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<td>John Brodbeck</td>
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<td>Robert Safuto</td>
<td>Customized Energy Solutions</td>
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<td>Meena Thomas</td>
<td>Texas PUC</td>
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<td>Greg McAuley</td>
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<td>Ty Mitchell</td>
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<td>Bruce Rew</td>
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<td>Charles Locke</td>
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### Z2 Task Force

**AEP Offices, Dallas Texas**  
**January 16, 2017**  
**ATTENDANCE LIST**

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<th>Name</th>
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<tr>
<td>Jack Clarke</td>
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<td>Andrew Williams</td>
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<td>Bruce Walkup</td>
<td>AECC</td>
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<td>Tom Klockner</td>
<td>ZTO Industries</td>
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<td>Denise Buffington</td>
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Agenda Item 1 – Call to Order, Introductions and Welcome
Bruce Rew, Task Force Secretary, called the meeting to order and welcomed everyone to Dallas, TX. The meeting start was delayed until 1 pm due to the travel impacts from weather. There were 25 in attendance (Attachment 1 – Attendance List) and several on the phone and Webex. The primary purpose of this meeting was to review the specific proposals and obtain background on the SPP processes that are part of the Z2 crediting effort. The Z2TF will focus on specific process enhancements at the January meeting.

Agenda Item 2 – Action Item review
Bruce Rew reviewed the actions items from the November 29, 2016 meeting. The only action item was for staff to review the ARR/ILTCR process during this meeting and that is on the agenda.

The Task Force reviewed the agenda and a change was provided. Staff will provide an update on Order 2003 implementation in other regions. Charles Locke provided background material on Friday to the Task Force and will present this under agenda item 6. No other agenda item changes were noted.

Agenda Item 3 – Review and Approved November 1 and November 29 minutes
The meeting minutes for the two November meetings were reviewed. John Stephens provided edits for the November 29 draft meeting minutes previously distributed. Those were mostly editorial and were reviewed by the Task Force. John Stephens moved to approve both meeting minutes as modified and Davis Rooney seconded. The minutes were approved as modified. (Attachment 2 – November 1 and November 29 meeting minutes)

Agenda Item 4 – Westar Z2 Enhancement Proposal
Grant Wilkerson presented the proposed Z2 enhancement via conference line. This presentation was distributed with the background material (Attachment 3 – Westar Proposal).
Grant discussed the proposal which had significant interest and questions starting with the generation interconnection proposed process. The new generation interconnection process would have a deliverability test for interconnections. There was discussion around the possibility of this causing an overbuild situation and that was stated as a possibility. Generation interconnection customers would need to have a process to work through the ARR/LTCR process as performed in other RTO’s. Grant discussed the transmission service portion of the proposal. There are many questions on the details of providing ARR’s and the feasibility concerns that SPP transmission customers have experienced. Overall the Task Force is interested in getting more details on the ARR/LTCR process. Consideration will be made as to how this proposal can be used in whole or part to address the concerns of the current Z2 process and make sure we don’t complexify it.

**Agenda Item 5 – AEP Z2 Enhancement Proposal**

Richard Ross elected to defer to later in the meeting to present his proposal to the Task Force.

**Agenda Item 6: SPP Staff Z2 Enhancement Options**

a) Next up was Charles Locke to discuss the reverse engineering proposal from staff (Attachment 4 – Reverse Engineering). In November SPP Staff presented a proposal called Reverse Engineering. In the proposal staff has gone through the Z2 process and looked for ways to simplify certain aspects. Staff initially proposed 8 options that could be used as simplification of Z2. Charles proposed that focus be placed on proposal 3, remove short-term transmission service requests from both stacking and crediting, and proposal 7, implement standard credit payment rate for all creditable upgrades. Charles discussed each of the proposals in more detail. Removal of the credit stacking will provide a significant reduction in staff time, easier to shadow settle, limited reduction in sponsor funding and simple to implement. The task force discussed why the short-term TSR’s were included initially in the process. Under the standard rate process, it also simplifies the process by reducing the rate making workload. The current process has over 1,200 credit payment rates that have to be managed. The Z2TF ask several questions related to the proposed implementation as outlined in the slides.

