TC-22, BP-22 and EIM Phase III Customer Workshop

April 28, 2020
AGENDA REVIEW AND FEEDBACK FROM PRIOR WORKSHOP
# Agenda

<table>
<thead>
<tr>
<th>TIME*</th>
<th>TOPIC</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30 to 9:40 a.m.</td>
<td>Agenda Review &amp; Safety</td>
<td>Rebecca Fredrickson, Rachel Dibble</td>
</tr>
</tbody>
</table>
| 9:40 to 10:30 a.m. | EIM Charge Code Allocation  
• Steps 5-6 | Miranda McGraw, Derrick Pleger |
| 10:30 to 10:45 a.m. | Break | |
| 10:45 to 11:15 a.m. | Timeline for Base Schedules and Transmission Donations for ETSRs  
• Steps 1-2 | Eric King, Frank Puyleart, Ted Barham |
| 11:15 to 11:45 a.m. | BP-20 Gen Inputs Settlement Deliverable Closeout | Jarek Oliver, Libby Kirby, Eric King |
| 11:45 to 12:45 p.m. | LUNCH | |
| 12:45 to 1:15 p.m. | Creditworthiness  
• Steps 3-6 | Rahul Kukreti, Tony Palandri, Mitch Green |
| 1:15 to 1:45 p.m. | Incremental/Minor Changes to Agreement Templates  
• Steps 1-2 | Paula Gibson, Adelle Harris |
| 1:45 to 2:15 p.m. | Review Tariff Language Approach | Melanie Bersaas, Rahul Kukreti |
| 2:15 to 2:30 p.m. | Wrap up | Rebecca Fredrickson |

* Times are approximate.
# 3/17 Workshop - Customer Comments

<table>
<thead>
<tr>
<th>Customer</th>
<th>Comment Summary</th>
<th>BPA Response</th>
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</table>
| Work Plan & Workshops | • More information and clarity needed on EIM Phase III Decision Document  
  • Clarify where all policy issues will be documented  
  • Identify topics that could be delayed or simplified to allow focus on priority issues  
  • Support additional workshops  
  • Continue to use the VENN diagram to highlight topics | • BPA has included a detail policy questions and proposal on where those decisions will be made in the presentation |
| Seller’s Choice | • Support access to non-federal resources at Mid-C  
  • Clarify whether there is an impact to ATC due to NT encumbrance.  
  • Be careful with any policies that deviate from the OATT.  
  • Provide additional analysis of reservations/schedules/flow impacts at Mid-C. | • These concerns will be considered and addressed in May, when Seller’s choice will be discussed |
| Transmission Losses | • General support for Alternative 3 and 5, maintain both options with financial rate developed in rate case.  
  • This issue should be able to be resolved quickly  
  • Support financial for inaccuracy charge  
  • Additional details needed on financial pricing including impacts by customer type  
  • Additional details needed on customer impacts/benefits  
  • Administrative costs may be worthwhile/appropriate  
  • Consider additional decision criteria (per submissions) | • Thank you for your feedback. These comments will be considered and addressed in the May workshop |
| EIM Transmission Usage | • Support for modifications to scope and objective  
  • Support non-firm donations  
  • Concerns with donation deadlines misaligned with market intervals  
  • Evaluate impacts to dynamic transfers as compared to ETSRs.  
  • Cost recovery mechanisms must be in place to follow cost-causation principles | • Thank you for your feedback, your concerns will be considered and addressed in the June workshop |
| Intertie Studies | • Support updating the tariff  
  • Maximize flexibility and minimize financial exposure  
  • Work with customers, regional stakeholders and partners on expansion needs | • Thank you for your comments. BPA staff will consider these comments as we address the tariff discussion for the Intertie studies at the May workshop. |
## EIM Priority Issues

<table>
<thead>
<tr>
<th>#</th>
<th>Issue</th>
<th>BP-22</th>
<th>TC-22</th>
<th>Future BP/TC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EIM Charge Code Allocation</td>
<td>X</td>
<td>?</td>
<td>X</td>
</tr>
<tr>
<td>2</td>
<td>EIM Losses</td>
<td>X</td>
<td>X</td>
<td>?</td>
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<tr>
<td>3</td>
<td>Resource Sufficiency</td>
<td>X</td>
<td>X</td>
<td>?</td>
</tr>
<tr>
<td>3a</td>
<td>- Balancing Area Obligations</td>
<td>X</td>
<td>X</td>
<td>?</td>
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<tr>
<td>3b</td>
<td>- LSE Performance &amp; Obligations</td>
<td>X</td>
<td>X</td>
<td>?</td>
</tr>
<tr>
<td>3c</td>
<td>- Gen Input Impacts</td>
<td>X</td>
<td>X</td>
<td>?</td>
</tr>
<tr>
<td>4</td>
<td>Development of EIM Tariff Changes</td>
<td>X</td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>5</td>
<td>Transmission Usage for Network</td>
<td>X</td>
<td>X</td>
<td>?</td>
</tr>
<tr>
<td>6</td>
<td>Non-federal Resource Participation</td>
<td>X</td>
<td>X</td>
<td>?</td>
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<tr>
<td>7</td>
<td>Metering &amp; Data Requirements</td>
<td>X</td>
<td></td>
<td>?</td>
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<tr>
<td>8</td>
<td>Evaluation of Operational Controls</td>
<td>X</td>
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# Rates & Tariff Topics

<table>
<thead>
<tr>
<th>#</th>
<th>Topics</th>
<th>BP-22</th>
<th>TC-22</th>
<th>Future BP/TC</th>
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<tbody>
<tr>
<td>9</td>
<td>Transmission Losses</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Ancillary Services</td>
<td>X</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Debt Management (Revenue Financing)</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Generator Interconnection</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Regional Planning</td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>14</td>
<td>Creditworthiness</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>15</td>
<td>Incremental/Minor Changes to Agreement Templates</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Seller’s Choice</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>17</td>
<td>Loads</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Sales</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Generator Interconnection (assumed for BP-22)</td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>20</td>
<td>Risk</td>
<td></td>
<td>X</td>
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<tr>
<td>21</td>
<td>Revenue Requirements</td>
<td></td>
<td>X</td>
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<tr>
<td>22</td>
<td>Review of Segments</td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>23</td>
<td>Review of Sale of Facilities</td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>24</td>
<td>Financial Leverage Policy Implementation</td>
<td></td>
<td>X</td>
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</tr>
<tr>
<td>25</td>
<td>Power-Only issues</td>
<td></td>
<td>X</td>
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</tbody>
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## Potential Future Rates & Tariff Issues

<table>
<thead>
<tr>
<th>#</th>
<th>Issue</th>
<th>BP-22</th>
<th>TC-22</th>
<th>Future BP/TC</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>Simultaneous Submission Window</td>
<td></td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>27</td>
<td>Study Process</td>
<td></td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>28</td>
<td>Attachment C (Short-term &amp; Long-term ATC)</td>
<td></td>
<td></td>
<td>?</td>
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<tr>
<td>29</td>
<td>Hourly Firm (TC-20 Settlement – Attachment 1: section 2.c.ii)</td>
<td></td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>30</td>
<td>Required Undesignation</td>
<td></td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>31</td>
<td>Reservation window for Hourly non-firm</td>
<td></td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>32</td>
<td>Non-federal NT Redispatch</td>
<td></td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>33</td>
<td>PTP/NT Agreement Templates</td>
<td></td>
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<td>?</td>
</tr>
<tr>
<td>34</td>
<td>Intertie Studies</td>
<td></td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>35</td>
<td>De minimus (TC-20 Settlement)</td>
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<td>?</td>
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BP-22, TC-22 & EIM Integrated Scope

4/28 Workshop Topics

EIM

CC-1 Charge Code Allocation
EL-2 EIM Losses
RS-3 Resource Sufficiency
NU-5 Transmission Network Usage
PR-6 Participating Resources
M-7 Metering
OC-8 Operational Controls

EIM

CX-12 Generator Interconnection
AC-10 Ancillary Services
GX-17 Generator Interconnection
RPO-13 Regional Planning
CW-14 Creditworthiness
AT-15 Agreement Templates
SC-16 Seller’s Choice

BP-22

LD-17 Loads
SL-18 Sales
GI-19 Generator Interconnection
RK-20 Risk
RR-21 Revenue Requirements
SG-22 Segments
SF-23 Sale of Facilities
FL-24 Financial Leverage
PO-25 Power-only
WORKPLAN AND PROPOSAL
Engaging the Region on Issues

- After every workshop, BPA will provide a two-week feedback period for customers.
  - Input can be submitted via email to techforum@bpa.gov. Please copy your Power or Transmission Account Executive on your email.
- Issues will be presented according to the following process at workshops (multiple steps might be addressed in a single workshop):

<table>
<thead>
<tr>
<th>Phase One: Approach Development</th>
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<tbody>
<tr>
<td>Step 1: Introduction &amp; Education</td>
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<tr>
<td>Step 2: Description of the Issue</td>
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<thead>
<tr>
<th>Phase Two: Evaluation</th>
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<tbody>
<tr>
<td>Step 3: Analyze the Issue</td>
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<tr>
<td>Step 4: Discuss Alternatives</td>
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<tr>
<th>Phase Three: Proposal Development</th>
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<tbody>
<tr>
<td>Step 5: Discuss Customer Feedback</td>
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<tr>
<td>Step 6: Staff Proposal</td>
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</table>
EIM / BP-22 / TC-22 Detailed Work Plan

- **EIM Code Charge Allocation**
  - Apr 9 - Apr 28
  - What approach should Bonneville adopt in recovering its costs (or distributing credits) for charge codes that it will receive as an EIM Entity from the CASSO?
  - Apr 9 - Apr 28
  - Should Bonneville roll in the costs/benefits into transmission rates?
  - July - Aug 25
  - Once the policy approach is determined, what are the appropriate rate design mechanisms needed to support the EIM charge code approach?

