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2023 IRP UPDATE DRAFT

The 2023 Integrated Resource Plan (IRP) Update draft reflects changes to the planning environment and assumption updates that have occurred since the Amended Final 2023 IRP was filed on May 31, 2023. PacifiCorp highlights these changes relative to the 2023 IRP conditions and assumptions impacting the 2023 to 2042 planning horizon. Key changes include the stay of the Ozone Transport Rule (OTR) by the United States Court of Appeals for the Tenth Circuit, the suspension of the 2022 All-Source Request for Proposals (2022 All-Source RFP), extensions to the assumed operational life of new natural gas generating resources to reflect capability to convert to alternative fuels in the future (such as green hydrogen), storage acquisition strategy, forecast load demand, and price updates. This draft also includes proposed variants for analysis in the final 2023 IRP Update anticipated to be published on April 1, 2024.

The IRP Update serves a fundamentally different role as compared to a full IRP. The intent of the IRP Update is primarily to provide a checkpoint on the 2023 IRP outcomes, examining the impacts of changes to fundamentals such as load and price. Additional considerations are represented based on the specifics of a given IRP cycle but remain necessarily limited in scope and restricted to updated data points wherever possible. As an update, the development of this document will not seek to re-evaluate IRP methodologies, embedded reports, or assumptions except as necessary to indicate the need for course corrections in the next IRP. The Company's position is that the IRP Update be seen as an extension of the IRP upon which it is based, and not a replacement of that entire IRP. The Company continues to take feedback into account during the development of the IRP Update and on an ongoing basis, including through discussions with stakeholders, IRP data requests, and comments received.

The Company is incorporating key changes in its 2023 IRP Update analysis, including the modeling of near-term resources and the potential impact on resources over the 20-year modeling horizon. Per its intended purpose, the 2023 IRP Update will provide an important illumination of key changes that have occurred since the filing of the 2023 IRP and indicate any needed course corrections. It is also crucial to highlight that the Company is actively working on the 2025 IRP, and the series of public input sessions for its development are already underway. The 2025 IRP is expected to be submitted on March 31, 2025.

In parallel with the modeling updates, the Company has engaged in a bilateral effort to procure commercially viable battery technology by June 1, 2026, to ensure that near-term opportunities to procure system capacity needed for reliable service remain available. The 2023 IRP Update will provide new direction on resource needs spanning the timeframe of the 2022AS RFP and indicate the appropriate next steps.

Planning Environment, Assumptions, and Drivers

Key changes from the time of the 2023 IRP filing to now include:

- System Coincident Peak Load Forecast
- Natural Gas and Power Market Price Updates

- Stay of the Ozone Transport Rule
- Suspension of the 2022 All-source RF
- Supply Side Resources
- Front Office Transactions
- Transmission Options
- Contracts

System Coincident Peak Load Forecast

The 2023 IRP Update relies on PacifiCorp’s May 2023 load forecast. The May 2023 forecast is the most current forecast available. Figure 1 shows that PacifiCorp’s load forecast, before incremental energy efficiency savings, has decreased over the 2024 to 2027 timeframe and increased from 2028 and on relative to projected loads used in the 2023 IRP. In the near-term, lower projected demand from data centers results in a lower forecast, while data center expectations over the long-term result in a higher forecast. On average, forecasted system load is up 1.0 percent and forecasted coincident system peak is up 1.2 percent over the 20-year planning horizon when compared to the 2023 IRP. Over the planning horizon, the average annual growth rate, before accounting for incremental energy efficiency improvements, is 2.09 percent for load and 1.71 percent for peak.

