

BP-26 Rate Case and TC-26 Workshop

April 24, 2024



Agenda

Time*	Topic	Presenter
9:00 to 9:15 a.m.	Introduction, Meeting Protocols, Comments and Agenda	Rebecca Fredrickson
9:15 to 9:45 a.m.	Segmentation (with Utility Delivery discussion as BP-24 Settlement Agreement)	Brian Halbert, Bill Hendricks
9:45 to 10:30 a.m.	Gen Inputs (Energy Storage Devices) Steps 1 - 4	Eric King, Frank Puyleart
10:30 to 10:45 p.m.	Break	
10:45 to 11:30 p.m.	Generator Interconnection Withdrawal Penalties Steps 1 - 2	Rebecca Fredrickson
11:30 to 12:30 p.m.	LUNCH	
12:30 to 1:30 p.m.	GI Reform – Affected Systems (Attachment L) Steps 1 - 2	Christina Lee
1:30 to 1:50 p.m.	GI Reform – LGIA (Attachment L) Steps 1 - 2	Kim Gilliland
1:50 to 2:00 p.m.	Wrap-up and Next Steps	Rebecca Fredrickson

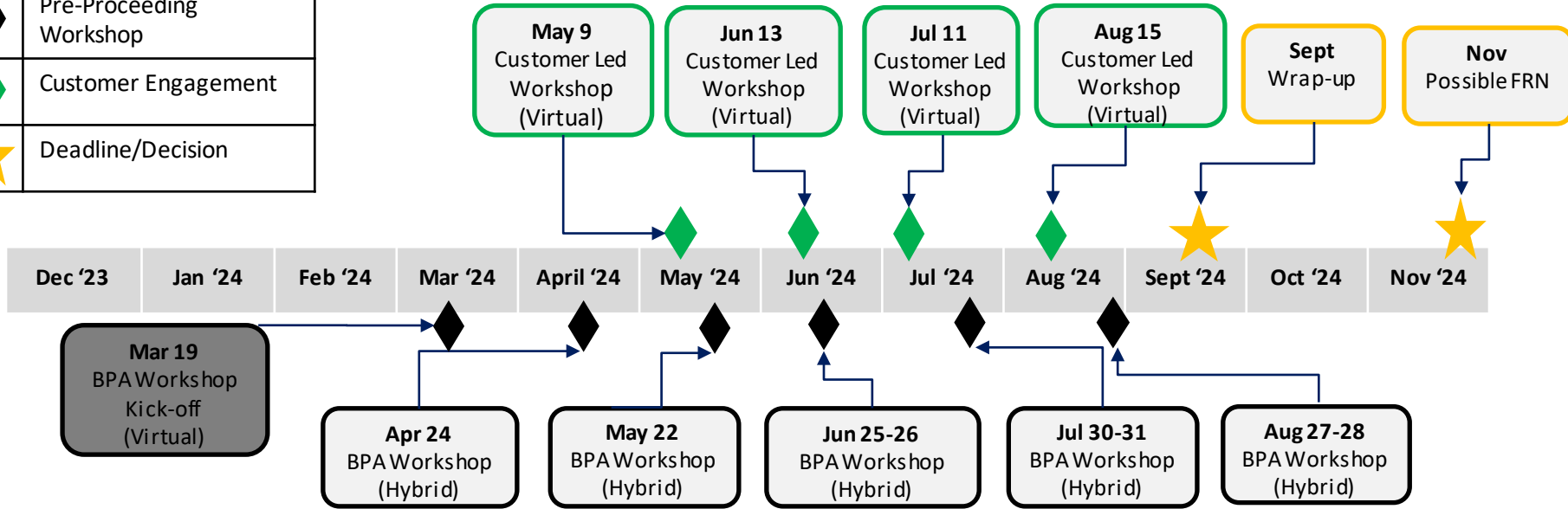
* *Times are approximate*

April 24, 2024

Pre-Decisional. For Discussion Purposes Only.

Proposed BP/TC-26 Pre-Proceeding Workshop Schedule

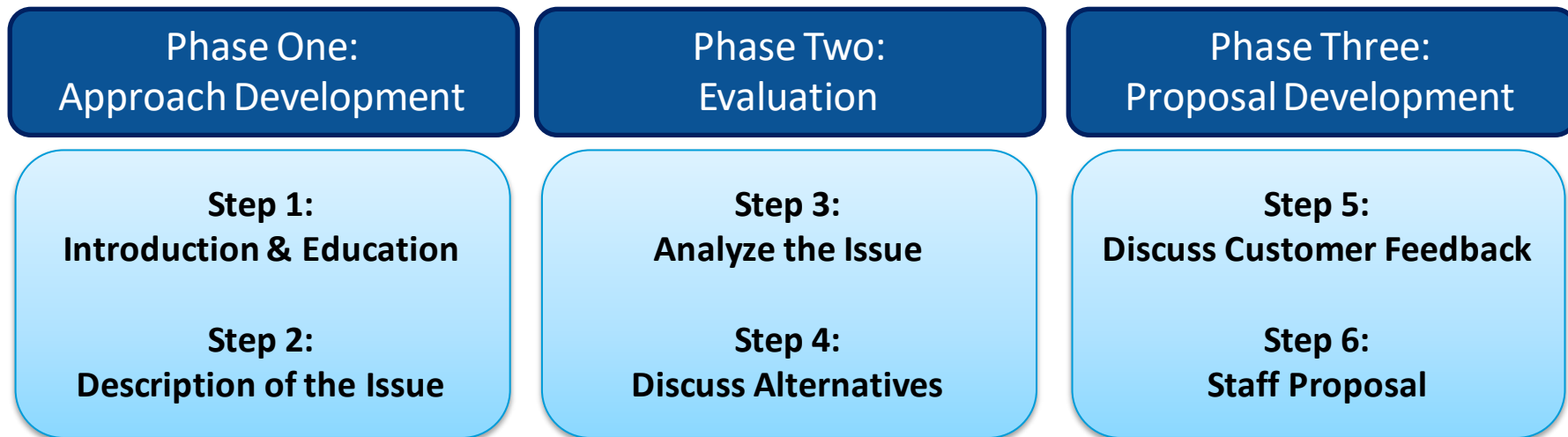
◆	Pre-Proceeding Workshop
◆	Customer Engagement
★	Deadline/Decision



Procedural schedule dates are draft only

Approach to Customer Engagement

Most identified issues will be presented according to the following process at workshops (multiple steps might be addressed in a single workshop):