- **EIM Losses**
  - Apr 9 - Apr 28
  - There is a difference between losses assumed in operations and settlements. How will BPA determine these values if different?
  - May 7 - May 19
  - How will losses be allocated to customers? [UFE]
  - Do sales/metering contracts need to be adjusted?

- **EIM Resource Sufficiency**
  - Apr 9 - Apr 28
  - LSE Performance & Obligations: Self Supply/ADF
  - Apr 9 - Apr 28
  - BA RS Pass Target ADF - The question is whether BPA should have a set "target pass %"
  - Apr 9 - Apr 28
  - Sub BA Balancing Obligations: What responsibilities will Sub – BA entities in balancing the BAA in the RS timeframe, and what obligations if any will be assigned to these entities.

- **EIM Requirements for NRs and Pits**
  - Apr 9 - Apr 25
  - Scheduling deadline for base schedules
  - Jun 4 - Jun 23
  - Transmission Agreements Required for Participating Resources: What type of contract should be required for Participating Resources to ensure they are subject to the terms of the tariff and BPs?
  - Jun 4 - Jun 23
  - Transmission Agreements Required for Participating Resources: What type of transmission reservation, if any, should be required for Participating Resources?
  - Jun 4 - Jun 23
  - What non-federal resources qualify: Will BPA allow, and what would be external resource participation requirements (dynamic/pseudo-coll)?
  - Jun 4 - Jun 23
  - What non-federal resources qualify: Will BPA allow leads able to provide Demand Response to RS and Gen Input team questions?
  - Jun 4 - Jun 23
  - Does the Resource Participation impact the BA Resource Sufficiency?
  - Jun 4 - Jun 23
  - Does Resource Participation impact Gen Inputs Requirement of: VER integration and Self-supply through Resource Participation requirements?
  - Jun 4 - Jun 23
  - EIM Transmission on the Network: What should the transmission donation process be?
Status of Topics as of 4/28/2020

- Seller’s Choice
- Incremental Agreement...
- Creditworthiness
- Regional Planning
- Generator Interconnection
- Ancillary Services (Gen Inputs)
- Transmission Losses
- Evaluation of Operational Controls
- Metering and Data Requirements
- Non-Federal Resource...
- Transmission Usage for Network
- Development of EIM Tariff...
- Resource Sufficiency
- EIM Losses
- EIM Charge Code Allocation

Step 1
Step 2
Step 3
Step 4
Step 5
Step 6
Just as a reminder: The Customer led workshops are reserved for customer collaboration or time that could be used to receive clarification on BPA workshop materials.
ISSUE #1: EIM CHARGE CODE ALLOCATION

Step 5: Discuss Customer Feedback
Step 6: Staff Proposal
Objective

- Address charge code allocation policy issues to determine the approach Bonneville should adopt to recover its costs (or distribute credits) for charge codes it receives as an EIM Entity.
- Policy direction will be set as the starting point for development of the BP-22 Initial Proposal
  - Charge code allocation policy issues will not be finalized until the BP-22 Record of Decision
Charge Code Allocation Approach

Phase One: Approach Development
- Step 1: Introduction & Education
- Step 2: Description of the Issue

December 12 Workshop

Phase Two: Evaluation
- Step 3: Analyze the Issue
- Step 4: Discuss Alternatives

February 25 Workshop

Phase Three: Proposal Development
- Step 5: Discuss Customer Feedback
- Step 6: Staff Proposal

Today's Workshop

The charge code allocation policy proposal will provide the framework for rate design, then rate design will be developed later.
Customer Feedback Themes

(slide 1 of 4)

Support was expressed for the following methods:

- **No Sub-Allocation**: Ability to gain experience in the market and reduce administrative burden for BPA and customers.

- **Either No Sub-Allocation or Partial Sub-Allocation**: Supports phased-in approach, while balancing cost causation with simplicity.

- **Partial Sub-Allocation**: Balance the administrative burden and cost causation, by covering majority of the costs anticipated.

- **FERC-Approved Sub-Allocation**: Provides consistency with other EIM entities and supports cost causation.

*The support expressed by customers was considered in developing the Staff Proposal*
Customer Feedback Themes

*(slide 2 of 4)*

The following concerns were expressed:

- **Seams Issues**: Risk of unintended consequences or costs due to seams, along with complexities for wheel-through customers.

- **Behavioral Issues**: Variability in how quickly customers adapt and concerns regarding lack of incentives for optimal market behavior.

- **Cost Causation**: Concern about additional costs or cost shifts that could occur if customers are insulated.

*These concerns were taken into consideration, while balancing with the trade-offs and the other evaluation criteria*
Customer Feedback Themes

(slide 3 of 4)

The following recommendations were made:

- Consider FERC-Approved Sub-Allocation Methods
- Base on Cost Causation (where possible)
- Adjust Rates/Allocation Methods Over Time (as needed)
- Adapt Existing Rate Methodologies to Align with EIM
- Support Pursuing Sub-Allocation for UFE Charge Code

These recommendations were taken into account in developing the staff proposal, where applicable. Some of these relate to the next phase of work (designing how to implement the policy proposal) and will be under consideration moving forward.
Customer Feedback Themes  
*(slide 4 of 4)*

Additional information requested, such as:

- Illustrative examples by customer type
- Further connections to other EIM work streams
- Assessments of the alternatives, based on the trade-offs
- Clarity on the phased-in approach

_Today’s presentation will address these requests, to the extent information is available. Some requests will be addressed in later phases of work._
Phased In Approach

A phased in approach:

- Acknowledges the data availability constraints
- Enables developing a methodology that can be built upon as we gain experience in the market
- Recognizes the forecasting constraints and administrative burden

Customers expressed interested in adopting a phased-in approach
Narrowing Alternatives for Evaluation

By pursuing a phased in approach for charge code allocation, the alternatives for evaluation were narrowed to two options for BP-22:

No Sub-Allocation
- No direct sub-allocation of EIM charge codes
- Evaluate charge code connection to existing products/rates
- Define cost recovery mechanism(s) for charge code costs/credits
- Modify existing rate mechanisms and structures to align with EIM as needed

BPA-Designed Partial Sub-Allocation
- Begin sub-allocating select EIM charge codes
- Define sub-allocation method by charge code
- Define cost recovery mechanism(s) for remaining charge codes
- Modify other existing rate mechanisms and structures to align with EIM as needed
# Criteria for Evaluation

<table>
<thead>
<tr>
<th>Feasibility of Implementation</th>
<th>Customer Perspective</th>
<th>BPA Perspective</th>
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<tbody>
<tr>
<td></td>
<td>• Resource Costs</td>
<td>• Resource Costs to Implement Design</td>
</tr>
<tr>
<td></td>
<td>• Training Costs</td>
<td>• Recognition of Uncertainties in Forecasting Costs and Revenues</td>
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<td>(scaled to EIM experience)</td>
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<table>
<thead>
<tr>
<th>Administrative Burden</th>
<th>Customer Perspective</th>
<th>BPA Perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Cost of Administering</td>
<td>• Cost of Administering Billing and Settlements</td>
</tr>
<tr>
<td></td>
<td>• Volume of Supporting Billing Data</td>
<td>• Level of Service based on Complexity of Billing</td>
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<td>• Design Limitations based on System Capabilities</td>
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</table>

| Cost Recovery Design | • Full and Timely Cost Recovery | • Cost Allocation Consistent with Cost Causation |
|                      | • Cost Allocation Consistent with Cost Causation | • Incentivize Appropriate Market Behaviors |
|                      | • Incentivize Appropriate Market Behaviors | • Understandable and Transparent Methodology |
|                      | • Understandable and Transparent Methodology | • Flexibility in Design to Develop with Market Experience |
|                      | • Flexibility in Design to Develop with Market Experience | • Minimize Settlement Seams Issues |
|                      | • Minimize Settlement Seams Issues | • Design with Consideration of Risk Mitigation |
## Alternative Evaluation

<table>
<thead>
<tr>
<th>Criteria</th>
<th>No Sub-Allocation</th>
<th>Partial Sub-Allocation</th>
</tr>
</thead>
</table>
| Feasibility of Implementation | • Resource costs to implement the design on the BPA side, potentially more than typical rate-making  
  • Uncertainties in forecasting costs and revenues | • Customers may feel obligated to procure new or enhance existing systems in order to effectively process and analyze settlements.  
  • Resource costs to implement the design on the BPA side, more than typical rate-making  
  • Uncertainties in forecasting costs and revenues |
| Administrative Burden     | • Customers’ administrative costs compared to status quo may be minimal and BPA's costs may increase  
  • Dispute process complexity could increase, given the CAISO to BPA relationship  
  • Anticipate a similar level of service for customers as currently occurs in the status quo | • Customers’ and BPA’s administrative costs would likely increase, given the additional complexity and increased volume of data  
  • Dispute process complexity would increase, given customers experience sub-allocation and the CAISO to BPA relationship.  
  • Increased level of service may be required to support customers |
| Cost Recovery Design      | • Could be challenges in tying cost recovery to cost causation  
  • Attempts to use existing rate mechanisms/behavioral signals to align with the EIM market  
  • Ability to develop additional rate mechanisms to ensure cost recovery  
  • Methodology similar to today, reduces amount of change for customers | • Begins the alignment between cost causation and cost allocation  
  • May still need to adapt some existing rate mechanisms/behavioral signals  
  • Ability to develop additional rate mechanisms ensure cost recovery  
  • Methodology would evolve compared to today, but is more transparent for EIM settlements charges/credits attributed to customers. |
## Key Considerations