Next Charles covered compensation for GI costs required under Order 2003 (Attachment 5 – Order 2003). Charles discussed additional research performed on what
other ISO/RTO's are currently doing. He mentioned that CAISO and MISO also offer both credits and congestion rights. The group discussed the generation interconnection process and the how's and why's of SPP differences with RTO markets.

b) Ty Mitchell led the discussion on ILTCR’s for the group (Attachment 6 – ILTCR process). Ty explained how ILTCRs can be used in lieu of Z2 credits. Questions surrounded the history of why we are doing it the way we are. Process impacts on why we reduce ILTCRs and the thought process behind that were discussed. The Z2TF had much discussion on how non-capacity upgrades could be handled under such as proposal. Discussion concerns over potential cost shifts was also held and will be a consideration should the group move forward with and ILTCR replacement process.

c) Presentations for section 6c and 6d (Schedule 13) were deferred until next meeting because of time constraints.

**Agenda Item 7: Open Discussion on Potential Enhancements**

The Task Force had discussion and reflection on where they currently are in the review process. Additional information is needed to get a better understanding on the potential to use the ILTCR process as a replacement for the current Z2. Staff was requested to discuss with other markets on how they deal with non-capacity upgrades. It was also requested that additional review be done to process how a GI customer would get ILTCRs in SPP should we move in that direction. For one of the next meetings it was requested that SPP staff invite representatives from MISO and PJM to come and answer detailed questions on their compensation for sponsored upgrades.

**Agenda Item 8 – Next Steps**

The Task Force did not complete the agenda and scheduled a meeting for February 1, 2017 to complete the agenda and discussion started today. A March 8, 2017 meeting was also scheduled. Both of these meetings will be at the AEP offices in Dallas.

**Agenda Item 9 – Action Items**

The following action items were noted from the meeting.
Action Items:

- Agenda Item 7 – SPP Staff to discuss with other markets exactly how they deal with non-capacity upgrades associated with ILTCR’s.

- Agenda Item 7 – SPP Staff to evaluate what the process would be to get ILTCR’s associated with the generation interconnection process.

- Agenda Item 7 – Staff to invite expert representatives from MISO and PJM to attend the March 8 meeting to provide detailed question and answer session on how the regions handle compensation for sponsored upgrades.

**Agenda Item 10 – Next Meeting**
The task force setup the next two meetings as shown below. The Chair, Denise Buffington, stated that she did not believe the Z2TF would meet an April deadline to have a proposal to the MOPC and will report back that additional time will be needed.

**Future Z2TF Meetings:**

**Z2TF Meeting** – Wednesday, February 1, 2017 (8:00 a.m. – 2:00 p.m.)
**Location:** AEP Offices- Dallas, TX
**Room:** 8th Floor

**Z2TF Meeting** – Wednesday, March 8, 2017 (10:00 a.m. – 3:00 p.m.)
**Location:** AEP Offices- Dallas, TX
**Room:** 8th Floor

**Agenda Item 7 – Adjournment**
With no other business Denise Buffington adjourned the meeting at approximately 5:45 p.m.

Respectfully Submitted – Bruce Rew, Z2TF Staff Secretary
SOUTHWEST POWER POOL
Z2 TASK FORCE MEETING
November 1, 2016
Kansas City Power & Light Offices, Kansas City, Missouri
10:00 a.m. – 4:00 p.m.
MINUTES

Agenda Item 1 – Call to Order, Introductions and Welcome
Z2 Task Force Chair, Denise Buffington, welcomed everyone to Kansas City, Missouri and started the meeting at 10:01 am. There were 20 in attendance (Attachment 1 – Attendance List) and several on the phone and webex.

Agenda Item 2 – Action Item review
Bruce Rew reviewed the actions items from the September 30 meeting. Three prior action items were identified and provided below along with the responses.

September 30, 2016 Action Items:

- Agenda Item 4 – Charles Locke will confirm the models used to assess KEPCO’s transmission request and what was represented in the models during those evaluations. This will be done prior to the Market & Operations Policy Committee (MOPC) meeting. SPP distributed a letter with an explanation of the models used on October 10, 2016.

