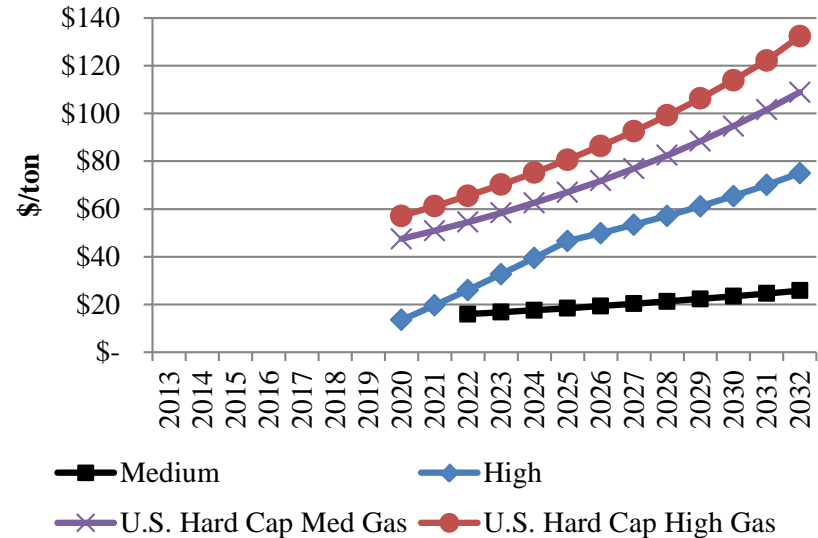
- ❖ The IRP provides a framework for actions the Company will take for our customers
- ❖ Customer energy use is down, growth in demand has slowed
- ❖ With reduced loads, two-thirds of our customers' incremental energy needs can be met with energy efficiency over the next 10 years
- ❖ With low market prices, firm purchases supplement energy efficiency resources – no major new generating resource until 2024
- ❖ Alternatives to incremental environmental investments in existing coal units are considered in the development of candidate resource portfolios
 - Early retirement
 - Conversion to natural gas

2013 IRP Resource Portfolio Development

Nominal Average Annual Henry Hub Gas Prices



Nominal CO2 Prices



- ❖ Varying combinations of price, policy, and technology assumptions
 - Commodity prices (natural gas, power, coal, and CO₂)
 - Environmental policy
 - Renewable portfolio standards (RPS)
 - Coal unit environmental investments
 - Resource technology cost and performance
- ❖ 19 core case definitions, 5 Energy Gateway transmission scenarios (94 portfolios)

Carbon Plant Status

- ❖ Key environmental compliance drivers
 - Mercury and Air Toxics Standards (MATS)
 - National Ambient Air Quality Standards (NAAQS)
 - Regional Haze Rules (long term strategy)
 - Coal Combustion Residuals Rulemaking
 - Clean Water Act §316(b)
 - Plant Effluent Guidelines

- ❖ Compliance with MATS rules is anticipated to result in retiring the Carbon units in 2015

- ❖ The location of the facility in a narrow canyon limits available compliance options and negatively impacts air dispersion modeling results

- ❖ Gas repower option would require extensive gas line build through canyon terrain as well as installation of emissions control equipment; not economically viable; not expected to be capable of demonstrating compliance with NAAQS



Naughton Unit 3 Status

- ❖ Key environmental compliance drivers
 - Regional Haze Rules
 - Coal Combustion Residuals Rulemaking
 - Clean Water Act §316(b)
 - Plant Effluent Guidelines
- ❖ Wyoming and EPA Regional Haze plans require SCR and baghouse addition by December 31, 2014
- ❖ A construction permit has been obtained from the state of Wyoming to convert the unit to natural gas in 2018 as an alternate compliance approach
- ❖ EPA has requested comments on the state of Wyoming's approved alternate compliance approach
- ❖ Competitive market request for proposals is proceeding for the natural gas conversion in 2015, in the event EPA does not approve state of Wyoming's approved approach



Questions