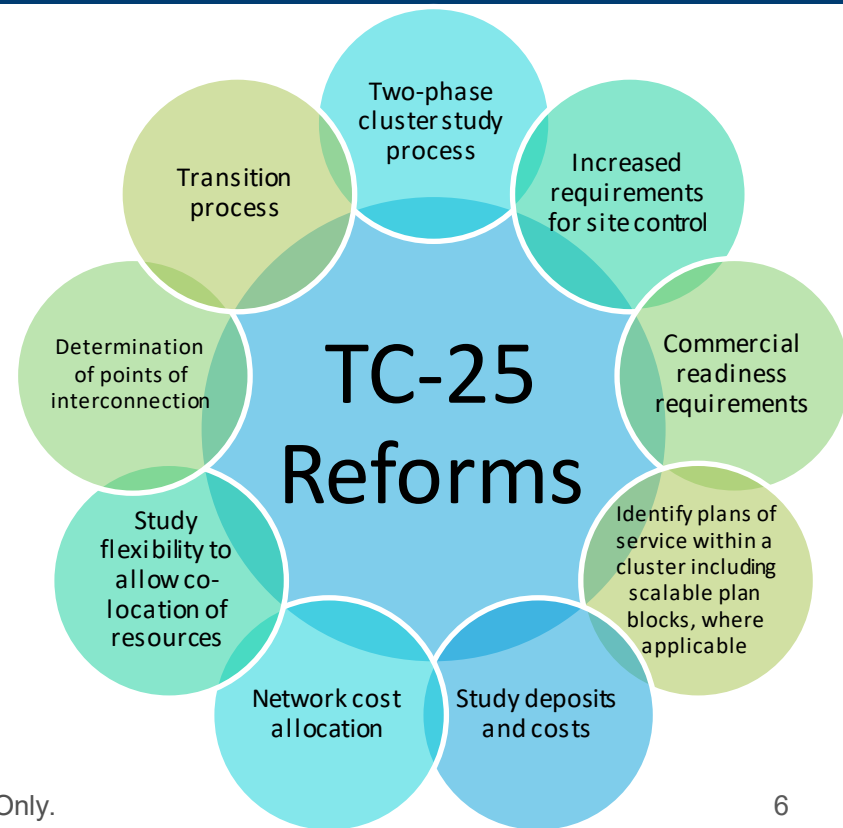
Teams will follow the steps that may be covered in one workshop or more based on the complexity of the issue.

Customer Led Workshops

- Within one week after every workshop, customers can request a Customer Led workshop that would focus on topics presented in the previous workshop.
- Customers should provide the topic and estimated time needed for discussion with BPA SMEs.
- BPA will not create new content – this is an opportunity to ask further questions on materials previously presented.
- Opportunities for customers to present on topics of interest, where BPA will be in listening mode.

TC-25 Large Generator Interconnection Queue Reforms

- BPA, customers, and stakeholders agreed to reforms of the large generator interconnection queue in the TC-25 Settlement Agreement.
 - BPA adopted the reforms in the TC-25 Proceeding.
- Reforms replaced the first-come, first-served serial processing of large generator interconnection requests with a first-ready, first-served cluster study process.
- Adopted TC-25 Tariff will go into effect June 30.



Proposed changes for large generator interconnection queue for BP/TC-26

- In the TC-25 Settlement Agreement, BPA committed to hold workshops before the BP/TC-26 proceedings to discuss whether specific revisions are needed to implement the reformed first-ready, first-served, two-phase cluster study process:
 - **Large Generator Interconnection Agreement (LGIA)**
 - **Withdrawal Penalties**
- BPA also identified the need to address an additional issue: **Affected Systems.**

Consideration of Order 2023 and Order 2023-A

- In evaluating whether reforms are needed in these three areas to support BPA's reformed study process, BPA will consider *pro forma* provisions set in Order Nos. 2023 and 2023-A as alternatives.
- BPA is not considering or proposing additional changes to align BPA's Tariff with Order Nos. 2023 and 2023-A at this time.
- BPA will continue to review Order Nos. 2023 and 2023-A and may propose changes to the Tariff in future proceedings to align with *pro forma* or in response to BPA and customer experiences in the Transition Cluster Study.

Transmission Rates - Segmentation Update (with Utility Delivery)



Agenda

- Segmentation Update
- Utility Delivery Settlement Commitment

BP-26: FY23 Segmentation

- BPA is proposing no methodology changes or changes to segment definitions.
- The Segmentation Study assigns plant investment to segments based on their function.
- Segmented net plant is used to allocate capital related costs in the revenue requirement to specific segments.
- Existing plant in service is updated with actuals through FY 2023 for the BP-26 Initial Proposal.

Description of Segments

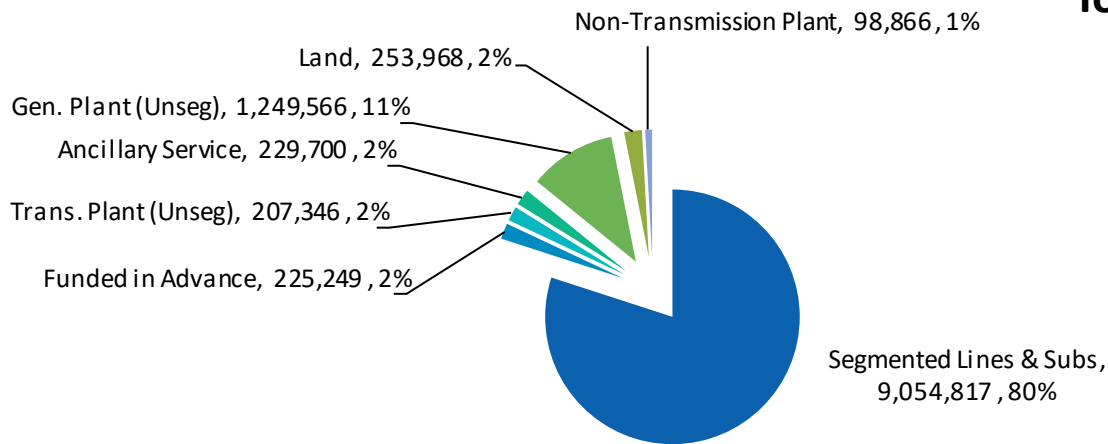
- **Generation Integration**
 - Transmission facilities that connect Federal generation to BPA's transmission facilities.
- **Network**
 - Core of BPA's transmission system. Transmission facilities that transmit power from Federal and non-federal generation sources or interties to the load centers of BPA's transmission customers in the PNW or other segments.
- **Southern Intertie**
 - Transmission facilities used primarily to transmit energy between the PNW and California.
- **Eastern Intertie**
 - Transmission facilities connecting network facilities in the PNW to Eastern Montana, primarily to transfer energy from Colstrip to the PNW (these facilities were constructed pursuant to the Montana Intertie Agreement).
- **Utility Delivery**
 - Low voltage transmission lines and substation equipment associated with supplying power directly to utility customers' distribution systems (below 34.5 kV).
- **DSI Delivery**
 - Transformers and low-side switching equipment and protection equipment necessary to step down power to DSI customers at industrial voltages (6.9 or 13.8 kV).
- **Ancillary Service**
 - Communications and control equipment necessary for BPA to provide Scheduling, System Control and Dispatch (SCD) service.