Figure 1 – Forecasted Annual Load (GWh) (Before Incremental Energy Efficiency Savings)

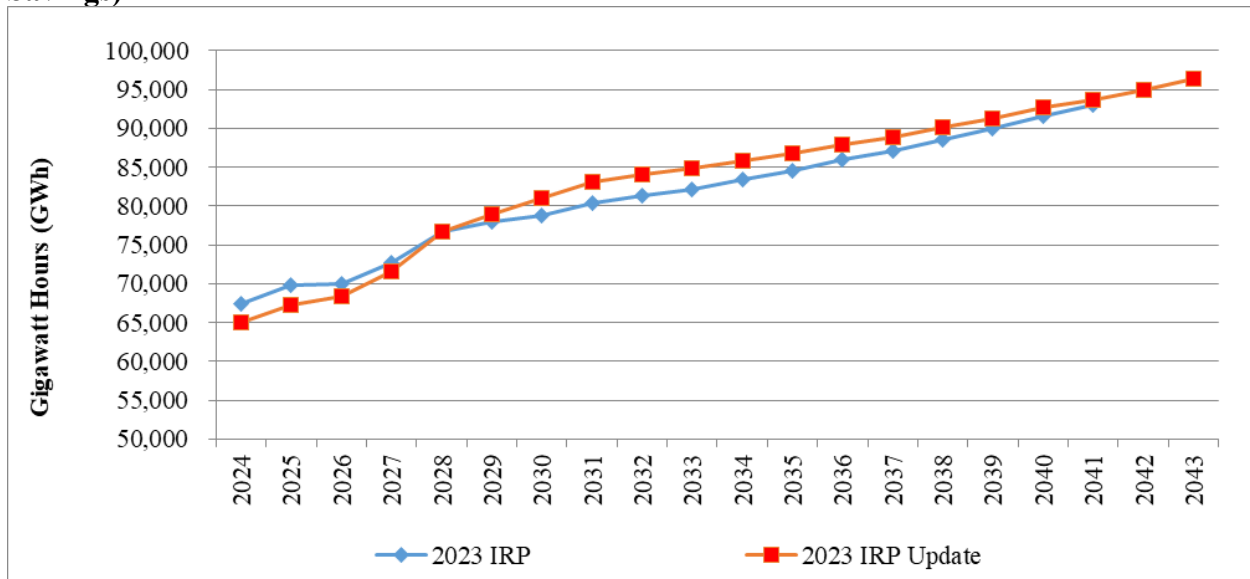
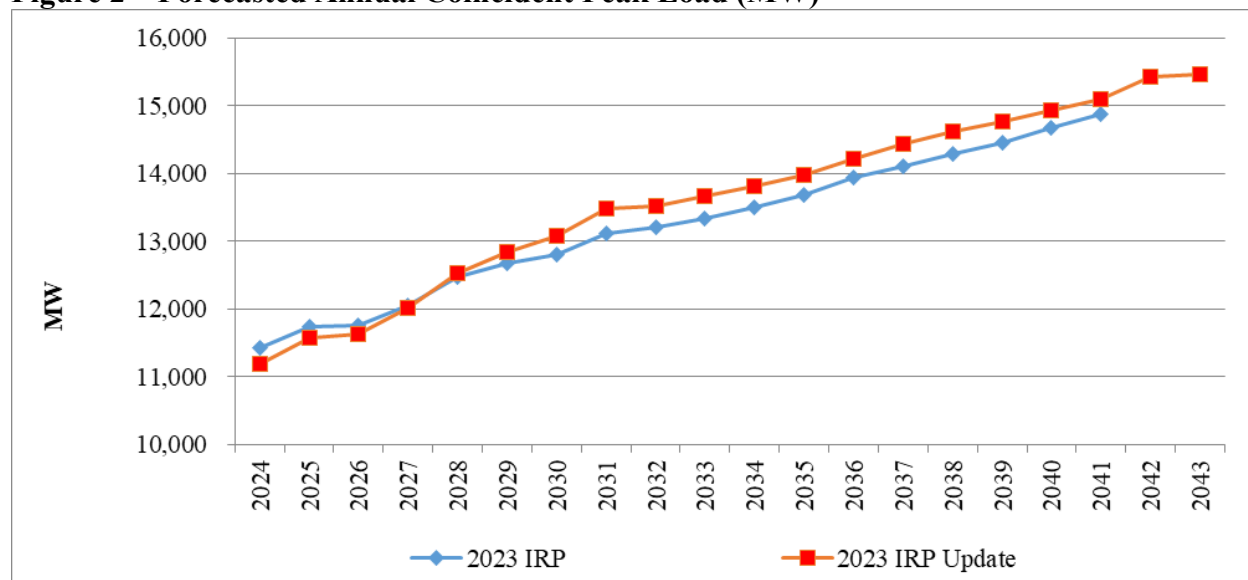


