

Attachment C

Draft Washington Utilities and Transportation Commission Compliance Matrix

PacifiCorp 2021 WA IRP Compliance Template [UE-200420]

[¹ CLICK HERE to access referenced version of draft final IRP rule updated as of 12/4/2020.](#)

IRP Content	Rule (WAC) ¹	Requirement	How the Standards and Guidelines are Addressed in the 2021 IRP
Timing	WAC 480-100-625(1) and (4)	Integrated resource plan updated every four years, with a progress report at least every two years.	The PacifiCorp IRP is published every two years with updates in the off cycles. This exceeds Washington State requirements.
Planning horizon	WAC 480-100-620(1)	Unless otherwise stated, all assessments, evaluations, and forecasts comprising the plan should extend over the long-range (e.g., at least ten years; longer if appropriate to the life of the resources considered) planning horizon.	PacifiCorp's 2021 (and prior) IRPs spans a 20 year long-term planning horizon. Additional analysis may extend beyond the 20-year horizon but not in the form of optimization modeling runs, as sufficient data is unavailable, resources insufficient and run times are impractical.
Load forecast	WAC 480-100-620(2)	Plan includes range of forecasts of projected customer demand that reflect effect of economic forces on electricity consumption.	Variant load forecast cases will include High/low load, 1-in-20 load, High/low private generation, and High/no customer preference. Other load variants will be considered on the basis of stakeholder feedback and model outcomes. A discussion of load forecasts will be included in a Load and Resource Balance chapter.
	WAC 480-100-620(2)	Plan includes range of forecasts of projected customer demand that address changes in the number, type, and efficiency of electrical end-uses.	
Demand-side resources, including distributed energy resources (DERs)	WAC 480-100-620(3)(a)	Plan includes load management assessments that are cost-effective and commercially available, including current and new policies and programs to obtain:	The IRP will be informed by robust analysis via Conservation Potential Assessment and related efforts in conjunction with extensive stakeholder participation. This subject is covered in the Load/Resource Balance chapter of the IRP.
	WAC 480-100-620(3)(a)	- all cost-effective conservation, efficiency, and load management improvements;	
	WAC 480-109-100(2)	- ten-year conservation potential used in the concurrent biennial conservation plan consistent with RCW 19.285.040(1);	The IRP will be informed by robust analysis via Conservation Potential Assessment and related efforts in conjunction with extensive stakeholder participation. This subject is covered in the Load/Resource Balance chapter of the IRP. Combined heat and power are addressed as a component of the Private Generation Study, covered in the IRP in the Private Generation Study Appendix.
	WAC 480-100-620(3)(b)	- identification of opportunities to develop combined heat and power as an energy and capacity resource; and - all demand response (DR) at the lowest reasonable cost (LRC).	
	WAC 480-100-620(3)(b)	Plan includes assessments of distributed energy programs and mechanisms pertaining to energy assistance and progress toward meeting energy assistance need, including but not limited to the following: - Energy efficiency and CPA, - Demand response potential, - Energy assistance potential	IRP modeling will optimally select all cost-effective energy efficiency and demand response in each case portfolio as a part of core model functionality. Results are reported for all portfolios in the Modeling and Portfolio Selection Results Chapter.
	WAC 480-100-620(3)(b)	Plan assesses a forecast of distributed energy resources (DER) that may be installed by the utility's customers via a planning process pursuant to RCW 19.280.100(2).	IRP modeling will optimally select all cost-effective energy efficiency and demand response in each case portfolio as a part of core model functionality. Results are reported for all portfolios in the Modeling and Portfolio Selection Results Chapter.
	WAC 480-100-620(3)(b)	Plan includes effect of DERs on the utility's load and operations.	The impacts of DERs on PacifiCorp's utility load and operations will likely be discussed in the Modeling and Portfolio Selection Results Chapter, as well as load/resource balance chapter and in the Private Generation Study.
	WAC 480-100-620(3)(b)	If utility engages in a DER planning process, which is strongly encouraged, IRP should include a summary of the process planning results.	PacifiCorp understands this requirement and will include a summary if applicable.
Supply-side resources	WAC 480-100-620(4)	Plan assesses wide range of conventional generating resources.	storage, wind, natural gas, nuclear, energy efficiency, demand response, pumped storage, co-located facilities and front office transactions, with appropriate variants for each. A comprehensive supply side resource table with more than 100 potential resources Cost and performance data for all resource types is evaluated and entered as a model input for the optimal selection of resources, and will be reported in the Supply Resource Table in the Resource Options Chapter.