Segments

Segment	Corresponding Rates
Network	PTP, NT, FPT
Utility Delivery	UDC
DSI Delivery	UFT
Southern Intertie	IS
Eastern Intertie	IE, IM, TGT
Generation Integration	Assigned to power rates
Ancillary Services	ACS

BP-26: FY23 Plant Investment Summary

**BPA Plant Investment
as of September 30, 2023
Total: \$11,319,512
(\$000)**



Segmented Lines and Substations Investment (\$000)

BPA Plant Investment, through Sept. 30, 2021 (BP-24 IP)									
A	B	C	D	E	F	G	H	I	J
	Generation Integration	Network	Southern Intertie	Eastern Intertie	Utility Delivery	DSI Delivery	Segmented Total	Ancillary Services	General Plant
Stations	124,684	3,895,356	823,742	28,419	18,917	8,256	4,899,375		
Lines	32,978	3,475,249	316,676	95,006	590	-	3,920,499		
Sub Total	157,662	7,370,605	1,140,418	123,425	19,508	8,256	8,819,874	178,783	1,227,325
% of Segmented Total	1.8%	83.6%	12.9%	1.4%	0.2%	0.1%	100.0%		

BPA Plant Investment, through Sept. 30, 2023 (BP-26 IP)									
A	B	C	D	E	F	G	H	I	J
	Generation Integration	Network	Southern Intertie	Eastern Intertie	Utility Delivery	DSI Delivery	Segmented Total	Ancillary Services	General Plant
Stations	156,821	4,220,921	829,361	29,175	19,118	8,349	5,263,746		
Lines	44,743	3,541,303	316,771	95,010	590	-	3,998,418		
Sub Total	201,564	7,762,224	1,146,133	124,185	19,708	8,349	9,262,163	229,700	1,249,566
% of Segmented Total	2.2%	83.8%	12.4%	1.3%	0.2%	0.1%	100.0%		

Station and Line Totals Tie to Segmented Lines and Subs plus Unsegmented Transmission Plant from Prior Slide
Due to the BP-24 settlement, no update was published in FY2022

O&M Segmentation Methodology

- Consistent with prior O&M methodology
- Based on a 7-year historical average
- Direct O&M are historical O&M costs associated with a specific asset
 - The O&M is directly charged to the asset.
 - The O&M is then assigned to the different segments based on the segmented investments.
- Non-direct O&M are historical O&M costs not associated with a specific asset
 - These costs are allocated to Lines, Substations, and Metering stations in proportion to the direct O&M in each respective group.
 - Transmission Line and Right-of-way Maintenance, and Vegetation Management (all non-direct) are allocated to Lines only.

Segmented Historical Operations and Maintenance (O&M)

(\$000)

BPA Historical Operations and Maintenance (O&M)									
Fiscal Years 2015 through 2021 (Seven Years)									
A	B	C	D	E	F	G	H	I	J
	Generation Integration	Network	Southern Intertie	Eastern Intertie	Utility Delivery	DSI Delivery	Segmented Total	Ancillary Services	Overhead
Stations	3,325	110,131	18,868	1,027	1,065	413	134,828		
Lines	621	49,531	2,120	1,150	16	-	53,437		
Sub Total	3,945	159,662	20,988	2,176	1,081	413	188,266	66,126	59,680
% of Segmented Total	2.1%	84.8%	11.1%	1.2%	0.6%	0.2%	100.0%		

BPA Historical Operations and Maintenance (O&M)									
Fiscal Years 2017 through 2023 (Seven Years)									
A	B	C	D	E	F	G	H	I	J
	Generation Integration	Network	Southern Intertie	Eastern Intertie	Utility Delivery	DSI Delivery	Segmented Total	Ancillary Services	Overhead
Stations	3,562	111,214	19,446	1,170	1,095	274	136,762		
Lines	661	50,811	2,811	960	15	-	55,258		
Sub Total	4,223	162,025	22,257	2,130	1,111	274	192,020	70,402	72,945
% of Segmented Total	2.2%	84.4%	11.6%	1.1%	0.6%	0.1%	100.0%		

Due to the BP-24 settlement, no update was published in FY2022

Segmentation – Future Plant in Service

- The Segmentation Study reflects historic plant in service through FY 2023.
- A future plant in service forecast will be used for FY 2024-29 in the Initial Proposal to project segmented net plant investment during the rate period.
 - The plant in service forecast will be based on proposed capital spending levels slated for discussion in the 2024 IPR process

Next Steps and Questions

- **Next Steps**
 - The future plant in service will be updated based on IPR capital projections.
 - The segmentation study will be updated for the BP-26 Final Proposal to reflect plant placed into service and retirements through FY 2024.
- **Questions?**

Utility Delivery Segment

- Significant discussion of the Utility Delivery segment was raised during the BP-24 settlement, regarding the growing cost of Utility Delivery.
- BP-24 Settlement Agreement:
 - By May 1, 2024, Bonneville will hold at least one BP-26 workshop to discuss the Utility Delivery (UD) segment and related issues as part of a broader review of Bonneville's segmentation methodology.

