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Erin E. Apperson
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August 30, 2019

Via Email

Public Utility Commission of Oregon
Filing Center
201 High Street SE, Suite 100
P.O. Box 1088
Salem, OR 97308-1088

Re: LC 73 – PGE's 2019 IRP Addendum – Interim Transmission Solution

Attention Filing Center:

Enclosed for filing today, please find PGE's 2019 IRP Addendum – Interim Transmission Solution.

PGE plans to work with Staff and intervenors to establish a process to provide comments and participate in a workshop specifically focused on the proposed interim transmission solution. PGE believes that this process should occur concurrently with the existing 2019 IRP schedule to ensure adequate opportunity for stakeholder involvement.

Thank you in advance for your assistance.

Sincerely,

Erin E. Apperson
Assistant General Counsel

EEA:dm

Enclosure

Integrated Resource Plan

AUGUST 2019

Addendum to PGE's 2019 Integrated Resource Plan
Interim Transmission Solution

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1 Introduction

The development and planned growth of renewable resources in the Northwest requires changes to the transmission system, in terms of both transmission development and utilization. Portland General Electric (PGE or Company) recognizes that the 2019 Integrated Resource Plan (IRP) renewable action provides an opportunity for the Company to contribute to continued learning about transmission utilization for renewable resources in the region. To support the 2019 IRP renewable action, PGE reassessed how the Company considers transmission within renewable procurement processes. In doing so, PGE weighed the cost and risk impacts to both customers and PGE, ensuring the proper balance between reliable deliveries of clean energy and continued renewable development. This is especially important during a period of changing regional policies and developing markets, where the challenges associated with the economical and reliable delivery of capacity and energy to serve customer needs are becoming increasingly complex.

Through careful consideration, comments provided by stakeholders, and discussions with regional partners, PGE developed a provisional program framework for its interim solution allowing for controlled learning, proper identification and allocation of risks and costs, and the ability to adjust or refine over time. The Company believes this proposal advances the utilization of the transmission system and enables least-cost and least-risk actions that provide value and clean energy to our customers and the region. This addendum presents the details of PGE's proposed provisional program and identifies how the program would be applied in the 2020 Renewable Request for Proposals (RFP).

Looking forward, PGE believes that continued development of renewables in the region will be necessary to implement clean energy policies and to meet greenhouse gas goals. Supporting this development while meeting PGE's commitments to customers will require broader transmission solutions that address both development and reliability concerns while being sufficiently flexible to adapt to changing landscapes. PGE is committed to furthering long-term, holistic solutions that enable continued renewable development to benefit customers, while appropriately addressing potential risks to both customers and PGE.

2 Background

In previous renewable RFPs, Bidders with projects outside PGE's service territory were required to provide achievable plans for acquiring long-term firm transmission service prior to the commercial operation date (COD). Bidders' transmission plans were also required to demonstrate long-term firm transmission service, in MWs, at an amount equal to the full nameplate rating of the proposed renewable resource. In some cases, conditional firm bridge was allowed to substitute for long-term firm, provided it converted to long-term firm within a pre-defined period.

Prior to filing the 2019 IRP, PGE held several stakeholder workshops and invited comments from stakeholders regarding the draft content and analysis of the 2019 IRP. Several parties provided feedback on transmission in the context of the IRP and a 2020 Renewable RFP. In the 2019 IRP, the Company acknowledged these comments and concerns by indicating it was

working toward an interim solution, and identified several design principles to apply to developing such a solution:[1]

- Enable a fair, transparent, and competitive renewable resource procurement process
- Provide reasonable assurances of delivery, project success, and value to customers
- Adequately identify and mitigate potential cost shifts to customers and PGE
- Adequately identify and mitigate potential risk shifts to customers and PGE
- Appreciate differences between dispatchable and variable resources as appropriate

PGE used the above design principles and the guiding concept of a "comprehensive approach" to develop the provisional program.