	WAC 480-100-620(5)	In making new investments, plan considers acquisition of existing and new renewable resources at LRC.	
	See WA-UTC energy storage policy statement (UE-151069 & UE-161024 consolidated)	Plan assesses energy storage resources.	Energy storage will be represented with multiple options in the Supply Resource Table in the Resource Options Chapter.
	WAC 480-100-620(5)	Plan assesses nonconventional generating, integration, and ancillary service technologies.	Compressed air storage and modular nuclear resources will be represented in the Supply Resource Table in the Resource Options Chapter. All resource types are appropriately subject to integration and ancillary services determination, including transmission upgrade costs, reserve holding capability and additional reserve requirements that are particular to technologies. These factors are inherent to every portfolio optimization run.
	WAC 480-100-620(6)	Plan assesses the availability of regional generation and transmission capacity for purposes of delivery of electricity to customers.	Regional generation is incorporated into market availability and and price forecasts, which will be examined in chapters covering The Planning Environment, Resource Options, and Modeling and Portfolio Evaluation.

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Regional generation and transmission	WAC 480-100-620(6)	Plan assesses utility's regional transmission future needs and the extent transfer capability limitations may affect the future siting of resources.	Regional transmission is represented through markets and region-based price forecasting, while PacifiCorp's transmission system is represented by firm transmission rights and endogenous transmission upgrade options. These factors will be discussed in the Resource Options, and Modeling and Portfolio Evaluation chapter of the IRP.
Resource evaluation	WAC 480-100-620(7)	Plan compares benefits and risks of purchasing power or building new resources.	As a component of core modeling functionality, all competing resources are evaluated to determine each optimal portfolio.
	WAC 480-100-620(7)	Plan compares all identified resources according to resource costs, including:	The comparison of resources on a cost-risk basis is core functionality of PacifiCorp's optimization modeling, which will be described in the chapter on Modeling and Portfolio Evaluation.
	WAC 480-100-620(7)	- transmission and distribution delivery costs;	
	WAC 480-100-620(7)	- risks, including environmental effects and the social cost of GHG emissions;	PacifiCorp's transmission system is represented by firm transmission rights and endogenous transmission upgrade options. Transmission dependencies implying additional resource costs are included in the optimization, resulting in a reasonable comparison of resource costs. These factors will be discussed in the Resource Options, and Modeling and Portfolio Evaluation chapter of the IRP. The Company will conduct a minimum of five SC-GHG cases, each to be evaluated under a range of price-policy conditions and which will compete with other cases for CETA compliance and preferred portfolio selection. The cases evaluated will be described in the Modeling and Portfolio Analysis chapter and detailed further in Appendices.
	WAC 480-100-620(7)	- benefits accruing to the utility, customers, and program participants (when applicable); and	Benefits will be characterized by present value revenue requirement differentials, emissions, reserve and load deficiencies, robustness across stochastic variances and additional factors as may emerge from modeling results. Results will be covered in the chapter Modeling and Portfolio Selection Results, with additional detail provided in IRP appendices.
	WAC 480-100-620(7)	- resource preference public policies adopted by WA State or the federal government.	The preferred portfolio selected in the 2021 IRP process will be compliant with all policy requirements. Policy discussion will be included in chapters on The Planning Environment and Modeling and Portfolio Selection Results.
	WAC 480-100-620(7)	Plan includes methods, commercially available technologies, or facilities for integrating renewable resources, including but not limited to battery storage and pumped storage, and addressing overgeneration events.	Please refer to responses above numbered 7 and 16-19. IRP modeling endogenously considers "overgeneration" in dispatch and curtails resources appropriately. These curtailments are an inherent component of the cost and risk valuation of each portfolio, and is a driver for the optimal size, type and location of selected resources.
	Resource adequacy metrics determination	WAC 480-100-620(8)	Plan assesses and determines resource adequacy metrics.