<table>
<thead>
<tr>
<th>Criteria</th>
<th>No Sub-Allocation</th>
<th>Partial Sub-Allocation</th>
</tr>
</thead>
</table>
| **Customer Feedback**  | • Allows BPA and customers to gain market experience and avoids complexity in allocations  
                          • Enables BPA to work with CAISO on data for future allocations, thereby reducing risk for errors  
                          • Reduces administrative burden of potential re-settlements due to errors in the market  
                          • Allows BPA and customers to assess financial impacts and issues in the BP-24/TC-24 proceedings | • Appears to better align with cost causation, but only if Base + Neutrality codes were sub-allocated  
                          • Prioritize sub-allocation of charge codes where customers are able to exert some control over the charges  
                          • Consider sub-allocation of codes that have the highest cost recovery risk or inequitable cost recovery risks |
| **Other EIM Implications** | • For EIM transmission losses connections, Base + Neutrality codes all need to be sub-allocated or not sub-allocated together  
                           • Current rate constructs would not be able to recover the Over/Under Scheduling Penalty costs | • For EIM transmission losses connections, Base + Neutrality codes all need to be sub-allocated or not sub-allocated together  
                           • Over/Under Scheduling Penalty codes can be sub-allocated, thereby recovering the costs consistent with CAISO EIM structure |
| **Risks**              | • Potential seams issues *(very likely)*  
                          • May not provide customer incentives to accurately schedule in the market | • Potential seams issues for first rate period *(somewhat likely)*  
                          • Deviation from FERC approved model could have risk of unintended consequences |
| **Trade-Offs**         | • Potential for longer time horizon to phase-in, which could reduce EIM benefits  
                          • BPA's settlements function would focus on settlements between CAISO/BPA  
                          • Limits ability to impact market behaviors to align with EIM in the first rate period | • Enables phased-in approach, but on a shorter time span to recognize EIM benefits  
                          • BPA's settlements function would focus on settlements between CAISO/BPA and BPA/customers (potential additional staffing costs)  
                          • Ability to impact market behaviors on sub-allocated areas to align with EIM |
Staff Proposal

- BPA staff propose to begin the BP-22 Initial Proposal development pursuing a phased in charge code allocation approach.

- For BP-22, staff propose to begin with BPA-defined partial sub-allocation.

- The list of charge codes included in the following slides are a **preliminary** staff proposal for sub-allocation and may evolve.

- Allocation methods will be further evaluated in the next phase of work.
Staff Proposed Phased In Approach

**BP-22**
Begin Charge Code Allocation and Modify Existing Rate Structures (as needed)

**BP-24**
Leverage Preliminary Data to Modify Charge Code Allocation and/or Rate Structures (as needed)

**BP-26**
Utilize Two Years of Data to Complete Refinement of Charge Code Allocation and/or Rate Structures (as needed)

Approach implementation is subject to change by rate period, given factors such as information availability and market changes.
### Staff Proposed Charge Codes for BP-22 Sub-Allocation

<table>
<thead>
<tr>
<th>Base Codes</th>
<th>Neutrality Codes + Congestion Offset Code</th>
<th>Scheduling Penalty Codes</th>
</tr>
</thead>
</table>

**Charge Codes Excluded from Proposed Sub-Allocation for BP-22:**
- Bid Cost Recovery Codes
- Flexible Ramp Codes
- Grid Management Charge Codes
- Administrative Codes
BPA-Defined Partial Sub-Allocation

How it all fits together *(Slide 1 of 4)*

**BASE Charge Codes**
- FMM Instructed Imbalance Energy Charge Code 64600
- Real-Time Instructed Imbalance Energy Charge Code 64700
- Real-Time Uninstructed Imbalance Energy Charge Code 64750

**Real-Time System Imbalance Energy Offset**: Charge Code 6478

**Real-Time Unaccounted for Energy EIM Charge Code 64740**

**Real-Time Marginal Losses Offset EIM Charge Code 69850**

**Code Related to 64770**:
- *Real Time Congestion Offset EIM Charge Code 67740*

Base + Neutrality + Congestion Offset
BPA-Defined Partial Sub-Allocation
How it all fits together *(Slide 2 of 4)*
Congestion Offset Connection to 64770

CAISO Description of Charge Code 64770:

- **The calculation of Real-Time Imbalance Energy Offset EIM (64770) also includes the settlement of Greenhouse Gas Compensation. Additional adjustments are calculated to subtract congestion and transmission losses, and adjust for participation in the Energy Imbalance Market.**

- **To the extent that the sum of the Settlement Amounts for EIM Financial Transfer, Greenhouse Gas Compensation, IIE, UIE, and UFE, less the RT Energy Congestion revenues computed within Real-Time Congestion Offset (from CC 67740) less the Real-Time Marginal Cost of Losses Offset (from CC 69850) and EIM Transfer Adjustment does not equal zero, the CAISO will assess Charges or make Payments in Real Time Imbalance Energy Offset (CC 64770) for the resulting differences to the EIM Entity Scheduling Coordinator.**
BPA-Defined Partial Sub-Allocation

How it all fits together *(Slide 3 of 4)*

Scheduling Penalty Codes

Charge Codes 6045 and 6046

- Given the interdependency of the BAA’s final Base Schedules and scheduling practices, all generation and load serving entities in the BAA have potential to impact the outcome of the Over/Under Scheduling Penalty. Final Base Schedules for the BAA are a summation of Generation Base Schedules minus Export Base Schedules plus Import Base Schedules.

- The penalty structure of the Over/Under Scheduling Penalty includes 2 tiers; (1) 25% penalty for less than 10% error (5% ≤ error < 10%) between actual and final Base Schedules, or (2) at the ≥ 10% error level, 100% penalty for Under Scheduling and 50% penalty for Over Scheduling. Meaning that there is potential to effectively double the UIE payment for the BAA, which current rate mechanisms would not recover.

- For example, 10% error on a 8,000 MW load hour with today’s prices of ~$15/MWh would incur an hourly charge or $24,000 ($12k UIE plus $12k O/U Penalty) but passing on UIE payments would only recover $12,000.
BPA-Defined Partial Sub-Allocation

How it all fits together (Slide 4 of 4)

Code Surpassing FERC Model

Charge Code 64740 Unaccounted for Energy (UFE)

• Bonneville acknowledges that the allocation of UFE is something that other EIM entities have not sub-allocated.

• UFE typically accounts for any difference in the loss factor used to establish a Load Base Schedule (LBS) and real power losses calculated by the market. To the extent BPA’s BAA area losses can vary over the course of a day, week, or month, the UFE settlement can also be variable. Since UFE is included in RTIEO, it would be appropriate to allocate UFE to customers.
## BPA-Defined Partial Sub-Allocation

### Base Codes

<table>
<thead>
<tr>
<th>Code Number</th>
<th>Description</th>
<th>FERC Allocation Method</th>
<th>Rationale for Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>64750</td>
<td>Uninstructed Imbalance Energy (Schedule 4 and Schedule 9)</td>
<td>Direct Assignment</td>
<td>Customer submits a schedule to BPA based on customer forecast</td>
</tr>
<tr>
<td>64600</td>
<td>FMM Instructed Imbalance Energy (Energy Imbalance)</td>
<td>Direct Assignment</td>
<td>Customer has the ability to change schedule in real-time “EIM Market”</td>
</tr>
<tr>
<td>64700</td>
<td>Real-Time Instructed Imbalance Energy (Energy Imbalance)</td>
<td>Direct Assignment</td>
<td>Customer has the ability to change schedule in real-time “EIM Market”</td>
</tr>
</tbody>
</table>

Codes in **bold** are included in FERC-Approved sub-allocation.

- Approach captures all energy imbalance calculations and real-time schedule changes.
- This set of charge codes is expected to capture the majority of costs.
- Inclusion of the Base Codes will help ensure seams issues are minimized for transactions across multiple EIM BAAs.
# BPA-Defined Partial Sub-Allocation

## Neutrality Codes

<table>
<thead>
<tr>
<th>Code Number</th>
<th>Description</th>
<th>FERC Allocation Method</th>
<th>Rationale for Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>64770</td>
<td>Real Time Imbalance Energy Offset EIM</td>
<td>Measured Demand (BPA May Consider Alternative Methods – such as Pro-Rata Shares of Code Components)</td>
<td>Compensation or charges used to achieve revenue neutrality within each BAA when the market settles.</td>
</tr>
<tr>
<td>64740</td>
<td>Real Time Unaccounted for EIM Energy Settlement</td>
<td>Measured Demand (BPA-Proposed Method)</td>
<td>Is presumed to be caused by losses not calculated by the CAISO.</td>
</tr>
<tr>
<td>69850</td>
<td>Real Time Marginal Losses Offset EIM</td>
<td>Measured Demand</td>
<td>Associated with a change in losses due to RT generation dispatches.</td>
</tr>
<tr>
<td>6478</td>
<td>Real Time Imbalance Energy Offset</td>
<td>Measured Demand</td>
<td>Last allocation to achieve revenue neutrality within CAISO after 64770 settles.</td>
</tr>
</tbody>
</table>

Codes in **bold** are included in FERC-Approved sub-allocation.

As displayed on Slide 16 the above neutrality charge codes are interconnected with the Base Codes on the previous slide. Altogether completing the financial transactions resulting from energy imbalance in the EIM.
BPA-Defined Partial Sub-Allocation

Additional Sub-Allocated Codes

<table>
<thead>
<tr>
<th>Code Number</th>
<th>Description</th>
<th>FERC Allocation Method</th>
<th>Rationale for Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>6045</td>
<td>Under/Over Schedule Load Charge</td>
<td>Measured Demand by Direction</td>
<td>Bonneville decides to hold customers responsible for over and under scheduling</td>
</tr>
<tr>
<td>6046</td>
<td>Under/Over Schedule Load Allocation</td>
<td>Measured Demand by Direction</td>
<td>Bonneville decides to hold customers responsible for over and under scheduling</td>
</tr>
<tr>
<td>67740</td>
<td>Real Time Congestion Offset EIM</td>
<td>Measured Demand</td>
<td>Recovers the difference between market forecasted congestion cost and resulting congestion cost based on EIM dispatches.</td>
</tr>
</tbody>
</table>

Codes in **bold** are included in FERC-Approved sub-allocation.