3 Program Summary

As an interim solution, PGE is proposing a five-year provisional program that applies to renewable resource procurement processes conducted between 2019 and 2024.[2] The key elements of the program are:

- Applicable only to newly procured variable renewable resources pursuant to an IRP Action Plan or in support of voluntary renewable programs
- Eligible transmission service consists of one or a combination of the following products:[3]
    1. Long-Term Firm (LTF) transmission service
    2. Conditional Firm Bridge (CFB) transmission service with a Number of Hours curtailment option[4]
    3. Conditional Firm Reassessment (CFR) transmission service with a Number of Hours curtailment option[5]
- Eligible transmission service for at least 80 percent of the maximum output of the facility[6]
- PGE continues to require that output be delivered to PGE's system

[1] *See* PGE's 2019 IRP at 216.
[2] The provisional program will apply to renewable resources procured during this five-year period. In order to ensure that delivery requirements do not change during the life of the resource, the terms of this program will apply for the life of the resources procured during the five-year period.
[3] Conditional Firm Transmission Service is a type of Long-Term Firm transmission service for which there is a specified Number of Hours per year or a specified System Condition in which the Transmission Provider can curtail the reservation prior to curtailing other Long-Term Firm service. Conditional Firm service is charged at the same tariff rate as Long-Term Firm service. *See* BPA Conditional Firm Business Practice Version 23 available at https://www.bpa.gov/transmission/Doing%20Business/bp/tbp/Contitional-Firm-Transmission-BP-V23.pdf.
[4] CFB will convert to LTF service if the facilities identified in the customers CF Service Agreement or their equivalents are completed or if LTF service otherwise becomes available. *See* BPA Conditional Firm Business Practice Version 23.
[5] CFR only applies to Conditional Firm Service which is not based on a bridge (e.g. no build has been identified and approved). CFR may transition to CFB if an upgrade has been identified and approved or it may convert to LTF if the appropriate requests are in queue. BPA may perform a Reassessment of the Customer's Number of Hours or System Conditions no more often than once every two years. *See* BPA Conditional Firm Business Practice Version 23.
[6] Output is defined as the maximum deliverable quantity, expressed in MWs, that can be generated or delivered over one hour. Output may be limited by a bidder's interconnection agreement, facility design, transmission rights, or contractual provisions.

Section 4 below presents the details, specifically the minimum thresholds and bid requirements, of how this provisional program would apply in the 2020 Renewable RFP.

The objective of the program is to provide an interim solution and allow for learning in a controlled manner, as the application of the key elements will have impacts decades beyond the provisional period. By applying the program to renewable RFPs executed during a limited window, PGE will have the opportunity to evaluate costs and risks associated with the approach and apply learning to future procurement activities.

3.1 Process Changes

An essential part of a comprehensive approach is assessing existing processes across the Company and determining appropriate modifications to align with the key elements of the program. PGE applied this approach during development of the provisional program to identify impacts to the various areas of PGE's business, both internal and external facing. Broadly, the Company categorized potential process changes to address risk and cost into two categories: RFP processes and business processes.

3.1.1 RFP Processes

Modifying PGE's transmission requirements, even under a provisional framework, introduces additional cost and risk to customers and PGE. In order to assess the impacts of these risks and attempt to appropriately mitigate them, PGE intends to make changes to certain elements of the RFP structure, specifically the scoring methodology and contract requirements.

Regarding the scoring methodology, PGE would adjust its capacity contribution/valuation methodology to account for any increased risk of delivery failure. Depending on the specific transmission plan of the bid, PGE would adjust the RECAP model to reflect the impacts of curtailment and long-term transmission for less than the full output, as reflected in the terms of the transmission service and coincident with the appropriate hours, on the capacity contribution of the resource. The impacts of this adjustment depend on the type of resource, its output profile, and its transmission plan, but will generally reflect the higher likelihood of curtailment and reduced delivery certainty associated with using conditional firm or long-term transmission for less than full output. Additionally, PGE would make changes to the non-price scoring methodology to assign points to non-quantifiable aspects, such as the difference in long-term availability between CFB and CFR service. CFR service inherently introduces more risk than CFB because it is not associated with a system upgrade and the reassessment terms and conditions create more uncertainty surrounding the changes to curtailment terms and its continued offering by the transmission provider.

