

April 1, 2021

***VIA ELECTRONIC FILING***

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Executive Director and Secretary  
Washington Utilities and Transportation Commission  
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**Re: Docket UE-200420 – PacifiCorp’s 2021 Integrated Resource Plan (IRP) April 1 Update Filing, Updated 2021 IRP Workplan, Draft Equity Advisory Group Participation Plan**

PacifiCorp d/b/a Pacific Power & Light Company (PacifiCorp), submits the enclosed update to the January 4, 2021 draft 2021 IRP filing (April 1 Filing), as well as an updated 2021 IRP workplan and a draft Equity Advisory Group (EAG) participation plan. In addition, PacifiCorp includes run log examples from its IRP modeling system. These elements of PacifiCorp’s filing are enclosed as follows:

- **Attachment A – IRP April 1 Interim Filing**, which includes the following updates made since the January 4, 2021 draft filing (January 4 Filing):
  - Draft Chapter 4 – Transmission
  - Draft Appendix A – Load forecast appendix updated to include the impact of new legislation on the Private Generation Study and results that are not dependent on the IRP portfolio outputs that have been finalized
  - Draft Appendix B – IRP regulatory compliance appendix updated to reflect adopted rules under WAC 480-100
  - Draft Appendix C – Public-input process appendix updated to include a schedule from April 1, 2021 to PacifiCorp’s anticipated filing of the final IRP no later than September 1, 2021
  - Draft Appendix D – Demand-side management appendix describing programs and analysis
  - Draft Appendix O – Private Generation Study updated to include the effects of tax legislation passed in late 2020
  - Draft Appendix R – Clean Energy Action Plan (CEAP) updated to include additional community analysis and preliminary identification of vulnerable and highly-impacted communities per WAC 480-100-620(9)
- **Attachment B** – Updated 2021 IRP workplan based on completion and file date no later than September 1, 2021, including steps leading up to a January 1, 2022 CEIP file date
- **Attachment C** – Draft EAG participation plan and actions to create PacifiCorp’s equity advisory group no later than May 1, 2021
- **Confidential Attachment D** – Run log example
- **Confidential Attachment E** – Run log example
- **Confidential Attachment F** – Run log example

PacifiCorp requests confidential treatment of Attachments D, E, and F in accordance with WAC 480-07-160. These attachments, which have been labeled confidential, include confidential information throughout. This information is confidential system data, which is commercially sensitive, and public dissemination and distribution of which would harm the Company and its customers. Accordingly, PacifiCorp requests confidential treatment on the basis that the documents contain “valuable commercial information, including trade secrets or confidential marketing, cost, or financial information, or customer-specific usage and network configuration and design information,” as provided in RCW 80.04.095 and in accordance with WAC 480-07-160(2)(c). Furthermore, PacifiCorp has designated the documents confidential in their entirety because each document consists of hundreds of pages of output with confidential information disbursed throughout. It would be unduly burdensome to individually redact each page.

PacifiCorp has been diligently working on development of its 2021 IRP through a robust, open, transparent and thorough public-input process. This stakeholder process began in January 2020 with a series of technical workshops focused on development of the Conservation Potential Assessment to inform energy efficiency modeling assumptions. PacifiCorp held a series of three technical workshops in January, February and April of 2020. PacifiCorp began a series of more general public-input meetings starting in June 2020, which to date have addressed a range of topics describing PacifiCorp’s modeling methodology, inputs and assumptions for the 2021 IRP. Agenda topics included, but were not limited to, resource cost-and-performance assumptions, model function and overview, load forecast, price-policy assumptions, market price assumptions, and transmission options. To date, PacifiCorp has held 13 public-input meetings. All public-input meeting materials, supporting studies and stakeholder feedback forms to date can be found on PacifiCorp’s IRP webpage at: [www.pacificorp.com/es/irp.html](http://www.pacificorp.com/es/irp.html). Since the January 4 Filing, the Company has finalized third-party studies supporting assumptions for the 2021 IRP which are now available on its website including the Conservation Potential Assessment, the Renewable Resources Assessment, and the Private Generation Study.

As referenced in PacifiCorp’s January 4 Filing, the Company transitioned to Energy Exemplar’s Plexos model for its 2021 IRP development cycle. The new modeling system provides multiple improvements and advancements to the IRP portfolio development and analytics process, including allowing for greater granularity, greater ability to model reliability outcomes through inclusion of loss of load probability and planning reserve margin, the ability to include endogenous transmission modeling without including topology additions or other complex setups, and the ability to include a broader analysis of resource retirements and alternatives.