- Over/Under Scheduling prevents entities from leaning on the market, whereas ID and PD prevent entities from leaning on the BAA.
- 6045 and 6046 are needed because UIE alone is not sufficient to recover all costs for schedule deviations that cause the BAA to be off scheduled load by greater than 5%.
- Congestion Offset (67740) is related to Real-Time Imbalance Energy Offset EIM (64770).
# Potential Transmission Bill Implications

*Customers types with a YES or POTENTIAL could see charge codes added to invoices*

<table>
<thead>
<tr>
<th>Code Type</th>
<th>Customer with Non-Participating Resource (Excludes Load)</th>
<th>Customers Receiving Energy Imbalance Today</th>
<th>Load Following Customer</th>
<th>Wheel-Through Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base (Direct Assigned)</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
</tr>
<tr>
<td>Neutrality + Congestion Offset (Measured Demand)</td>
<td>POTENTIAL</td>
<td>YES</td>
<td>NO</td>
<td>POTENTIAL</td>
</tr>
<tr>
<td>Scheduling Penalties (Measured Demand by Direction)</td>
<td>NO</td>
<td>YES</td>
<td>NO</td>
<td>POTENTIAL</td>
</tr>
</tbody>
</table>

*Treatment of Remaining Codes (those not sub-allocated) is TBD*

*Customers with Participating Resources settle directly with the CAISO*

*Please Note: This is a preliminary view based on information available today. This will be further evaluated when sub-allocation methods are defined through the next phase of work.*
EIM Preparation Still Underway

- The staff proposal is based on the EIM information available today.

- As EIM preparation proceeds, may identify reasons to modify the staff proposal.

- Next phase of work will develop the mechanics for implementing the sub-allocation and recovering costs for codes not included in sub-allocation.
Next Steps

- Feedback on staff proposal for consideration
  - Please submit to techforum@bpa.gov (with copy to your account executive) by Tuesday, May 12

- Next phase of work to include:
  - Charge code allocation method development
  - Cost recovery mechanics development
ISSUE #5 & #6: TIMELINES FOR BASE SCHEDULES AND TRANSMISSION DONATIONS FOR ETSRS

Step 1: Introduction & Education
Step 2: Description of the Issue
Objective

- Establish scheduling time lines that are conducive to EIM participation

- Establish financial reference point for settlement, and provide BPA with necessary and accurate data to facilitate BPA’s participation
Base Schedule

- A Base Schedule is a forward hourly energy schedule
  - It is the reference for measuring imbalance deviations for EIM settlement
  - It includes generation and interchange schedules, and the load forecast (base scheduled load)
- Used as initial starting points of units and to pass hourly Resource Sufficiency tests.
Current Scheduling Timeline

Preschedule → T-30 → T-20 → T-10

- Slicers Fully Tagged
- VERs given Schedule Value

CDE Data Submission
- EI pay back OR Load Estimate
- GI Pay Back
- Load and Gen Estimate

All Schedules Due

Hydro Duty – Base points Big 10
EIM Base Schedule Timing

T-75: Base schedules and energy bids due (Resources)

T-55: Updated base schedules are submitted if necessary (Resources)
T-40: Updated base schedules are submitted if necessary (Entity SC)

T-20: E-tagging deadline (Entity SC)

T-22.5: 15-minute scheduled awards published
T-37.5: Start of 15 minute market
T-45: Results of sufficiency test published
T-60: Results of sufficiency test published

EIM Market Participants

Market Operator
Scheduling Timeline Issues

BPA’s current scheduling timeline is not compatible with the EIM Scheduling timeline.

- The EIM scheduling timeline requires binding base schedules be submitted significantly earlier than the WECC Scheduling Timelines that BPA follows today
- Failure to follow the EIM timeline could result in economic impacts
- Failure to follow the EIM timeline could result in potentially not passing Resource Sufficiency test
A Look at VER
VERBS Scheduling Elections

- Current VERBS scheduling election options for wind and solar resources:
  - 30/60 Committed Scheduling -- customer commits to receive BPA’s 30-minute signal for each 60-minute schedule period – 1400MW
  - 30/15 Committed Scheduling -- customer commits to receive BPA’s 30-minute signal for each 15-minute schedule period – 34MW
  - Uncommitted Scheduling -- customer does not commit to 30/60 or 30/15 committed scheduling – 1330MW

- Scheduling accuracy impacts the Balancing Capacity needed.
  - 30/15 Scheduling adjusts the interchange schedules within the hour, moving part of the VERs variability to the sink BA.
VERS in EIM

- Like all resources, Variable Energy Resources will need an hourly base schedule

- However, unlike dispatchable resources, VERS have their 5-minute dispatches updated to reflect their expected output within the hour

- Those adjustments are a combination of a short-term persistence value adjusted by forecast data
Under the EIM scheduling timeline:

- Hourly Base schedules and Bid ranges are due by T-75
- Base schedules can be updated and finalized by T-55.
- After T-55, only the EIM entity (BPA BA) can adjust base schedules up to T-40.

Used for proof that market is not performing BAL compliance for the entity BA
Review of Terms

- Fifteen Minute Market (FMM)
- Real-Time Unit Commitment (RTUC)
- Locational Marginal Price (LMP)
- Instructed Imbalance Energy (IIE)
- Real-Time Dispatch (RTD)
- Uninstructed Imbalance Energy (UIE)
# VER NPR Example

<table>
<thead>
<tr>
<th></th>
<th>Base</th>
<th>FMM RTUC (15 min)</th>
<th>FMM LMP</th>
<th>FMM IIE</th>
<th>RTD (5 min)</th>
<th>Metered Actuals</th>
<th>RTD LMP</th>
<th>RTD IIE</th>
<th>RTD UIE</th>
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<tr>
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$$64600 \div 12 = 5383.33$$

$$64750 = 5383.33$$
VERBS Scheduling Elections in EIM

Issues:

- Under the EIM scheduling timeline, current BPA-offered scheduling elections of 30/60 Committed and 30/15 Committed are no longer feasible, as hourly base schedules are finalized by T-55, with allowance for the BA to modify until T-40.

- Under the EIM, 15 minute scheduling is implemented differently than the way BPA implements 15 minute scheduling today.
  - Prior to T-55 a customer may submit a schedule for the hour with shape 15 minute time intervals

- Under the EIM, the interchange schedules are not adjusted with-in hour to reflect schedule changes that may be made after T-40.
  - The with-in hour variability is not moved out of BPA BA
Industry Practice

Other entities in the Northwest that have joined the EIM have adopted Base Schedule timelines consistent with the EIM Scheduling Timeline. The Timelines are referenced in their Tariffs and in their EIM Business Practice.

- Transmission Customers shall submit proposed final Transmission Customer Base Schedules:
  - No later than 77 minutes prior to each Operating Hour (“T-77”).
  - Transmission Customers may modify Transmission Customer Base Schedules until 57 minutes prior to the Operating Hour (“T-57”).
  - As of 55 minutes prior to each Operating Hour (“T-55”), the Transmission Customer Base Schedule data for the Operating Hour will be considered financially binding and Transmission Customers may not submit further changes.

BPA needs to determine how to implement its scheduling timeline requirements in order to not create seams issues with the EIM Scheduling timeline.

Note: The NERC scheduling time frame is still T-20 for submitting e-Tags, however, e-Tags that are different than the T-55 Base Schedule result in imbalance charges.
Transmission Donations for ETSRs
EIM Transfer Schedules

• The EIM primarily uses **dynamic schedules** to transfer energy between EIM BAAs
  – One exception is on the COI where separate 15-minute normal/static schedules and 5-minute dynamic schedules are used due to DTC issues

• Energy delivered as an EIM Transfer is not tied to specific generation but modeled as an **aggregate** delivery of power between EIM BAAs

Energy Transfer System Resources (ETSR)

• System Resources are defined in each EIM BAA to anchor the Energy Transfer schedules from that BAA to other BAAs in the EIM Area for tracking, tagging, and settlement.
  – Analogous to a Source or Sink on an e-Tag

• ETSRs are defined as aggregate system resources at the EIM BAA Default Generation Aggregation Point (DGAP), which is an aggregation of all supply resources in the BAA.
  – Analogous to a Centroid

• Each ETSR is defined as either an import or an export resource, and it is associated with an EIM intertie with another EIM BAA, or a CAISO intertie with the CAISO.
Deadline for Tagging Transmission Donations for ETSRs

- BPA will follow the policy laid out in the implementation agreement to only allow Interchange Rights Holder Donation. BPA stated in the September 2019 ROD that BPA would not use the ATC donation method.
- Other entities require Interchange Rights Holders to tag their donations by T-75 and ATC (TSP) donations by T-40.

In order not to create seams issues between BPA’s Interchange Rights Holder donations and other EIM Entities transmission donations, and to allow for the donated transmission to be included in the Resource Sufficiency test, BPA is considering requiring Interchange Rights Holders to tag their donations by T-75.
Next Steps

- Feedback on issues you may face if BPA were to adopted Base Schedule timelines consistent with the EIM Scheduling Timeline?
- Feedback on issues you may face if BPA requires Interchange Rights Holders to tag their donations by T-75?
- Please submit comments by May 12, 2020 to techforum@bpa.gov
BP-20 GEN INPUTS
SETTLEMENT DELIVERABLE CLOSEOUT
Attachment 2 – BP-20 Partial Rates Settlement Agreement

**Solar Technical Work.** As part of the workshop phase of the BP-22 rate case, and starting no later than January, 2020, Bonneville will:

i. Present to customers and stakeholders the costs and impacts of holding reserves in a non-flat shape, such as planned shaped diurnal reserve amounts. This presentation(s) will use the BP-18 Solar Integration Study with Solar modeling updates identified and implemented during BP-20 workshops to provide:
   a) Up to **two shaped balancing reserve forecasts** for all Generation Input customer classes (Wind, Solar, DERBS and Load).
   b) Forecasts for the different thresholds of installed solar generation in order to identify any meaningful thresholds where a shaped diurnal balancing reserve forecast or other form of planned shaped reserve operation becomes impactful and cost-effective.

ii. Analyze and present to customers any Generation Inputs variable and embedded cost allocation differences associated with a shaped balancing reserve operation, including the associated impact on Ancillary and Control Area Service rates. This analysis and presentation will:
   a) Assume that shaped balancing reserve held on Bonneville’s system is physically possible.
   b) Use a variation of the Generation And Reserves Dispatch (GARD) model or other balancing reserve variable cost estimation method to estimate any material change in Bonneville’s cost of providing balancing reserves associated with a planned shaped balancing reserves operation.