Because the proposed transmission requirements introduce new risks for project deliverability, the RFP will reflect modifications to contract requirements to ensure these risks are addressed. The Company recognizes that certain events, curtailment or otherwise, may be outside the control of the parties and a contract must be flexible enough to address such events. However, changes to the transmission requirements result in a shifting of the risk allocation. PGE expects to address the increased deliverability risk by more clearly assigning deliverability responsibility to the supplier through more robust contract terms. Generally, these terms would address the quality of transmission procured for output above the level supported by long-term transmission, changes to the terms and conditions of the conditional firm service, minimum production guarantees, and failure to perform provisions should short-term transmission products not be available or the Bonneville Power Administration (BPA) cease to offer conditional firm service.

Historically, the Company has allowed bidders to assign transmission rights to PGE, which shifts the costs and management burden associated with the transmission service to PGE. The risks associated with accepting assignment of transmission rights was managed by the quality of the transmission service previously required. However, the transmission products accepted under the provisional program carry additional risk and management burden. Specifically, monthly firming and periodic reassessment of conditional firm service and the need to actively manage transmission service for up to 20% of the resource output.[7] Under procurement associated with the provisional program, PGE would not accept an assignment by default proposal from bidders. PGE would include contractual provisions that require commercially reasonable efforts to convert conditional firm service to LTF service when possible.
The Company would not explicitly require that conditional firm service be converted to LTF service regardless of cost. However, PGE would seek to ensure any existing conditional firm service is included in future BPA TSR Study and Expansion Processes (TSEP)[8] or future system expansion efforts in order to identify the costs of converting service.

3.1.2 Business Processes

PGE expects that changes would be required to existing business processes after the completion of an RFP. Many of these changes would be dependent on the composition of selected resource(s), specifically the transmission service and delivery plans. While PGE would endeavor to appropriately identify and evaluate costs and risks within an RFP process, it is possible that these costs or risks may manifest differently over time. The program framework would allow the Company to better track these changes and adjust its business processes to better accommodate changing operational paradigms, some of which are discussed below in Section 3.3.

At this point, readily identifiable impacts to existing business processes could include the purchase of short-term transmission service, carrying additional reserves, adjustments to next year output forecasts to account for expected curtailment or delivery amounts, and impacts to net purchases and sales of transmission and power. Notwithstanding the above RFP process efforts, it may be necessary and reasonable to reflect residual financial risks associated with renewable curtailment in PGE's power cost forecasting dockets and/or consider changes to the regulatory policy for sharing variations in power costs. PGE would provide specific proposals during later regulatory processes as the details of such proposals depend heavily on the details of the resulting resource(s) and associated contract(s) from an RFP, the current effective or expected operational paradigm, regulatory mechanisms, regional policies, and experience gained during the provisional program.

3.2 Monitoring and Reporting

The key results of any provisional program are learning and experience. PGE would aim to implement or modify the necessary systems and business processes to appropriately identify and track the impacts of the program. By designing and implementing new processes, PGE can more effectively learn from the provisional program and make necessary adjustments or refinements to increase effectiveness while actively managing associated risks.

[7] *See* BPA's Conditional Firm Business Practice, Section J.2.
[8] TSEP is the process by which BPA studies and evaluates requests for long-term transmission service.

These impacts cannot be fully known ahead of implementing the program and can vary from operational to financial. While some elements may be readily apparent, such as the amount of curtailment and the availability of long-term inventory, others are more difficult to identify at the outset, such as the impact to system operations in the form of additional reserves. Depending on the outcome of the resource procurement effort, PGE plans to initially monitor and report on the metrics in Table 1. Over time, these metrics may evolve, or indicators may be added or removed to ensure accurate results and useful reporting.

