Integrated Resource Planning

STAKEHOLDER FEEDBACK: November 2022

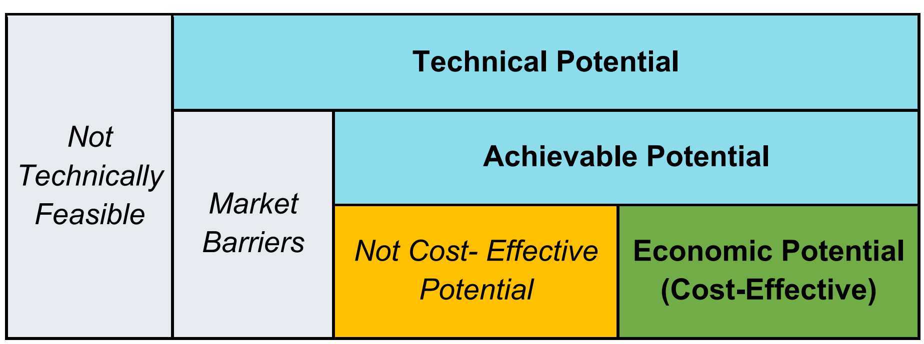
Received	*Stakeholder*	*Question/Comment/Response*
10/21/2022	Sudeshna Pal, OPUC Staff	Topic: Inflation Reduction Act Modeling: 1. PTC extension may not be considered as a scenario but is it useful to have some sensitivities around realizing full or partial values of PTCs due to variabilities from labor standards, locating resources in "energy community" clauses and the like? Can you explain if these variations should be considered? If not, why not and what modeling barriers exist in considering these variations. Topic: Transmission Planning: 2. Are you considering incorporating EE as a competing resource with supply side resources? 3. Will PGE consider performing any risk analyses around transmission availability? 4. What specific upgrades are you planning on PGE's transmission system in the next five years? Which of these upgrades could potentially avoid reliance on access to to-be-built new transmission lines? For example, is there any interest in or plans around upgrading to advanced conductors? Will any of these upgrades be able to address transfer capability from BPA's transmission system? 5. Is PGE considering the impact of the Western Resource Adequacy Program in its transmission planning? 6. Could you explain if and how PGE's access to inter-regional transmission is dependent on BPA transmission availability?
		RESPONSE: 1. PTC extension may not be considered as a scenario but is it useful to have some sensitivities around realizing full or partial values of PTCs due to variabilities from labor standards, locating resources in "energy community" clauses and the like? Can you explain if these variations should be considered? If not, why not and what modeling barriers exist in considering these variations. PGE's modelling assumes that eligible technologies get 100% of the available PTC and ITC to capture a potentiality of fulfilling the labor/wage requirements, and we've removed the tax credit phasedown in the mid-2030s to avoid those changes from

influencing the resource evaluation. A uniform increase or decrease in the percentages of tax eligibility won't change resource decisions only their associated costs. Meaningful insight could be found with a standalone evaluation where the amounts of credit would range from less than full credit to in excess of 100% credit (the bonus credits). This evaluation would show the effects of different tax credits on levelized costs for specific resources.

2. Are you considering incorporating EE as a competing resource with supply side resources?

   In the 2023 IRP, we incorporate EE in two ways:

   1) We include ETO's forecast of cost-effective EE within our list of existing resources, thus assuming acquisition of all the cost-effective EE. This is highlighted in **green**, in the figure. From a modeling perspective, we subtract the cost-effective EE potential from average and peak load. We leverage ETO's forecast to align with their view of when renewables and EE technologies are added. By doing so and letting the Aurora model dispatch supply side resources implicitly presents resource competition.
   2) A new addition in the 2023 IRP will be an evaluation of non-cost-effective EE against other proxy resources within portfolio analysis. Non-cost-effective EE refer to energy efficiency measures are a part of the achievable potential but were deemed non-cost-effective under the previous set of avoided costs developed for UM1893 in 2021. They represent the difference between the achievable potential and the cost-effective potential noted in **yellow** below. We bundle the non-cost-effective EE resources by their levelized cost and process them to the same as other proxy resources through our models, and also include them as new options for the capacity expansion model (ROSE-E) to select when trying to fill the need.