**If, following these deliverables, Bonneville staff, customers and stakeholders agree that a shaped balancing reserve operation provides material value, Bonneville will provide customers a list highlighting the workload necessary with approximate completion timelines that would need to occur for Bonneville to be able to implement such an operation.**
Summarized Customer Responses:

- AWEC – notes that the reserves allocation to DERBS and resultant DERBS rates are lower relative to the Baseline; and sees material benefit in exploring the shaped operation.

- PPC – does not see a benefit in a shaped operation and believes that Grid Modernization and EIM implementation would be a better use of staff time, especially considering the small amount of solar currently integrated.

- NIPPC – sees a benefit in the shaped operation. They would like to see BPA commit to and present a study program for the year ahead, publish the GARD model and underlying data sets, study a battery pilot program, produce a similar study expanded to include changes in load and DERs forecasts, and invite CAISO to a customer workshop to talk about better scheduling practices. NIPPC requests BPA to provide information regarding the timeline and workload required to implement a shaped reserve operation.
BPA’s Response

- In response to AWEC’s comment on the DERBS rate: the modeling did not show a benefit to customers overall, but rather shifted costs between customers and made the overall system less efficient.
  - While average reserves levels decreased, the overall cost to the system increased due to holding reserves in more costly times.
- With respect to NIPPC’s comment about batteries: the ACS-20 New Generation Technology Pilot Program rate which was added this rate period simply leaves the door open for interested parties to work with BPA to develop a suitable pilot program. Since no customers have elected to do this yet, we have no basis for modeling the benefits.
BPA’s Response (continued)

- Increased variability due to small data sets (seasonal/monthly/hourly vs. 2-years) could cause rates to change significantly rate-case to rate-case. This is not consistent with good rate making principles.

- Additional study and work toward implementing this type of shaped reserve operation would detract from staff time for implementing EIM and Grid Modernization objectives.

- The study assumed a much larger quantity of solar in the region than we expect to have for several years, so it does not make sense to implement such an operation now. The benefits that some customers saw in BPA’s study would not materialize in BP-22 because of this.

- While we received mixed comments, PPC represents the largest portion of our customers, and their perspective aligned with our internal leaning. Due to the issues outlined above, as well as the PPC comments, BPA will not commit additional staff time to continue to study this in the near future.
ISSUE #14: CREDIT WORTHINESS

Step 3: Analyze the Issue
Step 4: Discuss Alternatives
Step 5: Discuss Customer Feedback
Step 6: Staff Proposal
Agenda

- Review Step 2 (Issue)
- Step 3: Analysis of the Issue
- Step 4: Alternatives
- Step 5: Customer Feedback (from February workshop)
- Step 6: Staff Leaning
Step 2: Issue (recap)
Step 2: Description of the Issue

- Should Bonneville move its Basic Credit Standards from OASIS and the BPA website into an attachment to BPA’s tariff?
Step 3: Analysis of the Issue
# Pro forma v. Bonneville approach

<table>
<thead>
<tr>
<th></th>
<th>Pro forma Tariff</th>
<th>Bonneville</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Placement</strong></td>
<td>Section 11 and Attachment L</td>
<td>Section 11 references Basic Credit Standards, posted on OASIS and Bonneville’s website.</td>
</tr>
</tbody>
</table>
| **Requirements**        | • Quantitative and qualitative criteria  
                          | • Additional information for to creditworthiness procedures                     | Basic Credit Standards include:  
                          |                                                                                     | • quantitative and qualitative criteria and  
                          |                                                                                     | • all additional information required in creditworthiness procedures |
| **Supplemental documents** | Post additional documents, on OASIS and website                                   | Business practice for Creditworthiness posted on Bonneville’s OASIS and website |
Industry Scan

- All Transmission Providers include Creditworthiness procedures in their tariffs.
- Procedures met pro forma requirements and aligned with the language in BPA’s Basic Credit Standards
**Pro Forma, Bonneville and Industry Scan**

<table>
<thead>
<tr>
<th>Placement</th>
<th>Pro forma Tariff</th>
<th>Bonneville</th>
<th>Industry Scan¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 11 and Attachment L</td>
<td>Section 11 references Basic Credit Standards, posted on OASIS and Bonneville’s website.</td>
<td>Basic Credit Standards meet <em>pro forma</em> requirements</td>
<td>Section 11 and Attachment in tariffs</td>
</tr>
<tr>
<td>Requirements</td>
<td>• Quantitative and qualitative criteria • Additional information for procedures</td>
<td>Creditworthiness Procedures meet <em>pro forma</em> requirements</td>
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</tr>
<tr>
<td>Supplemental documents</td>
<td>Post additional documents, on OASIS and website</td>
<td>Posted on Bonneville’s OASIS and website</td>
<td>Supplemental documents posted on OASIS</td>
</tr>
</tbody>
</table>

Step 4: Alternatives
Step 4: Alternatives

- **Status Quo**: Retain placement of Basic Credit Standards outside BPA’s tariff.

- *Align with pro forma*: Incorporate new Attachment M, Basic Credit Standards, in BPA’s tariff proposal.
Step 5: Customer Feedback
Step 5: Customer Feedback

- From February workshop and March customer led workshop:
  - One customer submitted written comments favoring aligning with pro forma
  - Customer questions and comments in February and March indicate preference for Bonneville to move Basic Credit Standards into tariff.
Step 6: Staff Proposal
Step 6: Staff Proposal

- Align with *pro forma*
  - Meets BPA objective and aligns with practice of other Transmission Providers.

- Bonneville staff propose placing Basic Credit Standards in Attachment M.
  - New Attachment M (posted with workshop material).
Attachment M and Section 11

- No substantive changes are necessary to Attachment M due to EIM (or other TC-22 topics).
- Administrative/clean-up changes to remove unnecessary or confusing language are necessary (draft Attachment M is posted).
- Revising section 11 in BPA Tariff to reflect placement of Basic Credit Standards in Attachment M.
Creditworthiness Next Steps

- Please submit any questions to techforum@bpa.gov (with copy to your account executive) by May 12, 2020.
- Bonneville will address any customer questions on staff proposal or draft Attachment M in May customer led workshop or June workshop.
INCREMENTAL CHANGES TO ATTACHMENT A & F SERVICE AGREEMENT TEMPLATES

Step 1: Introduction and Education
Step 2: Description of the Issue
Step 3: Data and Analysis
Step 4: Discussion of Possible Alternatives
Step 1: Introduction and Education
Introduction & Education

- Service Agreement Templates for Point-to-Point Service (PTP) (Attachment A) and Network Integration Service (NT) (Attachment F) in BPA’s Open Access Transmission Tariff (OATT) do not fully align with BPA’s current contract templates.

- BPA is proposing to align the OATT templates with contract templates to reflect today’s business needs. The proposed revisions would apply to new agreements only.

- BPA is proposing other incremental formatting changes.

- BPA is proposing to add language to clarify the effective date of service agreements for entities that become customers solely to participate in the EIM and do not take transmission service.
Step 2: What’s the Issue?
Should BPA revise Attachments A and F to Incorporate the Identified Changes?

- Revise PTP and NT Service Agreement Templates to allow for electronic communication and signature.
- Correct minor format/numbering sequences for consistency.
- Clarify the effective date of service agreements for entities that become customers solely to participate in the EIM.
Step 3: Data and Analysis
Electronic Signature and Notice

- BPA has been executing contracts electronically since October 1, 2016.
- This process has streamlined the execution process, promoting efficiency, and saving BPA and Customers money.
- The process has also improved the continuity of operations by allowing BPA and Customers to execute agreements remotely and without a carrier service.
Contractual Requirements for EIM Participating Resources

- An entity becomes a customer for the purpose of participating in the EIM and may not take transmission service.

- Transmission service “commences” when the customer requests service or construction to enable service is completed. If the customer does not take service, the effective date of the service agreement is never specified apart from the date of execution.

- BPA will propose modifications to address this issue.
Proposed Revisions to Attachments A and F

ELECTRONIC COMMUNICATION AND SIGNATURE FOR NT AND PTP AGREEMENTS

- Revise signature block in the NT and PTP Umbrella Agreement to include electronic signature;
- Revise Exhibit D, Notices to include electronic communication (Email) and electronic signature.
Proposed Revisions to Attachments A and F

INCREMENTAL REVISIONS TO FORMATTING

- Revise the formatting sequence in the NT and PTP Agreement, Exhibit A Section 7 to provide consistency with BPA bullet number sequence format; (a); (b); and (c).
Proposed Revisions to Attachments A and F

EIM PARTICIPATING RESOURCE – SERVICE COMMENCEMENT DATE

- Add language in section 4 of the NT and PTP Umbrella Agreement to allow customers who are not taking transmission service to be a Participating Resource in the EIM.
- To include a Service Commencement Date language.
Impact on Customers

- The revisions to Attachment A and F will only be applicable to new NT or PTP Agreements with the exception of the Exhibit D, Notices Revision, which BPA currently offers to customers.