Table 1. Reporting metrics

Metric	Description
Conditional Firm Inventory	BPA publicly posts and regularly updates the amount of conditional firm inventory available for purchase. PGE would monitor these postings for changes over time.
Conditional Firm Usage	To the extent possible, PGE would monitor the usage of conditional firm inventory as a data point to determine if/how usage changes and if/how changes in usage impact existing users.
Conditional Firm Monthly Assessment Results	Ahead of each month, BPA can convert conditional firm service from NERC Priority Code 6-CF to 7-F depending on availability of short-term ATC. PGE would track the results of these "monthly firm up" actions when they occur.
Conditional Firm Curtailment	Conditional firm service has a NERC Priority Code of 6-CF and is curtailed prior to LTF, which has a NERC Priority Code of 7-F. PGE would track curtailment events that occur when Conditional Firm does not receive a "monthly firm up."
Impacts to Reserves	The proposed transmission requirements may result in the need to carry additional reserves, in the form of available generation, to handle events where output exceeds 80% or when there is a higher likelihood of a curtailment event.
Impacts to Operational Planning	In operations (e.g. next month, next day, etc.) PGE uses short-term forecasts to plan its system. These forecasts may adjust to reflect uncertainty regarding output or deliverability. PGE would seek to track these adjustments and determine their impacts to operational planning and costs.
Transmission Costs	Reducing the requirement for long-term transmission from 100% to 80% of output will increase the amount of short-term transmission products needed to ensure delivery during high-output periods. PGE does not yet know how these additional purchases will manifest as it depends on the final structure of the procured resource. Once the structure is known, PGE intends to track these additional costs.

PGE expects to report to the Commission and stakeholders via future IRP filings with a concluding report at the end of the provisional period. Future IRP filings after a resource has achieved COD will provide a reasonable cadence and venue to share the results and findings with interested parties. Ultimately, the results and findings from the program will inform PGE, stakeholders, the Commission, and regional partners as we collaboratively work toward a holistic solution to enable continued renewable development into the future.

3.3 External Policy Changes

The design and implementation of the program is based on current regional policies and operational paradigms, such as BPA's current product offerings and associated business practices detailing the implementation and use of these products. During the program period, these policies and paradigms may change, making future modifications necessary to conform to the then current practices. Such changes may be at the regional level, such as the expansion or evolution of the Energy Imbalance Market, or at the BPA level. The latter is more likely to have immediate impacts and present as changes in product offerings and terms, modified business practices or procedures, further enhancements and developments to TSEP. However, regional policy changes, such as a potential regional framework for resource adequacy or an expanded regional footprint for transmission planning, are likely to have broader and more uncertain impacts. In either case, the program framework and its implementation must remain sufficiently flexible to allow for necessary modifications to accommodate the uncertainty associated with changing paradigms. As part of its monitoring and reporting effort, the Company will seek to inform interested parties of changing dynamics and clearly identify modifications to the program or its implementation.

4 Conclusion

The Company looks forward to working collaboratively with parties in the 2019 IRP docket and a subsequent 2020 Renewable RFP docket to successfully implement the proposed provisional program. As indicated at the August 13, 2019 public meeting, PGE is open to holding an additional workshop ahead of the existing October 31, 2019 workshop to allow for PGE to present its proposal and answer clarifying questions. The Company will work with the parties to determine the level of interest and specific details.

Going forward, PGE continues to support a holistic solution that enables continued renewable development to benefit customers, while appropriately addressing potential risks to both customers and PGE. Such a solution will best allow PGE to balance reliable energy delivery and renewable development in order to continue to provide value to customers and achieve clean energy goals. The Company recognizes that pursuing such a solution will require significant effort and time on the part of PGE, the OPUC, stakeholders, and other regional entities. Efforts may start on a smaller scale, such as working with stakeholders to engage BPA on product improvements or product offering expansion, but collectively we should not lose sight of the desired end state.