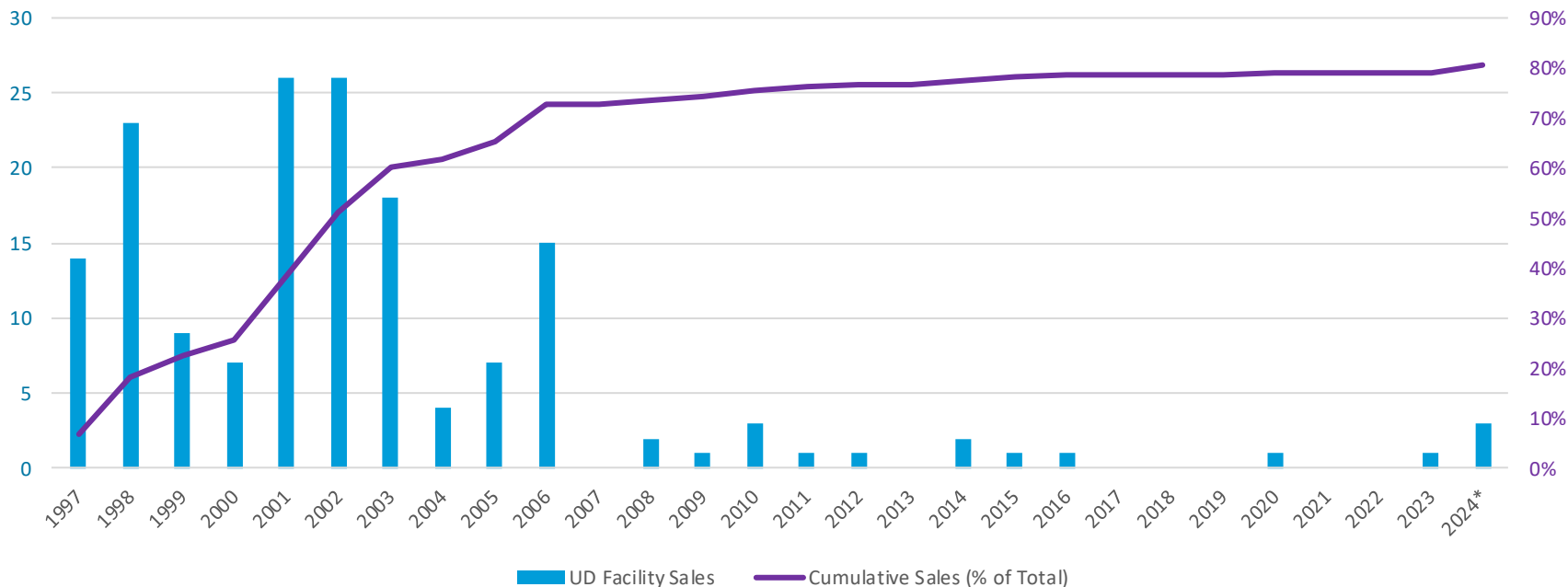
Utility Delivery History

- Prior to 1996, utility delivery costs were segmented by customer class (IOU, Preference Customer, or DSI delivery), and rolled into power rates for those customers.
- In the 1996 rate case, the settlement agreement established a new method for segmenting Utility Delivery facilities, resulting in part from the separation of power and transmission business lines. The settlement provided an opportunity for those customers to buy the facilities and get rid of the charge for UD.
 - A bright-line voltage level was chosen to separate delivery (below 34.5kV) and transmission facilities (34.5kV and above).
 - The resulting delivery facilities were then segmented into two groups: DSI (treated generally by long term contract, as they were previously), and Utility Delivery (with a transmission rate).
 - In the discussion for the 1996 Rate Case Settlement, it was determined that the Utility Delivery rate may not fully recover UD costs (as these mostly fall on Bonneville's smallest customers and may create hardship).
- **BP-16 made substantial changes to the segmentation process as related to Utility Delivery**
 - After discussion during BP-14, a segmentation industry review was written during the BP-14 rate period, and used to redefine the UD segment and segmentation process during BP-16.
 - Functionalization test instead of a voltage test – if power is delivered to the customer at customer's distribution voltage, it is a UD facility.
 - This became an equipment level functionalization, with equipment on the 'high-side' of facilities segmented to the network, and on the low-side to UD, and other specific changes.
 - Existing facility segmentations were grandfathered in place, limiting the overall effect.
- After selling most Utility Delivery facilities to customers who use the facilities, since this agreement, the size of the UD segment has gone from 4.1% of the Transmission Revenue Requirement in WP/TR-96 to 0.3% of the Transmission Revenue Requirement in BP-24.

History of UD Facility Sales

- After the 1996 changes, the UD Rate created an incentive for utilities to purchase and operate delivery facilities.
- Of 205 Utility Delivery facilities connected to BPA's network, 163 (80%) have been sold, with most sales happening in the first 10 years following the change (149 sales by the end of FY2006). Some additional facilities have been retired.
- Remaining facilities generally have difficulties that complicate sale:
 - Most of the remaining facilities have old transformers and may need significant investment.
 - Remaining customers are small and may lack the financial or human capital required to own and operate the substations.
 - Ownership structure difficult to create (multiple customers, land use contracts, etc.)

Utility Delivery Facilities Sold by Fiscal Year



* 1 facility sale tendered, with 2 more currently in talks; those two may or may not be sold during FY 2024.

Summary and Questions

- Summary
 - BPA currently proposes no changes to Utility Delivery segmentation but welcomes comments.
- Questions?



Gen Inputs (Energy Storage Devices)

Possible ACS Design for Energy Storage Devices



ACS and Energy Storage Devices

Step 1: Introduction and Education

Step 2: Description of the Issue



Generation Inputs

- Each Balancing Authority (BA) is responsible for ensuring that electrical generation equals electrical load in its Balancing Authority Area (BAA).
- BPA must maintain reliability within its BAA in accordance with applicable NERC reliability standards.
- BPA utilizes generation inputs to provide Ancillary and Control Area Services to maintain load-resource balance at all times and to respond to the many variables that affect transmission system reliability in its BAA.

Energy Storage Devices in the BPA Queue

- In 2023, BPA experienced significant levels of energy storage project requests in the Interconnection queue (104 GW).
- Projects as large as 1100 MWs of stand-alone batteries have been proposed.
- BPA has been contacted by several customers interested in:
 - Installing energy storage in their load service areas, and
 - Significant stand-alone storage projects interested in interconnecting in the BPA BAA.
- These proposed projects are in the BPA BAA, but not owned or operated by BPA.
- BP-26 is a three-year rate period, during which it is likely that BPA could see significant development of Energy Storage Devices in the BPA BAA.

BPA BAA Reliability

- BPA is required to operate the BAA in such a way to maintain reliable operation within and among the BAAs affected by the transmission service.
 - Ancillary Services are needed with transmission service for a party to satisfy its Reliability Obligation.
 - Control Area Services are provided for:
 - A party that is not satisfying all of its Reliability Obligation through the purchase or self-provision of Ancillary Services, and
 - A Party with resources or loads in the BPA Control Area that has Reliability Obligations but does not have transmission agreements with BPA.

Issues Raised by Energy Storage Devices

- Issue: BPA's current ACS designs and definitions do not address energy storage devices' use of balancing capacity.

ACS and Energy Storage Devices

Step 3: Analyze the Issue

Step 4: Discuss Alternatives



Energy Storage Devices (ESD) Not a VERs or DERs

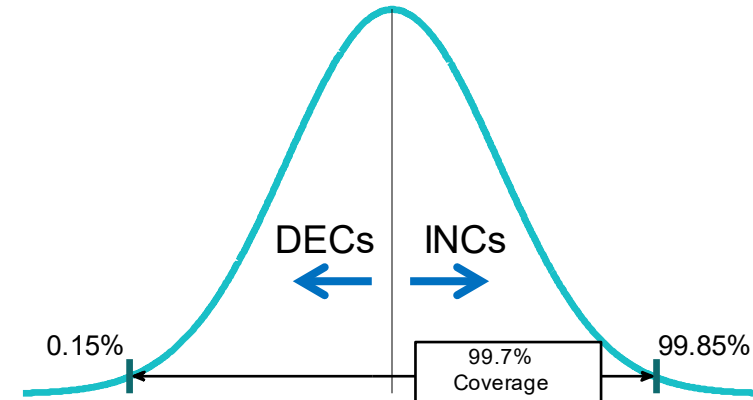
- BPA does not have a rate under which it could recover the cost of Balancing Capacity needed to stand ready to cover variability in an energy storage device's operation.
 - Energy storage devices do not fit the definition of either VERS or DERS.
 - VER = An electric generating facility that is characterized by an energy source that: (1) is renewable; (2) cannot be stored by the facility owner or operator; and (3) has variability that is beyond the control of the facility owner or operator. This includes, for example, wind, solar thermal and photovoltaic, and hydrokinetic generating facilities. This does not include, for example, hydroelectric, biomass, or process steam generating facilities.
 - DER = Any non-federal thermally-based generating resource 3 MW or greater that schedules its output or is included in BPA's Automatic Generation Control system. This includes generation behind the meter where a generation estimate is used as the resource schedule.