- Customers who execute a new NT or PTP Agreement will have language in section 4 to include a service commencement date for customers that do not take transmission service and execute agreements solely to participate in the EIM.
Step 4: Possible Alternatives
Alternative 1: Status Quo

- BPA will not make any change to Attachments A and F.
- For continuity of operations and to align with Federal contracting guidelines, BPA would need to continue to update notice exhibits for electronic communications and signatures.
  - This would result in a misalignment with the tariff.
- BPA may need to develop a separate agreement for entities who become customers solely to participate in the EIM and do not take transmission service.
Alternative 2: Implement changes to Attachments A and F

- Revise Attachments A and F to align with the contract templates used today:
  - Allow for electronic signature and notice
  - Address inconsistent numbering
  - Revise the Agreement to include a Service Commencement Date for entities who become customers solely to participate in the EIM and do not take transmission service.
Next Steps

- Please review and submit any questions on the possible changes to Attachments A and F to techforum@bpa.gov (with copy to your account executive) by May 12, 2020
- Next workshop: June 23, 2020
  - Step 5: Discussion of customer feedback to alternatives and BPA’s response
  - Step 6: Staff proposal for solution
REVIEW TARIFF LANGUAGE APPROACH FOR TC-22 WORKSHOPS
Objectives

- Explain Bonneville’s approach to sharing tariff language proposals and redlines for topics associated with TC-22
- Get customer feedback
TC-22 Tariff Language Review

- Starting point is the tariff adopted in the TC-20 proceeding ("current tariff")
- Bonneville will share tariff language proposals as separate documents by topic
  - Redlines will be provided to current tariff language
- Share entire TC-22 tariff proposal in final workshop
EIM Tariff Language Approach

- No pro forma language baseline for entities joining EIM, but FERC has approved EIM-related language in other EIM Entities’ tariffs
- BPA is starting with PGE’s tariff language
  - PGE’s Tariff is the most recent with FERC approval
  - Will be revised as needed for BPA
  - BPA will start sharing EIM-related tariff language in May
# EIM Entities’ Tariff Changes

<table>
<thead>
<tr>
<th>Tariff Sections</th>
<th>Content</th>
<th>Tariff Sections</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, definitions</td>
<td>EIM-related definitions</td>
<td>16.1, 28.1, PTP and NT responsibilities</td>
<td>EIM Attachment applies to customers</td>
</tr>
<tr>
<td>7.1, billing</td>
<td>Flexibility in billing increments</td>
<td>28.7, 30.1, 30.4, use of DNRs</td>
<td>NT customers participation in EIM</td>
</tr>
<tr>
<td>10.2, indemnification</td>
<td>Standard of liability for EIM</td>
<td>Schedules 4 and 9, imbalance</td>
<td>Imbalance is priced through EIM</td>
</tr>
<tr>
<td>12.4A, disputes</td>
<td>Dispute resolution provisions for EIM</td>
<td>Schedule 11, losses</td>
<td>Losses in EIM</td>
</tr>
<tr>
<td>13.6, 14.7, curtailment</td>
<td>EIM-related language</td>
<td>Attachments L and N, GI</td>
<td>EIM application to GI</td>
</tr>
<tr>
<td>15.7, 28.5, losses</td>
<td>Language for losses in EIM</td>
<td>Attachment Q</td>
<td>Add EIM Attachment</td>
</tr>
</tbody>
</table>
## Tariff sections possibly impacted by TC-22 &/or EIM Topics*

<table>
<thead>
<tr>
<th>#</th>
<th>Topics</th>
<th>Tariff sections under review</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-8</td>
<td>EIM Topics</td>
<td>Body, Schedules and Attachment Q</td>
</tr>
<tr>
<td>9</td>
<td>Transmission Losses</td>
<td>Schedule 11</td>
</tr>
<tr>
<td>12</td>
<td>Generator Interconnection</td>
<td>Attachments L and N</td>
</tr>
<tr>
<td>13</td>
<td>Regional Planning</td>
<td>Attachment K</td>
</tr>
<tr>
<td>14</td>
<td>Creditworthiness</td>
<td>Section 11, Attachment M</td>
</tr>
<tr>
<td>15</td>
<td>Incremental/Minor Changes to Agreement Templates</td>
<td>Attachments A and F</td>
</tr>
<tr>
<td>16</td>
<td>Seller’s Choice</td>
<td>Section 29.2</td>
</tr>
<tr>
<td>34</td>
<td>Intertie Studies</td>
<td>Section 15.2 and related sections</td>
</tr>
</tbody>
</table>

*Note: The schedules identified are potential impacts if these topics result in a tariff change.*
Next Steps

- Please submit any questions to techforum@bpa.gov (with copy to your account executive) by May 12, 2020.
Proposed May Workshop(s) Agenda

- TC-22, BP-22 & EIM Topics for May 19, 2020
  - Seller’s Choice
    - Steps 3-4
  - Regional Planning Organization
    - Steps 3-6
  - Generation Interconnection
    - Steps 3-4
  - Intertie Studies
    - Steps 5-6
  - Review Tariff Language for EIM
  - Rate Case Kickoff

- RHWM Process (8:30 a.m. start)
Next Steps

- Comment period
  - Customers should submit comments by May 12, 2020 to the techforum@bpa.gov
Summary of Customer Feedback

APPENDIX
## 2/25 Workshop - Customer Comments

<table>
<thead>
<tr>
<th>Customer</th>
<th>Comment Summary</th>
<th>BPA Response</th>
</tr>
</thead>
</table>
| Charge Code Allocation | • Comments received reflected support for both a phased in sub-allocation approach as well as a “direct-assigned” approach that would utilize CAISO charge codes.  
  • Develop more examples of how different customer types would be treated under the different alternatives.  
  • Provide additional estimates on the administrative costs.  
  • Provide a cost-benefit analysis for each alternative that weighs benefits against administrative costs.  
  • If no sub or sub-allocation:  
    • Balance cost-causation with simplicity  
    • Imbalance service should be developed as a separate rate  
    • Will better ensure existing transmission rights are respected  
    • Focus on Base Codes and Scheduling Entity Codes  
  • If direct assigned (FERC-approved allocation method):  
    • Maintain incentives for customers to schedule accurately within the BAA  
    • Consistency across EIM footprint  
    • Maintains consistency with FERC, one of BPA’s tariff principles  
    • Insulation of costs will create risk of hiding EIM market signals  
    • A phased in approach could be applied  
    • Concerned that development of rate mechanisms will not capture granularity  
    • Experiences with EIM suggest more administrative burden up front but ease of that burden moving forward.  
    • Administrative burden to insulate customers is not a justifiable argument and eventually will be same level as other EIM entities  
    • Customers need transparency for market signals and disputes  
    • Ensures better adaptability and response to future changes from CAISO instead of every two years. | • Direct assignment, sub allocation will be discussed in the alternatives in Steps 5 and 6 on April 28. |
<table>
<thead>
<tr>
<th>Customer</th>
<th>Comment Summary</th>
<th>BPA Response</th>
</tr>
</thead>
</table>
| Resource Sufficiency   | • Don’t establish a target  
• Develop financial mitigation for the t-20 to t-55 window  
• Develop a matrix of 4 alternatives for better comparative capability                                                                                       | The target and the alternatives will be discussed in steps 5 and 6 in the April 28 workshop.                                                                                                                  |
| Gen Inputs             | • Develop principles for Gen Inputs  
• EIM benefits should be part of Gen Input rate design  
• Maintain close association with Charge Code discussion  
• Schedules 9 and 10 might benefit from transitioning to EIM methodology  
• Need a more robust conversation about ID, PD, EI, and GI rates relative to the charge code sub-allocation alternatives  
• Eliminating the 30/60 and 30/15 committed scheduling elections options will increase the capacity that BPA must set aside for reserves and increase the rates that ancillary services customers will have to pay | The team will consider the customer request and respond at the April workshop  
The alternatives will be considered in the development of steps 3 and 4 in the April workshop.                                                                                                       |
| Creditworthiness       | • Attachment to the OATT                                                                                                                                                                                       | Attachment to the OATT will be considered the review of the alternatives in steps 3 to 4 in the April workshop                                                                                             |
| Section 7(f) Power Rates | • Customers have requested we explore contractual solutions such as the grandfathered Green Exception.”                                                                                                    | The team will address this in our next workshop on service under 7(f).                                                                                                                                     |
| Regional Planning      | • Revise Attachment K to ensure future changes must go through tariff process                                                                                                                                   | We will consider this alternative in steps 3 and 4 which will be reviewed in the May workshop                                                                                                               |
| Generator Interconnection | • Support for implementation of Order 845  
• Need more information regarding “streamlining” proposal to ensure no queue discrimination                                                                                                         | Thank you                                                                                                                                                                                                  |
### 1/28 Workshop - Customer Comments

<table>
<thead>
<tr>
<th>Customer</th>
<th>Comment Summary</th>
<th>BPA Response</th>
</tr>
</thead>
</table>
| **Objective Statement**   | • Clarify that BPA will not negatively impact existing rights or existing uses in favor of EIM  
• Costs associated with EIM should be allocated to those benefiting  
• Alternatives should consider the sub-elements of the objective statement.                                                                 | • These suggestive changes to the objective statement will be considered                                                                                                                                   |
| **Network Usage**         | • Concerns that EIM will reduce capacity used to support bilateral transactions  
• Encourage BPA to pursue solutions that would allow use of ATC Methodology. Admittedly may be most appropriate in EDAM  
• BPA needs to ensure rights and expectations of existing customers under the tariff and in some cases may need to eliminate adverse commercial impacts.  
• EIM reciprocity transmission framework is an essential principle. Align with requirements utilized by other EIM entities                                                                 | • The concerns and considerations will be evaluated in steps 3 and 4. Some of these concerns were addressed in the other forums and we will address these concerns in our evaluation. |
| **Deviation Policies**    | • Evaluate persistent deviation and intentional deviation penalties with respect to EIM dispatch  
• How does EIM dispatch impact Intentional Deviation policies?                                                                                                                                                   | • The penalties are discussed in the presentation 2/25 and will be evaluated in steps 3 and 4                                                                                                               |
| **Ancillary Services**    | • NIPPC posed several questions addressing concerns around how BPA will address ancillary services in EIM.  
• Penalties/Negative Prices: Review ACS rate schedules for appropriate modifications                                                                                                                       | • The ancillary services questions as it relates to rates are discussed in the Gen Inputs of the 2/25 workshop and will continue the discussion in future rate case workshops                                                   |
### 1/28 Workshop - Customer Comments (Cont.)