Resource adequacy requirement identification	WAC 480-100-620(8)	Plan identifies an appropriate resource adequacy requirement.	Addressed within Load/Resource Balance chapter
	WAC 480-100-620(8)	Plan measures corresponding resource adequacy metric consistent with prudent utility practice in eliminating coal-fired generation by 12/31/2025 (RCW 19.405.030), attaining GHG neutrality by 1/1/2030 (RCW 19.405.040), and achieving 100 percent clean electricity WA retail sales by 1/1/2045 (RCW 19.405.050).	This is addressed within Load/Resource Balance, Modeling/Portfolio Evaluation, and Modeling/Portfolio Selection
Economic, health, environmental burdens and benefits, and equity	WAC 480-100-620(9)	Plan reflects the cumulative impact analysis conducted under RCW 19.405.140, and includes an assessment of:	As the cumulative impact analysis is in progress and not available as of January 4, 2021, PacifiCorp will use alternative data sources such as the Washington Tracking Network and the US Census. The cumulative Impact Analysis will be included when available.
	WAC 480-100-620(9)	- energy and nonenergy benefits;	PacifiCorp will analyze energy benefits within selection of the preferred portfolio. Non-energy benefits are included with DSM measures, and additional nonenergy benefits may be qualitatively discussed as part of the environmental cost/benefit section and the public health risk section
	WAC 480-100-620(9)	- reduction of burdens to vulnerable populations and highly impacted communities;	A preliminary identification of burdens to vulnerable and highly-impacted communities will be made through data publicly available through the Washington Tracking Network and the US Census. PacifiCorp will conduct future outreach and consult the cumulative impact analysis to continue to refine this data.
	WAC 480-100-620(9)	- long-term and short-term public health and environmental benefits, costs, and	A preliminary identification of public health and environmental benefits will be made through data publicly available through the Washington Tracking Network and the US Census. PacifiCorp will conduct future outreach and consult the cumulative impact analysis to continue to refine this data.

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	WAC 480-100-620(9)	- long-term and short-term public health and environmental risks; and	A preliminary identification of public health and environmental risks will be made through data publicly available through the Washington Tracking Network and the US Census. PacifiCorp will conduct future outreach and consult the cumulative impact analysis to continue to refine this data.
	WAC 480-100-620(9)	- energy security and risk.	PacifiCorp addresses energy security and risk throughout the IRP, and specifically will address this through the discussion of the preferred portfolio, the planning environment, and throughout the discussion on transmission.
Cases, scenarios, sensitivities	WAC 480-100-620(10)	Utility should include a range of possible future scenarios and input sensitivities for testing the robustness of the utility's resource portfolio under various parameters, including the following required components:	A wide range of cases and sensitivities under various price-policy futures will be explored as discussed at the December 3, 2020 public input meeting. These cases will be fully explored in the Modeling/Portfolio Evaluation chapter.
	WAC 480-100-620(10)	<i>CETA counterfactual scenario</i> - describe the alternative LRC and reasonably available portfolio that the utility would have implemented if not for the requirement to comply with RCW 19.405.040 and RCW 19.405.050, as described in WAC 480-100-660(1).	This will be addressed as part of the Modeling/Portfolio Evaluation chapter.
	WAC 480-100-620(10)	<i>Climate change scenario</i> - incorporate the best science available to analyze impacts including, but not limited to, changes in snowpack, streamflow, rainfall, heating and cooling degree days, and load changes resulting from climate change.	This will be addressed as part of the Modeling/Portfolio Evaluation chapter.
	WAC 480-100-620(10)	<i>Maximum customer benefit sensitivity</i> - model the maximum amount of customer benefits described in RCW 19.405.040(8) prior to balancing against other goals.	This will be addressed as part of the Modeling/Portfolio Evaluation chapter.
Portfolio analysis and preferred portfolio	WAC 480-100-620(11)	Plan must integrate demand forecasts and resource evaluations into a long-range IRP solution.	This is addressed as part of the Load/Resource Balance chapter.
	WAC 480-100-620(11)	IRP solution or preferred portfolio must describe the resource mix that meets current and projected needs.	This is addressed as part of the Modeling/Portfolio Selection chapter.
	WAC 480-100-620(11)(a)	Preferred portfolio must include narrative explanation of the decisions made, including how the utility's long-range IRP solution:	
	WAC 480-100-620(11)(a)	- achieves requirements for eliminating coal-fired generation by 12/31/2025 (RCW 19.405.030);	PacifiCorp will remove coal-fired generation from rates by 2025, and will continue to analyze this pending resolution of outstanding interpretive issues by the Commission.
	WAC 480-100-620(11)(a)	- attains GHG neutrality by 1/1/2030 (RCW 19.405.040); and	This will be addressed within the Modeling/Portfolio Evaluation and Modeling/Portfolio Selection chapters.