5 2020 Renewable RFP Requirements

Eligible Transmission Service

The proposed 2020 Renewable RFP will allow for bidder participation for resources that have not received an offer for long-term firm transmission service. PGE will consider a range of specified transmission products as RFP eligible delivery strategies.

PGE will require that all resources have access to a specified quantity of long-term transmission from the project busbar to an accepted PGE point of delivery. Acceptable forms of long-term transmission include long-term firm, conditional firm bridge service, and conditional firm reassessment service (number of hours only – system condition service not accepted). Eligible long-term transmission products do not include non-firm, short-term firm, or unspecified

transmission portfolio solutions. Resources must have sufficient long-term transmission rights to meet 80% of the project's maximum output capacity.[9] For the balance of the project, bidders may rely on short-term firm transmission products, but PGE will not accept deliveries on non-firm transmission.

For bidders proposing use of conditional firm reassessment service, PGE will only accept conditional-firm reassessment service whose curtailment frequency is limited by Number of Hours rather than enabled under specified System Conditions.[10]

Demonstration of RFP Eligibility

Bidders must demonstrate an achievable plan to secure required firm transmission service by the resource's commercial operations date. Achievable transmission service plans include either: a notice of available long-term firm inventory, a precedent transmission service agreement (PTSA), existing transmission service reservations delivering to PGE, a request or offer of transmission service (either redirect or original) with consideration for conditional firm service[11], a plan of service identified in a completed transmission service study (cluster study or individual study), demonstrated participation in an ongoing transmission study (cluster study or individual study).

Requirements Prior to Final Short-list

In order to remain an eligible bidder on PGE's final short-list, bidders must have received an acceptable offer of required transmission service by December 31, 2020. Acceptable offers of transmission service include: a full offer of transmission service, an executable PTSA, offer of conditional firm transmission service, or a proposed plan of service identified from a transmission study for which the bidder has received completed preliminary engineering results and has signed an Environmental Review Agreement.

Price Scoring Impacts

Transmission service is expected to impact project performance and value to PGE's customers. These impacts are expected to be most notable in the provision of capacity necessary to meet PGE's peak capacity needs. For this reason, PGE's determination of capacity value will account for the transmission service included in the project offer.

PGE's capacity value estimation methodology will only credit capacity value for the portion of a resource served on long-term transmission (including LTF, CFB, CFR). Capacity value will not be assessed for the portion of the resource expected to be served on short-term firm. Furthermore, for those resources that plan to rely on conditional firm service, the expected output of the resource will be diminished by the number of hours of allowed curtailment identified in the transmission service offer or plan.[12] PGE's methodology will assume that the curtailment occurs in those hours in which PGE experiences the greatest capacity need as it is

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[9] A project's AC or DC nameplate capacity may differ than the maximum output. Output is defined as the maximum deliverable quantity, expressed in MWs, that can be generated or delivered over one hour. Output may be limited by a bidder's interconnection agreement, facility design, transmission rights, or contractual provisions.

[10] *See* BPA Conditional Firm Business Practice Version 23*,* Section B.3.

[11] *See Id.*

[12] If a conditional firm offer does not identify the Number of Hours, PGE will use its experience and available supporting data to assess the Number of Hours for determining the price score.

reasonable to assume that the curtailment occurs during the periods of greatest system stress also experienced by PGE.

Non-Price Scoring Impacts

Transmission service is an important risk factor for PGE to consider in its non-price scoring assessment. Offers that propose relying on long-term transmission service to serve only a portion of resource output and offers that propose utilizing conditional firm service present long-term risks that cannot be accurately captured in PGE's price scoring assessment. Such transmission service arrangements may lead to a greater number of curtailment events should short-term transmission service availability be limited or should conditional firm service be reassessed or withdrawn. For this reason, PGE's non-price scoring assessment will assign higher non-price scores to those offers which have greater shares of long-term service and to those offers that rely on long-term firm service as opposed to conditional firm service.