3. Will PGE consider performing any risk analyses around transmission availability?

Yes. PGE anticipates portfolios that examine cost and risk around PGE relying on BPA's remaining inventory, remaining inventory plus upgrades available on PGE Transmission's system that would increase transfer capacity (such as reconductoring PGE's owned portion of South of Allston), and scenarios that allow the model to select regional proxy transmission once BPA inventories and PGE upgrades are exhausted.

All portfolios will include future projects that BPA has planned to alleviate oversubscription at flowgates (which are likely to be energized in the early 2030s) and projects available for selection in the IRP that would supplement BPA service are designed to minimize cost and reliability risk.

4. What specific upgrades are you planning on PGE's transmission system in the next five years? Which of these upgrades could potentially avoid reliance on access to to-be-built new transmission lines? For example, is there any interest in or plans around upgrading to advanced conductors? Will any of these upgrades be able to address transfer capability from BPA's transmission system?

PGE's longer-term local transmission plan (posted on OASIS) outlines the projects that PGE has planned over the next ten years to maintain reliability and increase interface with BPA. For the next five years, these projects are likely to increase interface between PGE and BPA:

- Horizon-Keeler #2 230kV line (2024)
- Pearl BPA – Sherwood Capacity Upgrade (joint project with BPA, expected energization in 2027)

The projects listed above involve either upgrading existing All-Aluminum Conductor (AAC) lines to Aluminum Conductor Steel Supported (ACSS) lines, or building new lines using ACSS conductor. ACSS provide significant ampacity increases over AAC.

While these projects will increase the interface between PGE and BPA, they are designed to meet known reliability concerns. As need for generation continues to grow, additional projects and transmission options will need to be considered.

5. Is PGE considering the impact of the Western Resource Adequacy Program in its transmission planning?

Yes. PGE anticipates that there may be some efficiency gains brought by the Western Resource Adequacy Program (WRAP) that would alleviate some transmission congestion due to improved economic dispatch. PGE is evaluating ways to estimate a scenario where a portion of resource need is alleviated to approximate the WRAP benefit. However, PGE notes that the remaining BPA inventory available to PGE (approximately 1800 MW until the early 2030s) would still not be sufficient to reach the decarbonization targets set forth in HB 2021.

6. Could you explain if and how PGE's access to inter-regional transmission is dependent on BPA transmission availability?

Based on BPA's public statements during the September 2022 Cluster Study Process Update, BPA is unable to grant additional long-term transmission service until upgrades are complete (planned for early 2030s, needed upgrades listed below). As a result, only projects that participated in the 2021 BPA TSEP or prior are able get long-term service to PGE's system – PGE presented that total volume during the October roundtable at approximately 1800 MW (700 long-term firm and 1100 conditional firm).

PGE's modeling of new transmission options – including inter-regional proxy projects – is based on maintaining system reliability once that 1800 MW of available BPA service is exhausted. PGE anticipates modeling additional BPA capacity once it is enabled by upgrades that BPA has planned. To the extent that additional transmission capacity is needed and selected, it will be as a supplement to BPA service.

BPA has identified the projects needed to grant service for additional projects to PGE, and the planned timing is as follows:

- Ross-Rivergate 230kV rebuild (South of Allston Flowgate) – 2030
- Cross Cascades North Reinforcement (Cross Cascades North Flowgate) – 2030
- Big-Eddy-Chamawa 500kV rebuild (Cross Cascades South Flowgate) – 2030
- Montana to Washington (West of Garrison East to West Flowgate) – 2030
- BPA Chehalis to Cowlitz tap 230kV rebuild (Raver-Paul Flowgate) – 2033
- Subgrid South Oregon Coast Reinforcement Project (for offshore wind) – 2033

We will share your questions and our answers in the next online stakeholder feedback pdf, posted in September. If you have any other questions, please let us know! – IRP Team