	WAC 480-100-620(11)(a)	- achieves 100 percent clean electricity WA retail sales by 1/1/2045 (RCW 19.405.050) at LRC,	This is outside of the 2021 IRP timeline, but generally may be addressed as part of the Modeling/Portfolio Evaluation and Modeling/Portfolio Selection Chapters.
	WAC 480-100-620(11)(a)	- achieves 100 percent clean electricity WA retail sales by 1/1/2045 (RCW 19.405.050), considering risk.	This is outside of the 2021 IRP timeline, but generally may be addressed as part of the Modeling/Portfolio Evaluation and Modeling/Portfolio Selection Chapters.
	WAC 480-100-620(11)(c)	Consistent with RCW 19.285.040(1), preferred portfolio shows pursuit of all cost-effective, reliable, and feasible conservation and efficiency resources, and DR.	Addressed in Modeling/Portfolio Evaluation chapter.
	WAC 480-100-620(11)(d) and (e)	Preferred portfolio considers acquisition of existing renewable new resources and relies on renewable resources and energy storage, insofar as doing so is at LRC,	Addressed in Modeling/Portfolio Evaluation chapter.
	WAC 480-100-620(11)(d) and (e)	Preferred portfolio considers acquisition of existing renewable new resources and relies on renewable resources and energy storage, considering risks.	Addressed in Modeling/Portfolio Evaluation chapter.
	WAC 480-100-620(11)(f)	Preferred portfolio maintains and protects the safety, reliable operation, and balancing of the utility's electric system, including mitigating over-generation events and achieving identified resource adequacy requirements.	Addressed in Load/Resource balance chapter.
	WAC 480-100-620(11)(g)	Preferred portfolio ensures all customers are benefiting from the transition to clean energy through the	
	WAC 480-100-620(11)(g)	- equitable distribution of energy and nonenergy benefits; reduction of burdens to vulnerable populations and highly impacted communities;	This will be addressed as part of the Planning Environment chapter and the Clean Energy Action Plan
	WAC 480-100-620(11)(g)	- long-term and short-term public health and environmental benefits; reduction of costs and risks; and	This will be addressed as part of the Planning Environment chapter and the Clean Energy Action Plan
	WAC 480-100-620(11)(g)	- energy security and resiliency.	This will be addressed as part of the Load/Resource Balance chapter, the Transmission Chapter, and the Clean Energy Action Plan
	WAC 480-100-620(11)(h)	Preferred portfolio: assesses the environmental health impacts to highly impacted communities,	Addressed in Clean Energy Action Plan
WAC 480-100-620(11)(i)	- analyzes and considers combinations of DER costs, benefits, and operational characteristics (incl. ancillary services) to meet system needs,	Included in Modeling/Portfolio Evaluation Chapter	
WAC 480-100-620(11)(j)	- incorporates the social cost of GHG emissions as a cost adder.	Included in Modeling/Portfolio Evaluation Chapter	
WAC 480-100-620(12)	Utility must develop a ten-year clean energy action plan (CEAP) for implementing RCW 19.405.030 through 19.405.050 at LRC, and at an acceptable resource adequacy standard.		
WAC 480-100-620(12)(b)	The CEAP will: - identify and be informed by utility's ten-year CPA per RCW 19.285.040(1);	This requirement will be included in Appendix R - Clean Energy Action Plan, within the "resource adequacy" section.	

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Clean Energy Action Plan (requirements)	WAC 480-100-620(12)(c)	- demonstrate that all customers are benefiting from the transition to clean energy;	This requirement will be included in Appendix R - Clean Energy Action Plan, within the "Working Toward an Energy Future that Benefits All Customers" section.
	WAC 480-100-620(12)(d)	- establish a resource adequacy requirement;	This requirement will be included in Appendix R - Clean Energy Action Plan, within the "Resource Adequacy" section.
	WAC 480-100-620(12)(e)	- identify the potential cost-effective DR and load management programs that may be acquired;	This requirement will be included in Appendix R - Clean Energy Action Plan, within the "Resource Adequacy" section.
	WAC 480-100-620(12)(f)	- identify renewable resources, nonemitting electric generation, and DERs that may be acquired and evaluate how each identified resource may be expected to contribute to meeting the utility's resource adequacy requirement;	This requirement will be included in Appendix R - Clean Energy Action Plan, within the "Resource Adequacy" section.
	WAC 480-100-620(12)(g)	- identify any need to develop new, or expand or upgrade existing, bulk transmission and distribution facilities; and	This requirement will be included in Appendix R - Clean Energy Action Plan, within the "Resource Adequacy" section.