PacifiCorp has been methodical and dedicated to its implementation and testing of the Plexos model. By way of background, in February 2020, PacifiCorp finalized its contract with Energy Exemplar for its use of the Plexos model. In March 2020, implementation of the new software occurred on-site at PacifiCorp’s offices. In addition, the resource planning team worked through the next several weeks of online training tutorials including a two-day in-person training from Energy Exemplar staff that occurred mid-month. PacifiCorp’s resource planning team participated in bi-weekly technical calls with the technical team at Energy Exemplar to help facilitate understanding of the model, the training material received, and how to build out the model specific to PacifiCorp’s system with improvements to methodologies and approaches

developed within PacifiCorp's prior modeling system. As PacifiCorp does not use any pre-packaged data sets its 2021 IRP inputs and assumptions are developed internally specific to PacifiCorp's system and with the input of third-party consultants and stakeholders. PacifiCorp's use of the Plexos model is specific to its six-state, integrated system and involved extensive time and expertise to build out the associated objects, functions, and parameters for it to function properly. During this effort to set up the model PacifiCorp was not able to know how the model would function in a production environment without a complete set of modeling inputs and assumptions incorporated. As such, the work of the resource planning team needed to shift heavily to developing the inputs and assumptions to inform the 2021 IRP. As noted above PacifiCorp began its series of broader topic public-input meetings starting in June 2020 and held meetings monthly thereafter from June 2020 through February 2021. These meetings covered an extensive number of topics to inform modeling assumptions as detailed in Appendix C of Attachment A to this filing and as shown in the public-input meeting materials on PacifiCorp's IRP webpage at: [www.pacificorp.com/es/irp.html](http://www.pacificorp.com/es/irp.html).

As development progressed on modeling inputs and assumptions and in turn, building out the model, PacifiCorp was able to complete a benchmarking exercise using the new Plexos model based on the 2019 IRP to determine if the Plexos model produced reasonably similar outcomes were it to have been used at that time. PacifiCorp had a successful outcome from this benchmarking exercise and discussed this result with stakeholders at its November 2020 public-input meeting (the approach to the benchmarking exercise and progress updates to this effort had also been discussed at prior public-input meetings). PacifiCorp further developed and received stakeholder feedback to inform its portfolio development methodology discussed at its December 2020 public-input meeting. PacifiCorp's IRP development process is progressive, and the development of inputs and assumptions proceeds portfolio modeling by several months. A standard IRP development cycle would have portfolio modeling begin in the first quarter of the filing year with intensive and iterative portfolio runs and extensive cost and risk analysis leading up to selection of the least-cost, least-risk preferred portfolio, often just weeks before finalizing and filing the IRP. The 2021 IRP development cycle followed a reasonably similar progression, however, despite immense advancements of the resource planning team's work to not only inform the model but to produce portfolios in a more complex modeling environment, challenges were encountered in the model's performance and functionality. PacifiCorp had intended to present initial modeling results for stakeholder discussion at its January 28-29, 2021 public-input meeting however, several modeling issues were encountered in January 2021 that involved fixes or software patches from the vendor. Some examples include:

- Fuel cost tiers reporting incorrectly, requiring a software coding update from the model vendor.
- A glitch in the model's recognition of available licenses precluded the available number of model runs from being run and required resolution through a manual update of the licensing file from the model vendor.
- Failure of model to compress data outputs into the necessary format. Required a software coding update from the model vendor to ensure that uncompressed data is still available if compression fails. The software coding update allows for timely manual data recovery in the event of a compression failure.

- 20-year runs in a test format (without all the complete inputs) have taken 6 days or longer to solve. To further test set-ups and develop initial portfolios an approach to split the run years to 8-11 at a time has been applied however, this configuration does not always treat retirement years correctly and in working with the vendor would require a further software fix. PacifiCorp is continuing to work through and troubleshoot 20-year runs as the preferred approach.

The above is not an exhaustive list of what has occurred or may be encountered as modeling progresses and significant work remains to develop reporting functionality from the Plexos model to adequately assess reliability and other portfolio outcomes once portfolio runs become available. In troubleshooting these challenges with the vendor, the PacifiCorp information technology team has also had to upgrade hardware. PacifiCorp has made progress resolving these issues to date and working collaboratively with the vendor that has been responsive and timely in its resolution of issues, and at this time is confident that it will be able to produce some initial portfolio results for discussion at its upcoming April 22-23, 2021 public-input meeting. To demonstrate the progress PacifiCorp has made in setting up and running the Plexos model, run log examples are included with this filing in confidential Appendices D, E and F that correspond to the issues above where log files are available and to exemplify where portfolio development could have otherwise progressed at the time were these issues not encountered. The issue regarding model licenses was resolved via email with the vendor and as such, there is no applicable run log file example.

- Confidential Appendix D – Fuel reporting
- Confidential Appendix E – Failure to save or compress outputs
- Confidential Appendix F – Performance (split) configuration errors

PacifiCorp has attempted to mitigate the impact of the modeling challenges on developing its 2021 IRP by proceeding with parallel activities whenever possible, and by continuing to seek stakeholder feedback on items such as modeling assumptions, supply-side resources, customer preference assumptions, transmission modeling, and anticipated portfolio development in order to move the 2021 IRP forward. PacifiCorp has also been discussing the ongoing modeling challenges with Washington Utilities and Transportation Commission (Commission) staff regularly and has worked collaboratively to ensure that the IRP requirements are met as expediently as possible. There is simply not enough time however, to develop a 2021 IRP that is actionable and supportable given where it sits today without the additional time to complete the necessary modeling work and allow for stakeholder input.