- Agenda Item 4 – SPP staff will determine how much of the DAUC is creditable to date. This is still a work in progress and being looked at. Charles Locke estimated the impact to be in the 5-10% range.

- Agenda Item 5 – Staff will distribute information about how other regions are handling compensation when directly assigned costs are incurred for system expansion. SPP distributed a memo from Wright & Talisman discussing what other ISO/RTO’s have in place. The memo is posted on the Z2TF page on SPP.org. Staff is on the agenda to provide an overview of the memo and presentation at the meeting.

Agenda Item 3 – Review and Approve September 30 minutes
Bruce Rew presented the draft meeting minutes along with proposed revisions. One additional action item was added to the list noting the distribution of the Wright & Talisman memo on other ISO/RTO compensation for upgrades. Additional minor corrections to the minutes were also noted and updated. Larry Holloway made a motion to approve the minutes and it was seconded by Grant Wilkerson. The September 30, 2016, minutes were approved by voice vote and will be posted on Z2TF section of the SPP web site.

Agenda Item 4: Review Board of Directors Action
Bruce Rew updated the Task Force on what occurred at the MOPC and Board of Directors on the Z2 action (Attachment 2 – Board of Directors Action). The Z2TF recommendation to not approve waivers and to follow the tariff was presented at the MOPC meeting. The MOPC voted to approve the recommendation with a roll call vote of 83% in support. The MOPC also voted and turned down a motion to approve waivers for the City of Prescott, AR. This recommendation was presented to the Board of Directors. Since this recommendation was for the SPP to follow the Tariff it did not require the Board to take an affirmative action. The Board heard KEPCO’s concerns and asked that specific recommendation be brought for it to consider. Two motions were developed and presented at the SPP Board of Directors meeting:

1. Direct the SPP staff to use for historical period the following interpretation of the Z2 language in the Tariff: For a transmission reservation to be assigned a transmission credit payment obligation under Attachment Z2 for an upgrade that adds capacity to the system, that upgrade must have been included in the original aggregate study model that was used to determine transmission service.

2. The executed transmission service agreement must explicitly include a directly assigned upgrade cost for payment of credits under Attachment Z2 in order to be directly assigned to the Transmission Customer.
The two requests received a motion to approve but not a second and were therefore not acted on. The Board had good discussion on the Z2 concerns and comments were presented supporting both actions.

The Task Force had additional discussion on Tariff Attachment Z2. Denise Buffington stated that she desired to have a review of Z2 and to determine what is a FERC mandated requirement and what if any of Z2 was done on SPP’s initiative. SPP Staff took an action item to provide back to the Task Force a review of Z2 and background on why requirements were put in the Tariff. The Task Force also discussed why we are trying to improve Z2. Or another way to say it is, what are we trying to fix. It was decided to discuss this after Charles Locke completes review of other ISO/RTO’s compensation methods.

**Agenda Item 5: Review of other ISO/RTO compensation for upgrades**

The Z2TF was provided a memo from SPP’s Washington DC legal firm Wright & Talisman. Charles Locke presented an overview of the memo (Attachment 3 – RTO Compensation for Upgrades). Charles went through each of the ISO/RTO’s in the memo. The majority of the other regions use an incremental ARR approach. After some discussion it was requested that SPP research if other regions provide for credits in the broad areas that SPP does such as generation interconnection, network transmission service, and sponsored upgrades. The Task Force also spent some time discussing the Incremental Long-Term Transmission Congestion Rights (ILTCR’s) and how appropriate they are for the SPP region.

The Task Force spent some time discussing why SPP needs to fix Z2. Z2 has been in place for several years and it has been modified as required by FERC. Additionally, SPP has changed significantly from the original energy imbalance market to the full Integrated Marketplace...
currently in plan. A discussion was held to identify specific goals for improvement. The following items were identified as items that can or should be improved regarding Z2.