<table>
<thead>
<tr>
<th>Customer</th>
<th>Comment Summary</th>
<th>BPA Response</th>
</tr>
</thead>
</table>
| Participating & Non-      | • Non-participating Resources: Concerned with requirements for co-gen resources  
| participating Resources   | • Participating Resources: BPA should present preliminary evaluation along with pros and cons on what types of transmission products for EIM transfers.  
|                           | • External-BA Resources: will BPA allow dynamic schedules?  
|                           | • Participating Resources: NIPPC poses several questions regarding type of transmission donations and the donation process.  
|                           |   o Survey and share findings of how existing EIM participant approaches to these questions.  
|                           |   o How will BPA manage exposure to EIM prices?                                                                                                       | • The concerns and the evaluation will be discussed during the steps 3 and 4                      |
| Un-designation of DNR     | • Un-designation of DNR  
|                           |   o Require the Un-designation of DNRs being used to make Firm network sales  
|                           |   o Address this issue in TC-22 including review of the NT MOA                                                                                         | • The NT team is reviewing these comments and will have a response at the next TC-20 settlement workshop. |
| Solar Study (BP-20)       | • Solar Study (BP-20): Material value to exploring shaped reserve option.  
|                           | • Gen Inputs: limited input to reach conclusions                                                                                                       | • The concerns and considerations will be evaluated in steps 3 and 4                              |
### 7f Rate Design

- Clarify the timing, availability and market risk as a discretionary Tier 1 obligation
  - Also include terms & conditions, methodology for new rate and customer obligations
  - New firm surplus rate could be explored with similar clarification per above
- Support continued exploration as long as available to all preference customers among other considerations.
- Any new proposal for serving load following customers should be win-win for all preference customers and not create any new material risks or cost shifts
- There is potential merit deserving further exploration based on initial customer benefits and BPA revenues

BPA Response: The 7f rates team are reviewing these comments and will consider them as part of their evaluation and alternatives in upcoming rates workshop.

### Financial Planning

- Concerned of disproportionate burden on transmission
- Use of MRNR per previous filings and testimony
  - Accounting policies should be considered outside of a rate case
  - Amortize short-lived regulatory assets for greatest ratepayer benefits
  - More strategic approach at regulatory accounting and MRNR
- Include long-term cost and rate forecasting. Customers will want greater visibility

BPA Response: These concerns and comments were forwarded to the financial planning process.

### General Comments

- BPA should demonstrate how it will track how the new processes will affect other topics.
- EIM charges: incremental transmission charges would be problematic and upset the reciprocity transmission framework
  - FERC expressly disapproved of PAC’s proposal of an incremental transmission rate for EIM
- VERBS: 30/15 option will most likely be eliminated. What other changes might be needed?
- In general, avoid seams issues
- Encourage BPA to work with stakeholders across EIM footprint

BPA Response: These comments will be considered by the affected teams moving forward.
<table>
<thead>
<tr>
<th>Themes</th>
<th>BPA's Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission Losses concerns on pricing and capacity adder</td>
<td>The review of the pricing and the value for transmission losses will be discussed in the rate case.</td>
</tr>
<tr>
<td>Customers would like to have a better understanding of the objective</td>
<td>Losses will return in the March workshop to address this request.</td>
</tr>
<tr>
<td>and reason for change for Transmission Losses.</td>
<td></td>
</tr>
<tr>
<td>Customers would like to have choices for settling transmission</td>
<td>Losses will return in the March workshop to begin sharing options.</td>
</tr>
<tr>
<td>losses (i.e. physical vs financial). For example one choice could be</td>
<td></td>
</tr>
<tr>
<td>an option of returns in like kind with a penalty for customers who</td>
<td></td>
</tr>
<tr>
<td>fail to return the loss obligation</td>
<td></td>
</tr>
<tr>
<td>Transmission loss factor should be established in Tariff proceedings</td>
<td>The Tariff does contain the annual average system loss factor for the network and intertie. We do not intend to suggest removing it from the Tariff.</td>
</tr>
<tr>
<td>Transmission losses should be included in the Transmission rates and</td>
<td>Bonneville intends to have any rate discussions during the upcoming rate case proceedings. Any discussion regarding the location (i.e. Power or</td>
</tr>
<tr>
<td>rates schedule and should be equitably allocated</td>
<td>Transmission Rates Schedules) will be discussed during the rate proceeding. Options of transmission losses pricing will be discussed in the rate case in steps 4 and 5.</td>
</tr>
<tr>
<td>The EIM losses are important and BPA is in the the best position to</td>
<td>In the workshops, steps 4 and 5 will discuss the option for the EIM Losses.</td>
</tr>
<tr>
<td>determine the appropriate transmission loss percentage for OATT</td>
<td></td>
</tr>
<tr>
<td>service</td>
<td></td>
</tr>
<tr>
<td>Provide more information on the value lost to BPA from a customer’s</td>
<td>This will be addressed in steps 4 and 5.</td>
</tr>
<tr>
<td>failure to deliver In Kind</td>
<td></td>
</tr>
<tr>
<td>Costs are inevitable so develop cost/benefit analysis (administrative</td>
<td>This will be addressed in steps 4 and 5.</td>
</tr>
<tr>
<td>burden) for financial returns (similar to what was developed for In</td>
<td></td>
</tr>
<tr>
<td>Kind). In other words, realize that certain administrative costs</td>
<td></td>
</tr>
<tr>
<td>may be worthwhile due to the market value they deliver – such costs</td>
<td></td>
</tr>
<tr>
<td>should be appropriately allocated.</td>
<td></td>
</tr>
<tr>
<td>Be clearer of the strategic interplay between EIM Losses and</td>
<td>We will continue to look for opportunities to share interplay between EIM losses and Transmission losses if applicable. At this point, we do not see any interplay between EIM Losses and Transmission Losses.</td>
</tr>
<tr>
<td>Transmission Losses both in implementation and long-term</td>
<td></td>
</tr>
<tr>
<td>Maintain separation between EIM Losses and Transmission Losses</td>
<td>We agree there is a separation of EIM Losses and Transmission Losses.</td>
</tr>
</tbody>
</table>
### 12/12/19 Feedback Summary (cont.)

<table>
<thead>
<tr>
<th>Themes</th>
<th>BPA's Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer proposed changes to EIM Charge Code principles</td>
<td>The team will consider the proposed principles and will give feedback to customers at the February workshop</td>
</tr>
<tr>
<td>Include a glossary of EIM charge codes and a crosswalk to current BPA</td>
<td>We will continue discussing the EIM charge code s and crosswalk to current BPA rates where applicable in the February workshop materials</td>
</tr>
<tr>
<td>rates where applicable</td>
<td></td>
</tr>
<tr>
<td>EIM charge code cost allocation should include wheel through, preference</td>
<td>Analysis and alternatives will be discussed in steps 4 and 5.</td>
</tr>
<tr>
<td>customers and interchange and non-participating resources. How are</td>
<td></td>
</tr>
<tr>
<td>customers outside the BA considered?</td>
<td></td>
</tr>
<tr>
<td>EIM charge code cost allocation should be initially based on cost causation</td>
<td>Cost allocation is an important issue and the feedback on a phased in and partial insulation will be considered in the alternatives development</td>
</tr>
<tr>
<td>and should be phased in with a partial insulation</td>
<td></td>
</tr>
<tr>
<td>As the EIM charge code cost allocation (and other EIM policy issues) is</td>
<td>In the evaluation phase, there will be consideration of OATT rights and how to recover new costs. In the steps 5 and 6 the consideration of OATT rights will be evaluated</td>
</tr>
<tr>
<td>discussed, one consideration is to ensuring customers existing OATT</td>
<td>In the rates discussion, there will be an in-depth discussion of tying the Ancillary Services to EIM Charge Codes where it is applicable.</td>
</tr>
<tr>
<td>rights are fully respected and that customers maintain the ability to</td>
<td></td>
</tr>
<tr>
<td>use their rights without facing new costs.</td>
<td></td>
</tr>
<tr>
<td>More clearly tie Ancillary Services to EIM Charge Codes</td>
<td></td>
</tr>
</tbody>
</table>
**12/15/19 Feedback Summary**

<table>
<thead>
<tr>
<th>Themes</th>
<th>BPA's Response: Updated 1/28</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide a detailed summary timeline with topics for each workshop</td>
<td>We will keep an agile schedule and adjust as we hear feedback from customers.</td>
</tr>
<tr>
<td>Customers concurred with BPA’s proposal for engagement for certain</td>
<td>No change</td>
</tr>
<tr>
<td>topics</td>
<td></td>
</tr>
<tr>
<td>Customers want early discussions on the following topics:</td>
<td>Based on customer feedback, we have started discussion on the identified topics from customers in Jan. and Feb. This is reflected in the schedule on the Meetings and Workshops page</td>
</tr>
<tr>
<td>• Transmission Usage</td>
<td></td>
</tr>
<tr>
<td>• Creditworthiness</td>
<td></td>
</tr>
<tr>
<td>• EIM Metering and Data Requirements</td>
<td></td>
</tr>
<tr>
<td>• EIM Non Federal Resources</td>
<td></td>
</tr>
<tr>
<td>Provide customers information on where/if there will be changes for</td>
<td>We recognize rates have dependencies on EIM policy topic decisions and we will stay coordinated with the topics. We also recognize their dependencies on charge code, gen inputs and Priority Firm Load. We have discussions on rate case issue in the Jan workshop and will continue those discussions through the summer.</td>
</tr>
<tr>
<td>Rate Case topics</td>
<td></td>
</tr>
<tr>
<td>Provide an explanation of why the proposed future tariff topics are</td>
<td>The future deferred tariff topics are due to possible changes in industry standards and developing markets. As we discussed in the Oct. 23 workshop, we are focusing on EIM for this proceeding.</td>
</tr>
<tr>
<td>not part of TC-22</td>
<td></td>
</tr>
<tr>
<td>Identify early in steps 1 &amp; 2 where there are dependencies for other</td>
<td>We will identify the steps and to the extent we know the dependencies, will include them.</td>
</tr>
<tr>
<td>topics</td>
<td></td>
</tr>
<tr>
<td>Provide a crosswalk of the Tariff issues from TC-20 to TC-22</td>
<td>Please see appendix at workshop in Nov. 19.</td>
</tr>
</tbody>
</table>
### Themes