The delays associated with this software transition could not have been foreseen, are atypical, and are not indicative of future changes to the IRP schedule.<sup>1</sup> PacifiCorp appreciates Staff's guidance on this issue and Staff has indicated their support for this filing approach. It is

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<sup>1</sup> The delay in the final 2021 IRP results in necessary shifts in timing for the draft CEIP and final CEIP by two and a half months and three months, respectively, which are within the statutorily authorized timeline for filing and will not have downstream impacts on future CETA-related compliance requirements and progress updates. Thus, simultaneously with this April 1 IRP Filing, in a new docket, the Company is filing (1) a Petition for Exemption of WAC 480-100-640(1) to extend the filing deadline for the CEIP to January 1, 2021 (Petition); and (2) a Motion to Amend General Order 601, paragraph 25 to extend the filing of the draft CEIP to November 1, 2021 (Motion).

important to note that progress toward the CEIP has already begun despite the absence of informative modeling results. PacifiCorp has been working with a third-party consultant to establish the Equity Advisory Group (EAG) that will work collaboratively with PacifiCorp in developing the CEIP analytical framework. Recurring meetings will be scheduled. This draft EAG participation plan is detailed in Attachment C to this filing. PacifiCorp is also on-track to file its CEIP public participation plan by May 1, 2021 pursuant to WAC 480-100-655(2) and the shift in timing necessary for filing the draft CEIP and final CEIP is necessary to account for the timing of availability of the 2021 IRP preferred portfolio but is not anticipated to result in delays to post-CEIP reporting and compliance requirements past January 1, 2022 as described further in the Company's Petition and Motion.

In support of filing the final 2021 IRP no later than September 1, 2021, PacifiCorp provides the following indicative timeline to summarize how the Company and stakeholders would work together to achieve this schedule. Further information on the timeline and workplan can be found in Attachment B to this filing.

<b>Date</b>	<b>Activity</b>	<b>Summary Detail</b>
April 22-23, 2021	April Public-Input Meeting	Initial discussion of modeling results; opportunity for stakeholder feedback.
No later than May 1, 2021	Begin Equity Advisory Group meetings	PacifiCorp provides additional information on this process in Attachment C to this filing.
May 1, 2021	File CEIP Public Participation Plan	As required in WAC 480-100-655(2)
May 27-28, 2021	May Public-Input Meeting	Continued discussion of modeling results and stakeholder feedback.
June 2021	All-Source 2020 RFP Final Short List	Results will be included in 2021 IRP modeling.
June 24-25, 2021	June Public-Input Meeting	Discussion of portfolios due to incorporation of AS 2020 RFP final short list results, discussion of cost and risk portfolio analysis; opportunity for stakeholder feedback.
July 1, 2021	PacifiCorp begins collaborative CEIP process with Staff	
July 29-30, 2021	July Public-Input Meeting	Discuss selection of preferred portfolio/cost and risk analysis; opportunity for stakeholder feedback.
August 12, 2021	August Public-Input Meeting	If needed to finalize preferred portfolio.
No later than September 1, 2021	Final IRP filed	
No later than November 1, 2021	Draft CEIP filed	In accordance with General Order R-601
No later than January 1, 2022	CEIP filed	In accordance with WAC 480-100-640

PacifiCorp has discussed this filing with Commission staff and the process and timelines set forth in this filing represents the outcomes discussed with Commission staff to provide the Commission with a reasonable path forward, taking into consideration applicable statutes and rules. PacifiCorp looks forward to filing its final 2021 IRP with the Commission no later than September 1, 2021.

PacifiCorp respectfully requests that all communications related to this proceeding be sent to the following:

By Email: [WashingtonDockets@pacificorp.com](mailto:WashingtonDockets@pacificorp.com)  
[IRP@pacificorp.com](mailto:IRP@pacificorp.com)

Please direct informal inquiries to Ariel Son, Washington State Regulatory Manager, at (503) 813-5410.

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Sincerely,

          /s/            
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Enclosures:

200420-PPL-Cvr-Ltr-4-1-2021

200420-PPL-Attachment A-4-1-2021

200420-PPL-Attachment B-4-1-2021

200420-PPL-Attachment C-4-1-2021

200420-PPL-Attachment D-4-1-2021 (C)

200420-PPL-Attachment D-4-1-2021 (R)

200420-PPL-Attachment E-4-1-2021 (C)

200420-PPL-Attachment E-4-1-2021 (R)

200420-PPL-Attachment F-4-1-2021 (C)

200420-PPL-Attachment F-4-1-2021 (R)

200420-PPL-COS-4-1-2021