	WAC 480-100-620(12)(h)	- identify the nature and possible extent to which the utility may need to rely on alternative compliance options, if appropriate.	This requirement will be included in Appendix R - Clean Energy Action Plan, within the "Resource Adequacy" section.
	WAC 480-100-620(12)(i)	Plan (both IRP and CEAP) considers cost of greenhouse gas emissions as a cost adder equal to the cost per metric ton of carbon dioxide emissions, using the two and one-half percent discount rate, listed in Table 2, Technical Support Document: Technical update of the social cost of carbon (SCC) for regulatory impact analysis under Executive Order 12866, published by the interagency working group on social cost of greenhouse gases of the United States government, August 2016, as adjusted by the Commission to reflect the effect of inflation.	This requirement will be included in Appendix R - Clean Energy Action Plan, within the "Resource Adequacy" section. For the IRP, this requirement will be included as part of the "Modeling and Portfolio Evaluation Approach" section.
Avoided costs	WAC 480-100-620(13)	Plan must include an analysis and summary of the estimated avoided cost for each supply- and demand-side resource, including (but not limited to):	
	WAC 480-100-620(13)	- energy,	This will be addressed in the April 1, 2021 IRP filing, and the methodology will be consistent with Commission Order within docket UE-190666 and other applicable avoided cost decisions
	WAC 480-100-620(13)	- capacity,	This will be addressed in the April 1, 2021 IRP filing, and the methodology will be consistent with Commission Order within docket UE-190666 and other applicable avoided cost decisions
	WAC 480-100-620(13)	- transmission,	This will be addressed in the April 1, 2021 IRP filing, and the methodology will be consistent with Commission Order within docket UE-190666 and other applicable avoided cost decisions
	WAC 480-100-620(13)	- distribution, and	This will be addressed in the April 1, 2021 IRP filing, and the methodology will be consistent with Commission Order within docket UE-190666 and other applicable avoided cost decisions
	WAC 480-100-620(13)	- GHG emissions.	This will be addressed in the April 1, 2021 IRP filing, and the methodology will be consistent with Commission Order within docket UE-190666 and other applicable avoided cost decisions
	WAC 480-100-620(13)	Listed energy and non-energy impacts should specify to which source party they accrue (e.g., utility, customers, participants, vulnerable populations, highly impacted communities, general public).	This requirement will be addressed in the April 1, 2021 IRP filing.
	WAC 480-106-040	Plan provides information and analysis used to inform annual purchases of electricity from qualifying facilities, including a description of the:	
	WAC 480-106-040	- avoided cost calculation methodology used;	This will be addressed in the April 1, 2021 IRP filing, and the methodology will be consistent with Commission Order within docket UE-190666 and other applicable avoided cost decisions
	WAC 480-106-040	- avoided cost methodology of energy, capacity, transmission, distribution, and emissions averaged across the utility; and	This will be addressed in the April 1, 2021 IRP filing, and the methodology will be consistent with Commission Order within docket UE-190666 and other applicable avoided cost decisions
WAC 480-106-040	- resource assumptions and market forecasts used in the utility's schedule of estimated avoided cost, including (but not limited to): cost assumptions, production estimates, peak capacity contribution estimates, and annual capacity factor estimates.	This will be addressed in the April 1, 2021 IRP filing, and the methodology will be consistent with Commission Order within docket UE-190666 and other applicable avoided cost decisions	
Data disclosure	WAC 480-100-620(14)	To maximize transparency, the utility should submit data input files supporting the plan in native file format (e.g., supporting spreadsheets in Excel, not PDF file format).	PacifiCorp will make data available in the native file format consistent with practice in prior IRPs
Report of substantive changes	WAC 480-100-620(16)	Plan must summarize substantive changes to modeling methodologies or inputs that change the utility's resource need, as compared to the utility's previous IRP.	This is addressed within the Planning Environment chapter and the Portfolio Evaluation chapter
Public comments summary	WAC 480-100-620(17)	Utility must summarize:	
	WAC 480-100-620(17)	- public comments received on the draft IRP,	This will be addressed as part of Appendix C - Public Input Process
	WAC 480-100-620(17)	- utility's responses to public comments, and	This will be addressed as part of Appendix C - Public Input Process
	WAC 480-100-620(17)	- whether final plan addresses and incorporates comments raised.	This will be addressed as part of Appendix C - Public Input Process