Figure 2 – Forecasted Annual Coincident Peak Load (MW)

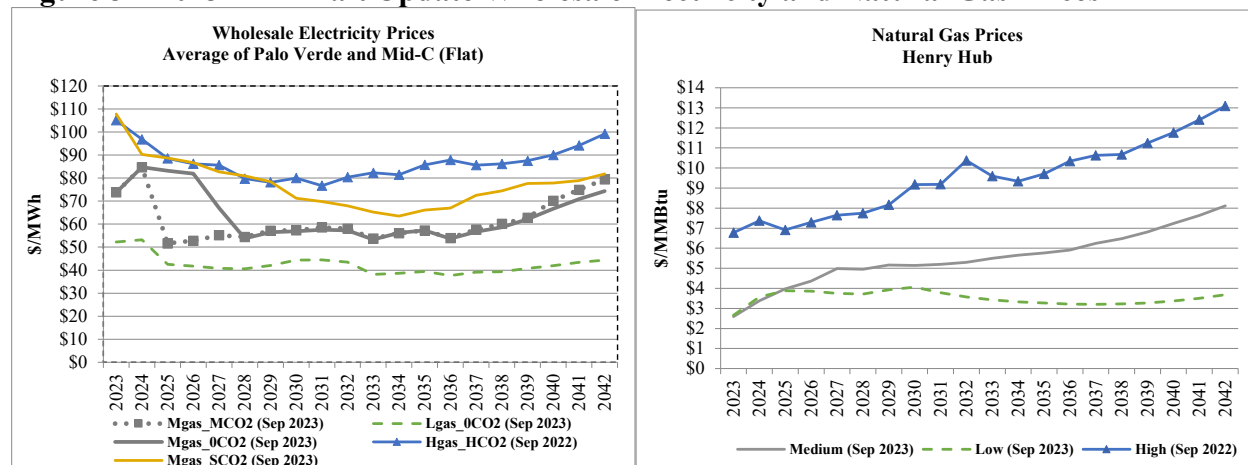


Natural Gas and Power Market Price Updates

Portfolio modeling for the 2023 IRP Update is being prepared using five market price forecasts that have been updated since the 2023 IRP. This includes the official forward price curve (OFPC) and four scenarios. PacifiCorp’s September 30, 2023, official forward price curve (OFPC) is used to represent medium natural gas price assumptions with no CO₂ prices for the “MN” price-policy scenario. Aligned with the 2023 IRP, the 2023 IRP Update medium case will assume a medium CO₂ price starting in 2025. This medium CO₂ price serves as a proxy for a potential future policy that imposes a cost on resources that emit CO₂.

Figure 3 summarizes the five wholesale electricity price forecasts and three natural gas price forecasts used in the base and variant studies for the 2023 IRP Update. As continues to be shown, power prices are higher in the near term. All five power price scenarios trend higher beginning in different years in forecast, but generally escalate at different increasing rates. Natural gas prices start low then grow at different escalation rates depending on the scenario.