**Problems to Solve for Z2**

1. “But For” test determination
2. Price certainty for market participants (TSR Process and schedule 11 certainty)
3. Shadow Settlement capability
4. Reduce SPP Staff burden to manage
5. Z2 impact on Schedule 11 forecasts
6. Any Cost oversight could be either directly assigned or base plan allocated
7. Third party facilities
8. PTP redistribution
9. Model consistency

This list will provide the Z2TF a list to examine as we proceed looking at potential improvements to the Z2 process. Staff was given an action item to develop a base line cost estimate on what it takes to support the Z2 system on an annual going forward basis. Staff was also charged with documenting the process for modeling fixes and enhancements. The Task Force discussed a variety of items related to Z2 from historical standpoint and the need for scrutiny of transmission upgrade costs of facilities allocated under this process.

**Agenda Item 6: SPP Staff Z2 enhancement options**

Next Bruce Rew presented the staff’s work on potential options for Z2 enhancements (Attachment 4 – Staff Z2 Enhancement Strawman). Bruce pointed out that staff is not recommending one of the options but is providing these to generate thought and discussion on different ways that SPP can improve Z2. The six potential improvement options are:

1. Base Plan Funding
2. Reverse Engineering
3. Upgrade Sponsor Facilities Rider
4. Construction Credits
5. Toll Road Option
6. Incremental LTCR’s

Each of these was discussed with the pros and cons of each methodology reviewed. Significant discussion was held on the Incremental LTCR’s as that is most prevalent approach in other regions and already part of our Tariff. The ILTCR’s are an option instead of cash compensation for use. Bruce did point out that although it is in the Tariff it has not been used.

**Agenda Item 7: Z2 improvement options discussion**
The Task Force discussed potential options throughout the meeting. It was determined that additional information would be beneficial to make a more informed choice on improvement alternatives. The next meeting will be focused on informing everyone on how Z2 works and potential on-going impacts necessary to support it. The Task Force is focusing on achieving the goal of having a recommendation in front of the MOPC at their April 2017 meeting.

**Agenda Item 8 – Next Steps**
The Task Force will meet on November 29, 2016, at the AEP offices in Dallas. The meeting will be an educational session on the history and purpose of Z2 and how it interacts with current SPP responsibilities. The Task Force also scheduled the follow up meeting to be held at the AEP offices on Monday, January 16, also at the AEP offices. This meeting is scheduled the day prior to the Market and Operations Policy Committee in Dallas.

**Agenda Item 9 – Action Items**
The following action items were noted from the meeting.

**Action Items:**
- Agenda Item 4 – SPP Staff will provide a summary of the Tariff requirements of Attachment Z2 and why SPP has included those in the Tariff. The Task Force is looking to determine where the
requirements generated from and are they FERC mandated or something that was developed by SPP.

- Agenda Item 5 – SPP staff will research to determine if other regions provide credits like SPP does in the wide variety of areas such as generation interconnection, sponsored upgrades, and network transmission service.

- Agenda item 5 – Staff to develop a base line cost estimate to support the Z2 effort on an annual going forward basis and provide this to the Z2TF.

- Agenda item 5 – Staff to document process for including creditable upgrades in the aggregate study process.

**Agenda Item 10 – Next Meeting**

**Future Z2TF Meetings:**

**Z2TF Meeting** – Tuesday, November 29, 2016 (9:00 a.m. – 3:00 p.m.)  
**Location:** AEP Offices – Dallas, TX  
**Room:** Meeting room on the 42nd floor

**Z2TF Meeting** – Monday, January 16, 2017 (10:00 a.m. – 5:00 p.m.)  
**Location:** AEP Offices- Dallas, TX  
**Room:** 8th Floor

**Agenda Item 7 – Adjournment**  
With no other business Denise Buffington adjourned the meeting at approximately 3:11 p.m.

Respectfully Submitted – Bruce Rew, Z2TF Staff Secretary
Agenda Item 1 – Call to Order, Introductions and Welcome
Z2 Task Force Chair, Denise Buffington, welcomed everyone to Dallas, TX and started the meeting at 9:02 am. There were 25 in attendance (Attachment 1 – Attendance List) and several on the phone and webex. The primary purpose of this meeting is to obtain background on the SPP processes that are part of the Z2 crediting effort. The Z2TF will focus on specific process enhancements at the January meeting.