Objectives and Criteria of Evaluation

- As BPA evaluates this issue, the following objectives and decision criteria will be considered:
 - Ensure sufficient levels of Balancing Reserve Capacity to maintain reliable operations of the BPA BA.
 - Provide service consistent with our OATT and BA requirements.
 - Equitable treatment of energy storage devices with other customers in the BPA BAA.
 - Ensure customers that use a service help pay for the cost of the service.

Current Balancing Reserve Methodology

- BPA holds capacity for balancing reserves to meet the NERC standards and OATT requirements to maintain load-resource balance within its BAA.
- Balancing reserves needed for the BPA BAA are set in advance of the start of each rate period.
- BPA performs statistical evaluations of combined load and generation fleet error to yield a final amount of balancing reserve capacity needed to meet BPA's 99.7% planning standard.
 - This evaluation captures diversity benefits—the difference in timing of INCs and DEC's deployed for generators and load—they don't all move in the same direction at the same time.
- BPA does not have sufficient historical data on how storage devices will operate in the BPA BAA to fully determine the impact on the amount of Balancing Capacity need on a planning basis.



Consistent with our BA requirements

- BPA holds capacity for balancing reserves to meet the NERC standards and OATT requirements to maintain load-resource balance within its BAA.
 - BPA holds balancing reserve capacity to meet a 99.7% planning standard.
- Failure to account for energy storage devices in the BPA BAA would result in potential negative impacts to the level of ACS service BPA provides
- BPA does not have a rate for energy storage devices under which it could:
 - Acquire additional Balancing Capacity if needed to balance ESDs
 - Recover the cost of Balancing Capacity needed to stand ready to cover variability in an ESD's operation.

BP-26 Cost Recovery

- BP-26 is a three-year rate period, during which it is likely that BPA could see significant development of Energy Storage Devices in the BPA BAA.
- As more and more ESDs are developed, absent an ACS design and rate, they would lean increasingly on Balancing Capacity being paid for by other customers.
- Currently BPA does not have the ability to ensure:
 - Equitable treatment of ESD customers and apply the principle of cause causation.
 - ESD customer are charged for the Balancing Capacity services they use.

Status Quo

Alternative 1 – Status Quo

- BPA would not address ACS for energy storage devices in BP-26. Instead, BPA would wait for a future rate period to verify actual growth and need for an energy storage device rate.

Alternative to Statute Quo

Alternative 2 – Develop a Control Area Service for Energy Storage Devices

- Under this alternative, BPA would develop a Control Area Service for energy storage devices in the BP-26 to address the Balancing Capacity needs.
 - This alternative would include a new Control Area Service for an Energy Storage Device (ESD)
 - The new Control Area Service would be Energy Storage Device Balancing Service (ESDBS)

Energy Storage Devices in BPA Tariff

FERC

- In order 845 FERC, directed transmission providers to revise the definition of “generating facility” in the LGIP and pro forma LGIA to include storage devices.

BPA

- In its Tariff, BPA defines that a Generating Facility shall mean the Interconnection Customer's device for the production and/or storage for later injection of electricity identified in the Interconnection Request but shall not include the Interconnection Customer's Interconnection Facilities.

CAISO and SPP Markets+

CAISO

- The CAISO models/treats Storage Devices as a Non-Generating Resource (NGR), similar to the model used for BPA's Aggregate Participating Resources (APRs). NGR is applied to the APRs, which are dispatched in both the positive and negative directions. The ISO's NGR model was designed for batteries and allows them to both produce and consume energy (positive/negative).

SPP Markets+

- In SPP Market's+ proposed tariff, they include the ability for Energy Storage Resources (ESR) to registered as a Market Storage Resource (MSR). As a MSR, the Offer Curves may include negative MW values as well as positive MW values to account for the entire charge and dispatchable range of the MSR.

Possible Features of ESDBS

- For Gen Inputs, develop a Use-Base Capacity charge (similar to DERBS) to capture the cost of Balancing Capacity for energy storage devices that can be applied for both:
 - Discharging, and for
 - Charging.
- Imbalance would apply to the imbalance the energy storage device experiences during both phases of the ESD operation.

Note: BPA does not yet have sufficient historical data on how ESDs will operate in the BPA BAA, needed to fully determine the amount of Balancing Capacity on a planning basis. If BPA decides to move forward with developing an ACS to apply to storage devices, a Use-Based approach would allow BPA to recover ACS costs from the Storage Device while at the same time accumulating a data set for ACS needs. The revenue would be used toward additional Balancing Capacity as needed.

ACS for Energy Storage Devices - Pros

<p>Alternative 1 Status Quo - Wait</p>	<p>Alternative 2 Develop ACS for ESD</p>
<ul style="list-style-type: none"> • Less work in the BP-26 rate proceeding. • Waiting will allow the need to develop before BPA designs the service. • May allow historical data set to develop. 	<ul style="list-style-type: none"> • Consistent with OATT and BAA requirements, • Establishes service and rates before significant build out • Equitable treatment of customers and applies the principle of cause causation • Ensures customer are charged for the services they use. <p>Elements of proposal:</p> <ul style="list-style-type: none"> • The New Capacity service - applied to the energy storage device while charging & discharging • Simplifies the treatment of ESDs <ul style="list-style-type: none"> • Applies the same approach to all storage devices not used to reduce the Balancing Capacity need of the BPA BA.

ACS for Energy Storage Devices - Cons

<p>Alternative 1 Status Quo - Wait</p>	<p>Alternative 2 Develop ACS for ESD</p>
<ul style="list-style-type: none"> • During BP-26 we expect to see a significant growth of energy storage devices. • Waiting could result in customers developing energy storage devices without knowing full cost. • Failure to account for energy storage devices in the BPA BAA would result in potential negative impacts to the level of ACS service BPA provides. • Energy storage devices would not be treated equitable with other customers. • Energy storage devices would not be charged for services they use. 	<ul style="list-style-type: none"> • Additional work for the BP-26 rates proceedings. • Future storage growth may not materialize.