Figure 3 – 2023 IRP Draft Update Wholesale Electricity and Natural Gas Prices



Stay of the Ozone Transport Rule

The Ozone Transport Rule was new to the 2023 IRP and was also a driver for coal-to-gas conversions because the rule impacted the operation of the coal units in Utah. The final rule released shortly before the 2023 IRP was finalized had emissions allowance requirements starting in 2027, with major emissions reductions in 2030. The inclusion of these limits led to accelerated coal closure dates at the Hunter and Huntington plants in Utah and increased the benefits from gas conversions at Wyoming coal resources since nitrous oxide emissions (a precursor to ozone) from these natural gas resources produces are lower than nitrous oxide emissions from coal-fired resources. On July 27, 2023, after the submission of the 2023 Integrated Resource Plan (IRP), the United States Court of Appeals for the Tenth Circuit issued a stay on the U.S. Environmental Protection Agency’s Ozone Transport Rule. In general, there is the possibility that coal and gas will be able to operate with a higher capacity factor in the summer, especially during the study’s early years when proxy renewable resources are more costly than they become later in the 20-year planning horizon.

The 2023 IRP Update will evaluate the impact of this ruling on Utah's emitting resources.

Suspension of the 2022 All-Source RFP

The decision to suspend the 2022 All-Source RFP was made on September 29, 2023—after the 2023 IRP had already been filed. The decision to suspend was taken for multiple reasons, all with the intent to ensure that our procurement decisions are based on the most up-to-date information and in the best interests of our customers, while also considering the evolving market conditions and other pertinent factors: (1) A federal court’s stay of the U.S. Environmental Protection Agency’s proposed Ozone Transport Rule; (2) Ongoing rulemaking by the EPA regarding greenhouse gas emissions, with impacts on our system to be determined; (3) Wildfire risk and associated liability across our six-state service area and throughout the West; and (4) Evolving extreme weather risks that necessitate further decision-making regarding PacifiCorp’s operational and resource requirements.

Circumstances may evolve post-submission, potentially affecting the Company’s near-term procurement strategies. As such, IRP action plans are intended to be dynamic, not rigid mandates. They are designed to guide the Company’s procurement strategies while allowing for

deviations as circumstances change. Adhering to an action plan without accounting for changes in circumstances, may lead to procurement decisions that do not align with the best interests of our customers. Ultimate procurement decisions are then assessed for prudence in a general rate case. Therefore, IRP action plans shall maintain flexibility to accommodate any unforeseen developments that occur after submission. In line with this approach, the Company expects to file an updated IRP Action Plan on April 1, 2024, to account for changes in circumstances that have arisen since the plan's initial submission, including the suspension of the 2022 All-Source RFP.

Supply Side Resources

Natural Gas

In the 2023 IRP, proxy natural gas resources were given an assumed economic life of 10 years, reflecting the risk that plants fueled by natural gas would need to be out of rates or would otherwise have future policies limiting their effective use. In the 2023 Update, it is assumed that new gas resources will be convertible to alternative fuels such as green hydrogen or green ammonia in the future. Accordingly, it was deemed most appropriate to model these resources using economic and technical lives. The risk of early closures and derates due to emissions is mitigated by the ability to switch to non-emitting fuel sources at any future point in time.

Peaking Type Resources

Related to the natural gas discussion, above, in the 2023 IRP new proxy peaking units were assumed to be non-emitting. In the 2023 IRP Update, peaking units will be selected based on natural gas fueling assumptions. Ultimately the 2023 IRP Update is expected to have no preference on fuel type but merely acknowledges the value of peaking type units.

Demand-Side Management

PacifiCorp evaluates new demand-side management (DSM) opportunities, which include both energy efficiency and demand response programs, as a resource that competes with traditional new generation and wholesale power market purchases when developing resource portfolios for the IRP. The optimal determination of DSM resources therefore results in the selection of cost-effective DSM as a core function of IRP modeling. As in the 2023 IRP, DSM selections for Washington in the 2023 IRP Update will be an exception, selected based on the social cost of carbon price-policy scenario used to replace Washington selections originally calculated for the optimal medium-medium price policy portfolio. The 2023 Update preferred portfolio will include this replacement of Washington DSM.