Bruce Rew reviewed the agenda and provided the Z2TF with a couple of changes. Jim Flucke, with KCP&L, will present a member’s perspective on the TCR markets. This will be done under agenda item 2. The agenda did not include an approval item for the November 1, 2016 meeting minutes. The meeting minutes were distributed on November 4, 2016 but not posted. Bruce will get the prior minutes posted and the Z2TF will approve those at the January meeting. No other agenda item changes were noted.

Bruce Rew reviewed the actions items from the November 1, 2016 meeting. Four prior action items were identified and provided below along with the responses.

November 1, 2016 Action Items:

- Agenda Item 4 – SPP Staff will provide a summary of the Tariff requirements of Attachment Z2 and why SPP has included those in the Tariff. The Task Force is looking to determine where the requirements generated from and are they FERC mandated or something that was developed by SPP. This is an agenda item for the current meeting.

- Agenda Item 5 – SPP staff will research to determine if other regions provide credits like SPP does in the wide variety of areas such as generation interconnection, sponsored upgrades, and network transmission service. This was covered in a high level from the memo from SPP outside council. Staff will do some additional review to determine specific credits provided in the three upgrade types.
• Agenda item 5 – Staff to develop a base line cost estimate to support the Z2 effort on an annual going forward basis and provide this to the Z2TF. This is an agenda item for the current meeting.

• Agenda item 5 – Staff to document process for including creditable upgrades in the aggregate study process. This is an agenda item for the current meeting.

Charles Locke presented information from a prior meeting action item (Attachment 2 – Subsequent Sponsorship paid to date). Subsequent sponsors of projects have DAUC paid of $15.3 million and received credits to date of $0.6 million. Paul Malone requested that there be transparency in the payback of upgrades in the Z2 process.

**Agenda Item 3 – Z2 Legal Basis**

Denise Buffington requested that Tessie Kentner present the Z2 legal basis presentation first before going into the other presentations. Tessie reviewed the three primary FERC policies related to why we have Z2 reimbursement for sponsored upgrades (Attachment 3 – FERC Polices related to Z2). The “and” pricing policy was part of the FERC acceptance on SPP’s Base Plan funding in the Tariff. This pricing policy is associated with transmission service requests. FERC Order 2003 dictated many of the requirements related to the generation interconnections. FERC’s policy on generation interconnections was to have customers “receive valuable transmission rights in return” for paying for network upgrades. FERC Order 681 specified requirements for participant funded projects. The Order also provided requirements for SPP to provide long-term congestion rights for Project Sponsors pursuant to Guideline 3 of Order No. 681. Overall SPP would need to do an assessment of any proposed changes to Z2 to ensure continued compliance with prior FERC requirements.

**Agenda Item 2 – ARR/TCR review**

Charles Cates presented an overview of the SPP ARR/TCR process (Attachment 4 – ARR/TCR Review). Charles reviewed the SPP processes for obtaining and using ARR/TCR’s in the market. He also reviewed the incremental Long-Term Congestion Rights (ILTCR). The Z2TF had
significant discussion on the use of ARR/TCRs in SPP and how they specifically are related to
generation interconnections, sponsored upgrades and transmission service.

Staff has an action item to review how other markets are handling capacity and non-capacity
upgrades in a ARR/TCR process.

Next Jim Flucke, with KCP&L, presented a member’s view of the benefits of the TCR process
(Attachment 5 – Congestion Hedging in the Integrated Marketplace). Jim discussed KCP&L's
experience with TCR market in the Integrated Marketplace. They believe that TCR's have
served their purpose and that there are opportunities for improvement. The Z2TF had
significant discussion on the benefits and use of ILTCR’s in SPP and the potential for them to be
a replacement for current Z2 processes. Z2 should be considered a reimbursement mechanism
and not an incentive for transmission construction.