GI Withdrawal Penalties

Step 1: Introduction and education

Step 2: Description of the issue



Background

- In February 2023, BPA's large generator interconnection queue contained more than 120 GW in requested capacity.
- Under BPA's first-come, first-served serial study process, BPA could not reasonably process these requests.
- BPA identified that the large generator interconnection queue had a backlog due to 1. the number and size of the requests received, 2. the inefficiencies in addressing each request individually, and 3. complications caused by withdrawals.
- BPA initiated region-wide discussion
 - Customers agreed that the serial study process was not working and without reform it could take 5 years or more for a request to be processed.
 - Customers agreed a cluster study process would improve the process.
- Through TC-25 Settlement, BPA adopted a first-ready, first-served cluster study process.

TC-25 Commitment - GI Withdrawal Penalties

In recognition that withdrawals could continue to cause complications, BPA committed to hold workshops to discuss proposals for withdrawal penalties.

TC-25 :Terms of the Settlement section 5:

- Bonneville will hold the following stakeholder workshops:

d. Withdrawal Penalties. Before the BP-26 and TC-26 proceedings, to discuss proposals for withdrawal penalties under the LGIP and necessary revisions to the LGIA study deposits and commercial readiness deposits.

GI Withdrawal Penalties - Problem Statement

Step 2. Description of the Issue

- Objective of this effort is to explore whether withdrawal penalties should be implemented to address concerns that withdrawals will continue to cause complications
- Concerns that a withdrawal could:
 - Cause a need to re-study a cluster
 - creating uncertainty as to when the study process will conclude, what final study costs will be, and when a project will be commercially operable
 - Affect the cost allocation of shared network upgrades
 - creating uncertainty as to final facility costs
 - Trigger a cascade of further withdrawals
 - Delay the start of subsequent cluster study process

GI Withdrawal Penalties - Education of Order

2023/2023A

- Withdrawal Penalties - The final rule requires the transmission provider to impose a withdrawal penalty if the withdrawal of an interconnection customer from the queue has a material impact on the cost or timing of any interconnection requests in the cluster study. These withdrawal penalties are meant to deter non-viable projects from entering or remaining in the interconnection queue and to mitigate potential harm to other interconnection customers in the queue.

GI Withdrawal Penalties - Order No. 2023 Example

- How should penalties be calculated? When should the penalty apply?
- Example of withdrawal penalty calculation dependent on when a customer withdraws:

Phase of Withdrawal	Total Withdrawal Penalty (if greater than study deposit)
Initial Cluster Study	Two times study costs
Cluster Restudy	5% of network upgrade costs
Facilities Study	10% of network upgrade costs
After Execution of, or After Request to File Unexecuted, the LGIA	20% of network upgrade costs

GI Withdrawal Penalties - Order No. 2023 Example

- When does the penalty apply? During the Transition Process?
- Transition Process
 - After initial study, if the customer remains in the queue and continues the transition process, they are subject to withdrawal penalties
 - After Transition, Customers are subject to withdrawal penalties. The penalties are dependent on the cluster study phase and other unanticipated increases.

GI Withdrawal Penalties- Order No. 2023 Example

Should there be exceptions to when the penalty applies?

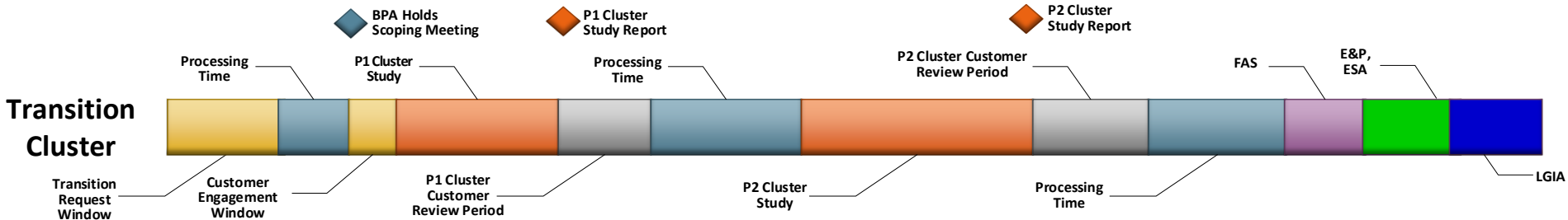
- Exempt from withdrawal penalties if:
 - Withdrawal does not have a material impact on the cost or timing of any interconnection requests with an equal queue position
 - Withdrawal follows significant unanticipated increases in network upgrade costs estimates:
 - The interconnection customer withdraws its interconnection request after receiving the most recent cluster study report and the network upgrade costs assigned to the interconnection customer's request have increased by 25% compared to the previous cluster study report, or
 - The interconnection customer withdraws its interconnection request after receiving the individual facilities study report and the network upgrade costs assigned to the interconnection customer's request have increased by more than 100% compared to costs identified in the cluster study report.

GI Withdrawal Penalties - Order No. 2023 Example

How should Withdrawal Penalty funds be allocated?

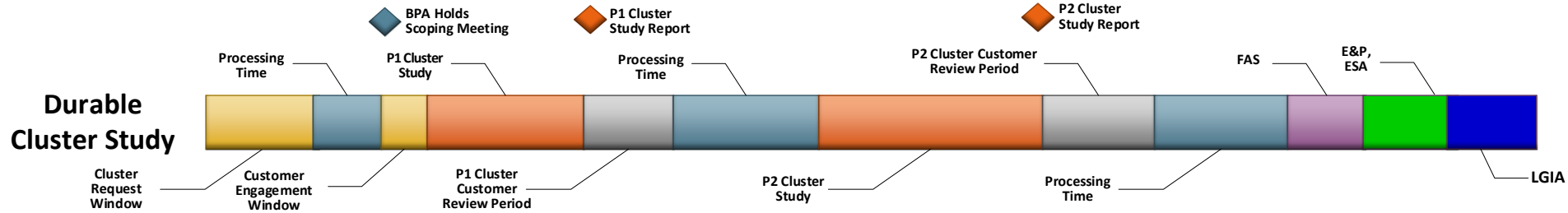
- **Withdrawal Penalty funds are dispersed:**
 - First, to cover the costs of studies previously performed for customers with executed or filed LGIA;
 - Next, any remaining funds are used to offset any remaining customer's net increases in network upgrade costs caused by the customer's withdrawal (due to a previous shared funding obligation); and
 - Finally, any remaining funds are returned to the withdrawing customer.

BPA GI Reform Timelines



- Re-studies for Phase One Cluster Study and Phase Two Cluster Study are not included but may be a possibility depending on withdrawals.

BPA GI Reform Timelines



- Re-studies for Phase One Cluster Study and Phase Two Cluster Study are not included but may be a possibility depending on withdrawals.
- The first durable Cluster Study will not be initiated until the Transition Cluster Study is complete. Any delay to the Transition Cluster Study due to re-studies triggered by withdrawals may result in a delay to initiating the first durable Cluster Study.