<table>
<thead>
<tr>
<th>Themes</th>
<th>BPA's Response: Updated 1/28</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDAM impact on rates and tariff</td>
<td>EDAM policy is out of scope in the rates and tariff. Customers have the ability to participate directly in the CAISO’s EDAM policy initiative process. Bonneville’s evaluation of whether and how to join EDAM is anticipated to be another decision process – much like EIM – including the development of principles for our evaluation. We also anticipate that process would then be followed by rates and tariff cases.</td>
</tr>
<tr>
<td>EIM governance</td>
<td>EIM governance is out of scope in the rates and tariff process. Customers have the ability to participate in CAISO’s governance review process.</td>
</tr>
<tr>
<td>Leverage customer led workshops to share experiences and challenges</td>
<td>We worked with other participants to get a better understanding of their experiences and challenges. We also agree the monthly customer led workshops are an excellent forum to share experiences and challenges with other customers. Our first requested customer led workshop was 1/15.</td>
</tr>
<tr>
<td>Carry larger ancillary services reserves</td>
<td>This will be addressed in the Gen Inputs discussion.</td>
</tr>
<tr>
<td>More discussion is needed on steps 1 &amp; 2 for resource sufficiency. Customers provided several questions to gain a better understanding.</td>
<td>We will look at the schedule and update it to address these questions.</td>
</tr>
<tr>
<td>Themes</td>
<td>BPA's Response: Updated 1/28</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Develop a roadmap of how future deferred tariff topics are addressed.</td>
<td>The future deferred tariff topics are due to possible changes in industry standards and developing markets. We don’t have roadmaps at this time. We would look to develop roadmaps after the conclusion of TC-22 if warranted.</td>
</tr>
<tr>
<td>Regional Planning Organization may have a couple of options</td>
<td>This will be addressed in steps 3-6 of the RPO discussion. An RPO update will be discussed at the 2/25 workshop and step 3 will be addressed in the 4/28 workshop.</td>
</tr>
</tbody>
</table>
BPA believes OMP is compatible with EIM. As we gain experience with EIM operations, we will continue to evaluate implementation and consider any potential changes in future tariff cases. |
EIM Charge Code Allocation

APPENDIX
**FERC Approved Allocation Method Overview**

- **Imbalance Energy**
  - Instructed
  - Uninstructed
- **Flexible Ramping**
- **Real-Time Energy Offsets**
  - Congestion Offsets
  - Bid Cost Recovery
- **Grid Management**
- **Forecasting Service Fee**
- **Administrative Penalties**
  - GMC (4564 & 4575): Measured Demand
  - Forecasting Service Fee (701): Direct Assignment
  - Enforcement Protocol Penalty Allocation (1592): Direct Assignment

**Sub-Allocation Methods Defined**
- **Direct Assignment**: Costs assigned to a customer through a rate or direct pass through that can be linked to a specific action taken by the customer.
- **Measured Demand**: A cost shared among all customers regardless of participation or actions taken.
- **Measured Demand by Direction**: Costs assigned to customers based on contribution to the charge.

**Primary Charge Exceptions: Not Sub-Allocated**
- Real Time Unaccounted for Energy (64740)
- Daily Flex Ramp Up Uncertainty Capacity (7071)
- Daily Flex Ramp Down Uncertainty Capacity (7081)

**Primary Charge Exceptions**
- GMC (4564 & 4575): Measured Demand
- Forecasting Service Fee (701): Direct Assignment
- Enforcement Protocol Penalty Allocation (1592): Direct Assignment
### Codes Excluded from Staff Proposal
*From Preliminary List of Potential Adders*

<table>
<thead>
<tr>
<th>Code Number</th>
<th>Description</th>
<th>FERC Allocation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>66200</td>
<td>RTM Bid Cost Recovery EIM Settlement</td>
<td>Measured Demand</td>
</tr>
<tr>
<td>66780</td>
<td>Real Time Bid Cost Recovery EIM Allocation</td>
<td>Measured Demand</td>
</tr>
<tr>
<td>7076</td>
<td>Flexible Ramp Forecast Movement Allocation</td>
<td>Measured Demand</td>
</tr>
<tr>
<td>7077</td>
<td>Daily Flexible Ramp Up Uncertainty Award Allocation</td>
<td>Measured Demand</td>
</tr>
<tr>
<td>7078</td>
<td>Monthly Flexible Ramp Up Uncertainty Award Allocation</td>
<td>Measured Demand</td>
</tr>
<tr>
<td>7087</td>
<td>Daily Flexible Ramp Down Uncertainty Award Allocation</td>
<td>Measured Demand</td>
</tr>
<tr>
<td>7088</td>
<td>Monthly Flexible Ramp Down Uncertainty Award Allocation</td>
<td>Measured Demand</td>
</tr>
</tbody>
</table>

Codes in **bold** are included in FERC-Approved sub-allocation.
# Codes Excluded from Staff Proposal

*From Additional Codes with FERC-Approved Methods*

<table>
<thead>
<tr>
<th>Code Number</th>
<th>Description</th>
<th>FERC Allocation Method</th>
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<tbody>
<tr>
<td>4564</td>
<td>GMC EIM Transaction Charge (Schedule 1A NEVP)</td>
<td>Measured Demand</td>
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<tr>
<td>4575</td>
<td>GMC Scheduling Coordinator ID Charge</td>
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<td>4989</td>
<td>Daily Rounding Adjustment</td>
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<td>Monthly Rounding Adjustment</td>
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<tr>
<td>7070</td>
<td>Flexible Ramp Forecast Movement Settlement</td>
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<tr>
<td>7071</td>
<td>Daily Flexible Ramp Up Uncertainty Capacity Settlement</td>
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</tr>
<tr>
<td>7081</td>
<td>Daily Flexible Ramp Down Uncertainty Capacity Settlement</td>
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<tr>
<td>8989</td>
<td>Daily Neutrality Adjustment</td>
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</tr>
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<td>8999</td>
<td>Monthly Neutrality Adjustment</td>
<td>Measured Demand</td>
</tr>
<tr>
<td>701</td>
<td>Forecasting Service Fee</td>
<td>Direct Assignment</td>
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<tr>
<td>1592</td>
<td>Enforcement Protocol (EP) Penalty Allocation Payment</td>
<td>Direct Assignment</td>
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Codes Excluded from Staff Proposal
From Codes Without FERC-Approved Sub-Allocation

<table>
<thead>
<tr>
<th>Code Number</th>
<th>Description</th>
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<tbody>
<tr>
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<td>Default Invoice Interest Payment</td>
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<tr>
<td>3999</td>
<td>Default Invoice Interest Charge</td>
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<td>5024</td>
<td>Invoice Late Payment Penalty</td>
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<td>5025</td>
<td>Financial Security Posting Late Payment</td>
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<tr>
<td>5900</td>
<td>Shortfall Receipt Distribution</td>
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<td>5901</td>
<td>Shortfall Allocation Reversal</td>
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<td>5910</td>
<td>Shortfall Allocation</td>
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<tr>
<td>5912</td>
<td>Default Loss Allocation</td>
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<tr>
<td>7989</td>
<td>Invoice Deviation Interest Distribution</td>
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<td>7999</td>
<td>Invoice Deviation Interest Allocation</td>
</tr>
<tr>
<td>8526</td>
<td>Generator Interconnection Process GIP Forfeited Deposit Allocation</td>
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</tbody>
</table>
Customer Led Workshop Protocol

- Submit a workshop request no later than one week before the scheduled date (see slide 4 for dates).
- Requests must include a list of topics/issues you wish to cover if you are requesting Bonneville SME support.
- Discussions/workshops will only cover previously reviewed materials.
- Customers must inform BPA if A/V resources are required to include remote participants and/or present materials through virtual meeting.
- BPA will verify that it will staff for the requested topics within three business days via Tech Forum.
Coordination of EIM Issues for Phases III and IV

Key:
- CC: Charge Code Allocation
- EL: EIM Losses
- M: Metering
- PR: Participating Resources
- NU: Transmission Network Usage
- OC: Operational Controls
- RS: Resource Sufficiency

EIM Decision Document Aug '20
Initial Proposal Nov '20
Record of Decision 2021

Phase III
Phase IV

EIM

TC-22
BP-22
BP-22, TC-22 & EIM Integrated Scope

Keys:
- **EIM**
  - CC-1: Charge Code Allocation
  - EL-2: EIM Losses
  - RS-3: Resource Sufficiency
  - NU-5: Transmission Network Usage
  - PR-6: Participating Resources
  - M-7: Metering
  - OC-8: Operational Controls

- **TC**
  - TxL-9: Transmission Losses
  - ACS-10: Ancillary Services
  - GX-12: Generator Interconnection
  - RPO-13: Regional Planning
  - CW-14: Creditworthiness
  - AT-15: Agreement Templates
  - SC-16: Seller’s Choice

- **BP**
  - LD-17: Loads
  - SL-18: Sales
  - GI-19: Generator Interconnection
  - RK-20: Risk
  - RR-21: Revenue Requirements
  - SG-22: Segments
  - SF-23: Sale of Facilities
  - FL-24: Financial Leverage
  - PO-25: Power-only
EIM Issue Inter-Dependencies Identified

- EIM Losses
- Resource Sufficiency
- EIM Requirements for Non-Fed/Fed Participating Resources
- Transmission Network Usage
- Charge Code Allocation

Arrow direction represents dependency

This dependency based on Sub-Allocation decision