Front Office Transactions

Front office transaction limits were held constant with the 2023 IRP. Although PacifiCorp's understanding of likely market purchase availability is evolving with the emergence of Western Region Adequacy Program relationships with other utilities, as well as the expansion of regional energy markets, it was deemed most prudent to keep these assumptions the same in the 2023 IRP Update as they were in the 2023 IRP.

Contracts

PacifiCorp continually updates and negotiates with contracted facilities. The most current contracted resources, as of January 1, 2024, are being used for the IRP update. Given timing this is the last update to contracted resources that will be made for the update. Between the 2023 IRP and the 2023 IRP Draft Update, PacifiCorp has signed an additional 13 megawatts of small Oregon Community Solar Projects that will be reflected in the 2023 IRP Update.

Transmission Option Updates

The 2023 IRP Update will change the way most transmission projects are modeled. Transmission projects do not have to be selected as binary all-or-nothing projects but can be dynamically selected in any size from zero to 100 percent of a line. For local area upgrades, this correlates more closely to real-world cluster project transmission and funding where (as an example) 30% of the cluster chooses to move forward and the balance withdraws. When considering incremental lines, given the far future timelines for those items, this modeling provides appropriate flexibility considering permitting nuances and the complex nature of transmission approvals. The selection of a portion of an incremental transmission line in the distant future signals that this transmission option has value to the system and warrants further study to determine the best sizing and timing of the line.

Additional Portfolios

Price-Policy Scenarios

Table 1 - Price-Policy Case Definitions

Case Type ^(a)	Price-Policy	Existing Coal ^(b)	Existing Gas ^(b)	Other Existing Resources	Proxy Resources ^(c)
P	MM	Optimized	Optimized	End of Life	All allowed
P	MN	Optimized	Optimized	End of Life	All allowed
P	LN	Optimized	Optimized	End of Life	All allowed
P	HH	Optimized	Optimized	End of Life	All allowed
P	SC	Optimized	Optimized	End of Life	All allowed

(a) “P” refers generically to “portfolio”. Studies are named in the format “P-MM”, for example, meaning the initial portfolio run under medium natural gas, medium carbon price assumptions.

(b) Thermal coal and gas resources are endogenously optimized for retirements, conversions and technology installations.

(c) Optimized proxy portfolio selections include renewables, off-shore wind, storage, natural gas, transmission, DSM, purchases and sales, etc.

Price-policy portfolios are fully optimized using the best available input data and assumptions regarding requirements and constraints. The P-MM case represents a reasonably likely future that assumes medium gas prices and a medium CO₂ price proxy for future emissions policies that might impose a cost on resources that emit CO₂. In this series, coal and natural gas retirement timing is optimized, whereas other existing resources are assumed to operate through end of life; contracts expire at the end of their term. Based on the logic of optimization modeling, P-series cases are expected to perform well compared to other case types within the same price-policy environment assumptions given that the models will have the most latitude to find a low-cost portfolio solution.

Variants

Certain additional cases are anticipated to be developed from the expected case (P-MM) as described above to evaluate the impacts of specific future scenarios not considered elsewhere. The proposed cases are as follows:

Table 2 - 2023 IRP Update Case Study Plan

Case Name	Description
MM Base	Endogenous selections under expected conditions
MM CCUS	Variant of the MM Base to evaluate cost and risk
MM Nuclear	Variant of the MM Base to evaluate cost and risk
MM Utah OTR starting 2027	Evaluates the next most probable outcome of OTR rules
MN Base	Endogenous selections under MN conditions
SC Base	Endogenous selections under SC conditions
LN Base	Endogenous selections under LN conditions
HH Base	Endogenous selections under HH conditions
Washington CETA/SC	Demonstrate compliance path and associated cost
Oregon HB 2021	Demonstrate compliance path and associated cost
Oregon Offshore Wind	Variant to the MM Base to evaluate cost and risk