Staff Questions/Consideration for Withdrawal Penalty

- As noted in slide 47, staff is concerned with re-studies, impact of cost allocations, additional withdrawals and delay of subsequent study process. In order to mitigate these concerns, staff is evaluating a possible withdrawal penalty.
- Staff is considering the following questions as part of evaluation of a withdrawal penalty:
 1. How to calculate a withdrawal penalty?
 2. When to apply a withdrawal penalty?
 - a) Should there be exceptions to when a withdrawal penalty applies?
 - b) Should a withdrawal penalty apply during the Transition Process?
 3. How would withdrawal penalty funds be allocated?
- Are there other elements we should consider?

Staff Questions/Consideration for Withdrawal Penalty

1. How to calculate a withdrawal penalty?

- Should the withdrawal penalty increase as a request progresses through the study phases?
- Should the penalty be calculated based on study costs?
- Should the penalty be calculated by referencing network upgrade costs shifts?
- Should the penalty be a fixed amount?
- Should the penalty be calculated based on a request's MW?

Staff Questions/Consideration for Withdrawal Penalty

2. When should a withdrawal penalty apply?

- Should a withdrawal penalty apply for all cluster phases?
- Should a withdrawal penalty apply only after the initial phase?
- Should a withdrawal penalty apply after an Environmental Study Agreement or LGIA is executed?
- If there are more than one withdrawals, how should we determine which withdrawal impacted or caused a restudy or impacted network cost allocations?

Staff Questions/Consideration for Withdrawal Penalty

2.a. Should there be exceptions to when a withdrawal penalty is applied?

- Should withdrawals that do not impact the timing or costs of other requests in that cluster be exempt from withdrawal penalties?
 - Should every withdrawal that causes a re-study be subject to a withdrawal penalty?
- Should withdrawals after significant increases in estimate network upgrade costs be exempt from withdrawal penalties?

Staff Questions/Consideration for Withdrawal Penalty

2.b. Should a penalty apply during the Transition Process?

- Should it be assessed?
 - May a withdrawal penalty be assessed only after: the initial Phase One Cluster Study, a Phase One Cluster Re-Study, or withdrawals after the initiation of the Phase Two Cluster Study?
 - May a withdrawal penalty be assessed for withdrawal of requests after the Transition Cluster Study (i.e. Environmental Study Agreement or LGIA)?
 - May a withdrawal penalty be assessed to customers who withdraw Late-Stage projects from the queue?
- How much should be assessed at each applicable phase of the large generator interconnection process?
- Should there be exceptions?
- If there is a withdrawal penalty, how should the penalty revenue it be allocated?
 - If there are delays to the start of the next cluster study after the transition, should those waiting in the queue for the next cluster study be considered?

Staff Questions/Consideration for Withdrawal Penalty

3. How should withdrawal penalty funds be allocated?

- Should penalty funds go to pay for restudies?
- Should penalty funds pay for plans of service?
- Should penalty funds pay for future upgrades?

GI Withdrawal Penalties-Next Step

- **Feedback on the questions from customers**
 - If you do not want penalties, please share with us how we are going to prevent the problem of restudies and possible increased network costs for others?
 - Please provide feedback on the staff questions/consideration on slides 56-60.

Generator Interconnection Affected Systems

Step 1: Introduction and education

Step 2: Description of the issue



Step 1: Introduction and Education

Background

- Affected System studies evaluate reliability impacts on a Transmission Provider's system caused by proposed interconnection requests on neighboring transmission systems.
 - Transmission Providers are obligated to coordinate with neighboring providers to conduct studies.
- Prior to FERC's recent adoption of Order No. 2023, there was no industry-wide, standardized Affected System study process for Transmission Providers to follow.
 - The lack of a standardized process creates a lack of transparency for customers and inconsistency in how Transmission Providers perform Affected System studies.
- In the April TC-25 workshop, BPA shared that we would retain the current approach for Affected System studies until FERC adopted a standard approach. BPA's current tariff language is consistent with pro forma prior to Order No. 2023.
 - BPA is now evaluating if the current approach or any specific alternatives would work with the its new first-ready, first-served two-phase cluster interconnection study process adopted in TC-25.

Step 1: Introduction and Education

Currently

- BPA LGIP, Section 3.6 Coordination with Affected Systems

Transmission Provider will coordinate the conduct of any studies required to determine the impact of the Interconnection Request on Affected Systems with Affected System Operators and, if possible, include those results (if available) in its applicable Interconnection Study within the time frame specified in this LGIP. Transmission Provider will include such Affected System Operators in all meetings held with Interconnection Customer as required by this LGIP. Interconnection Customer will cooperate with Transmission Provider in all matters related to the conduct of studies and the determination of modifications to Affected Systems. A Transmission Provider with whom interconnection has been requested in all matters related to the conduct of studies and the determination of modifications to Affected Systems. It is the responsibility of the Affected System Operator to provide the requirements or potential impediments to providing the requested interconnection service, including a preliminary indication of the cost and length of time that would be necessary to (i) complete any interconnection studies and (ii) construct any necessary facilities on the Affected System needed to reliably interconnect at the requested service level.

Step 1: Introduction and Education

Currently Cont.

- BPA generally performs Affected System studies when the host Transmission Provider is performing its Facilities Study.
 - BPA performs Affected Systems studies in a serial manner when we are identified as an impacted party and when BPA determines there is a need to perform a study.
 - Studies are performed throughout the year as notifications/requests are received.
 - BPA used only ERIS modeling assumptions for Affected System studies.
- Neighboring Transmission Providers affected by a proposed interconnection request in BPA's queue were performing Affected System studies according to their own tariffs.
 - BPA coordinates with adjacent entities when they are identified as impacted parties and potentially need to perform Affected System studies.
 - BPA does not pause our study process while waiting for the neighboring Transmission Provider to complete an Affected System study.

Step 2: Description of the Issue

Issue

- BPA does not provide the same level of visibility of study status for projects undergoing an Affected System studies as it does for requests in BPA's interconnection queue, limiting the ability of affected customer to track progress.
- BPA does not currently have an efficient, consistent, and sustainable process for performing Affected System studies in parallel with interconnection studies of requests in BPA's interconnection queue.
 - Any process must work in coordination with BPA's new first-ready, first-served cluster study approach for large generator interconnection requests.
- BPA needs to establish an Affected System studies process that coordinates with neighboring Transmission Providers' processes.

Step 2: Description of the Issue

- BPA sees a gap in our Affected System studies process because the current process does not contemplate BPA's TC-25 reformed interconnection queue process or neighboring Transmission Providers' processes.
- Questions:
 - What visibility of Affected System studies do customers need?
 - What is the most efficient, consistent, and sustainable process for performing Affected System studies in parallel with the new two-phase cluster study process for requests in BPA's interconnection queue?
 - How will BPA coordinate better with other Transmission Providers' processes?

Next Steps

June Pre-Proceeding Workshop:

- Step 3 – Present data and/or analysis that supports the Affected Systems study issue
- Step 4 – Discuss possible alternatives to address issue



GI Reform

Large Generator Interconnection Agreement (LGIA)

Step 1: Introduction and education

Step 2: Description of the issue



Step 1: Introduction and Education

- The LGIA is defined as follows in BPA's Tariff:
 - ***Standard Large Generator Interconnection Agreement (LGIA)*** shall mean the form of interconnection agreement applicable to an Interconnection Request pertaining to a Large Generating Facility that is included in Transmission Provider's Tariff.
- In TC-25 BPA changed Attachment L of the Large Generator Interconnection Procedures (LGIP), which necessitates revisions to the LGIA template in Attachment L, but BPA delayed revising the template during the proceeding due to time constraints.
- BPA will also analyze FERC Orders 2023 and 2023-A for language included in the *pro forma* LGIA.

Step 2: Description of the Issue

- BPA's current Tariff LGIA template has portions that are inconsistent with BPA's TC-25 reforms and/or the FERC *pro forma* Tariff.
 - BPA intends to evaluate the following sections of the LGIA:
 - Article 1 – Definitions
 - Article 5.4 – Power System Stabilizers
 - Article 5.9.2 – Provisional Interconnection Service
 - Article 7.1 – General
 - Article 8.4 – Provision of Data from a Variable Energy Resource
 - Article 9 – Operations
 - Article 11.5 – Provision of Security
 - Article 13.2 – Obligations
 - Article 17.2 – Violation of Operating Assumptions for Generating Facilities
 - Article 22.1.11
 - Article 24.3 – Updated Information Submission by Interconnection Customer
 - Appendix A – Interconnection Facilities, Network Upgrades and Distribution Upgrades
 - Appendix B – Milestones
 - Appendix G – Interconnection Requirements for a Wind Generating Facility
 - Appendix H – Operating Assumptions for Generating Facility
 - BPA also intends to include minor edits and formatting changes to other sections of the LGIA to make them consistent with the FERC *pro forma*.

Step 2: Description of the Issue (cont.)

- The Objective of this effort is to align BPA's Tariff LGIA template with TC-25 reforms and/or the *pro forma* Tariff.

Next Steps

- In the June workshop, BPA will provide a summary of our evaluation.
- In the summary we will identify the LGIA sections BPA has reviewed, flag LGIA sections that BPA proposes to revise to align with TC-25 reforms or pro forma and identify sections that are still under review.

Wrap up

- Please send any feedback, with your topic you are addressing by Wednesday, May 8, to BPA's Tech Forum at techforum@bpa.gov, with a cc to your Power and/or Transmission Account Executive.
- If you would like to have a customer led workshop on May 9, please send us the topic that you would like additional information or send us your proposal by May 4 and how much time you will need to BPA's Tech Forum at techforum@bpa.gov, with a cc to your Power and Transmission Account Executive.
- The next workshop will be on May 22 and it will be hybrid.



Appendix



BP-26 and TC-26 Workshops: Proposed Dates for Topics

Date	Rate/Tariff Topics
May 22 (Wed)	<p data-bbox="382 363 683 394">Transmission Rates</p> <ul data-bbox="382 408 1224 484" style="list-style-type: none"><li data-bbox="382 408 1006 438">• Sales Forecast (with Montana Intertie)<li data-bbox="382 453 1224 484">• Persistent Deviation/Intentional Deviation in the EIM <p data-bbox="382 525 581 555">Power Rates</p> <ul data-bbox="382 570 1122 600" style="list-style-type: none"><li data-bbox="382 570 1122 600">• Western Resource Adequacy Program (WRAP) <p data-bbox="382 641 465 671">Tariff</p> <ul data-bbox="382 685 1340 856" style="list-style-type: none"><li data-bbox="382 685 1292 716">• PTP Service Agreement – Conditional Firm Service Exhibit<li data-bbox="382 730 828 761">• ROFR Queue Management<li data-bbox="382 775 1180 805">• Section 4 update to align with Attachment C (ATC)<li data-bbox="382 820 1340 850">• Transmission Line Ratings – FERC Order 881 implementation

BP-26 and TC-26 Workshops: Proposed Dates for Topics

Date	Rate/Tariff Topics
June 25 & 26 (Tue-Wed)	<p data-bbox="388 358 664 385">Transmission Rates</p> <ul data-bbox="388 401 819 472" style="list-style-type: none"><li data-bbox="388 401 693 429">• Non-EIM Balancing<li data-bbox="388 440 819 472">• Balancing Reserves Shortfall <p data-bbox="388 511 571 538">Power Rates</p> <ul data-bbox="388 554 819 582" style="list-style-type: none"><li data-bbox="388 554 819 582">• WA Cap-and-Invest Program <p data-bbox="388 620 465 647">Tariff</p> <ul data-bbox="388 663 1329 822" style="list-style-type: none"><li data-bbox="388 663 842 691">• GI Reform – Affected Systems<li data-bbox="388 702 664 729">• GI Reform – LGIA<li data-bbox="388 740 722 767">• Network Loss Factors<li data-bbox="388 784 1329 822">• Transmission Planning – FERC NOPR/Order update (inform only)

BP-26 and TC-26 Workshops: Proposed Dates for Topics

Date	Rate/Tariff Topics
July 30 & 31 (Tue-Wed)	<p data-bbox="401 358 710 390">Transmission Rates</p> <ul data-bbox="401 401 1193 525" style="list-style-type: none"><li data-bbox="401 401 1141 437">• Gen Inputs Rates (with New Technology Pilot)<li data-bbox="401 445 1193 481">• Generator Interconnection Withdrawal Penalties<li data-bbox="401 489 672 525">• Rates Forecast <p data-bbox="401 565 606 598">Power Rates</p> <ul data-bbox="401 609 929 732" style="list-style-type: none"><li data-bbox="401 609 890 645">• New Large Single Load (NLSL)<li data-bbox="401 653 884 689">• Unauthorized Increase (UAI)<li data-bbox="401 696 929 732">• Tier 2 & Demand Charge Pricing <p data-bbox="401 773 490 805">Tariff</p> <ul data-bbox="401 816 1367 896" style="list-style-type: none"><li data-bbox="401 816 852 852">• ROFR Queue Management<li data-bbox="401 860 1367 896">• Transmission Line Ratings – FERC Order 881 implementation

BP-26 and TC-26 Workshops: Proposed Dates for Topics

Date	Rate/Tariff Topics
August 27 & 28 (Tue-Wed)	<p>Transmission Rates</p> <ul style="list-style-type: none"> • Energy Storage Devices • Non-EIM Balancing • Balancing Reserves Shortfall <p>Power Rates</p> <ul style="list-style-type: none"> • Revenue Requirements • Risk • Western Resource Adequacy Program (WRAP) – Follow up <p>Tariff</p> <ul style="list-style-type: none"> • GI Reform – Affected Systems • GI Reform – LGIA • Tariff clean-up – ministerial edits to Attachments L and R • Redline draft proposed tariff