**Agenda Item 4: Generation Interconnection**

Steve Purdy presented the SPP generation interconnection process review (Attachment 6 – GI
Process). The SPP generation interconnection queue has a large number of requests with
approximately 23,000 MW. The majority of the requests are wind which account for almost
20,000 MW. Generation interconnection customers have upgrades that are considered
capacity and non-capacity. A capacity upgrade is one that is considered to expand the
transmission capacity of the system such as upgrading an existing transmission line. Non-
capacity upgrades are facilities which do not expand the transmission capacity such as tapping
into an existing transmission line to add a substation. The Z2TF had significant discussion on
how to treat these facilities under Z2. The other concern mentioned was the uncertainty on the
generation interconnection construction. GI customers have the ability to withdraw after an
interconnection agreement has been signed. This may call into question whether facilities in
the agreement will actually get constructed and affect Z2 credits.

**Agenda Item 5: Planning Studies**

The next topic discussed was the Aggregate Planning Study process by Charles Cates
(Attachment 7 – Aggregate Study Planning Process). Charles reviewed the open season
process SPP uses to aggregate transmission service requests. Starting in 2016-AG1
Transmission Customers are now receiving CPO estimates on their study reports. Steve Purdy
stated that it is still possible GI projects pending in the queue may be missing from these estimates. Transmission customers will pay AND pricing for network upgrades and OR pricing for point-to-point service.

Antoine Lucas discussed the SPP planning process. Nothing in the ITP10 or ITP20 planning is affected by Z2 crediting of upgrades.

**Agenda Item 6: Operational Impacts to Short Term requests**
Charles Locke presented the staff’s work on operational impacts from short term requests under Z2 (Attachment 8 – Credits from Short-Term Service). Short term requests are evaluated for impacts on creditable upgrades. These short-term requests are also evaluated in the reverse direction. Short-term TSR’s only stay in the stack for the duration of their term. Charles also discussed the reduction in short-term requests since the start of the Integrated Marketplace on March 1, 2014. Long-term transmission revenue has increased after the Integrated Marketplace started.

**Agenda Item 7: Base Line Assumptions**
Bruce Rew presented the base line estimated ongoing annual costs to operate the existing Z2 process (Attachment 9 – Staff Z2 Base Line). SPP Staff has estimated the long-term expected costs to support the Z2 crediting process. These assumptions are based on the current experience as staff is not currently in what it considers the long-term state. Staff estimates are that it will take approximately 5 FTE’s to perform the work required in support of this effort. Databases have initially been sized to last at least 5 years and up to 10 years. SPP uses a virtual server technology and expects to continue that going forward. Bruce expects the total annual costs to support Z2 to be between $500,000 and $1,000,000.

**Agenda Item 8 – Next Steps**
The Task Force will meet on January 16, 2017, at the AEP offices in Dallas. The meeting will focus on potential options for improving the Z2 process. The Z2TF requested that the SPP Staff focus on the potential ILTCR option or reverse engineering. Staff will cover those in detail and do a review of the four other proposals to potentially use parts of those as well. Grant Wilkerson and Richard Ross volunteered to present other options as well at the January
meeting. Anyone interested in presenting a proposal please contact Denise or Bruce to get on the agenda.

**Agenda Item 9 – Action Items**
The following action items were noted from the meeting.

**Action Items:**
- Agenda Item 2 – SPP to review how other markets are handling capacity and non-capacity upgrades in a ARR/TCR process.

**Agenda Item 10 – Next Meeting**
**Future Z2TF Meeting:**

**Z2TF Meeting** – Monday, January 16, 2017 (10:00 a.m. – 5:00 p.m.)
**Location:** AEP Offices- Dallas, TX
**Room:** 8th Floor

**Agenda Item 7 – Adjournment**
With no other business Denise Buffington adjourned the meeting at approximately 2:41 p.m.

Respectfully Submitted – Bruce Rew, Z2TF Staff Secretary
Z2 PROPOSAL
• Modify GIA process to account for generator delivery to the SPP market, acknowledging impact on/of existing generation

• Current process may need expanded to account for periods when similar generation is also at upper level output

• Need to validate if counter-flow generation present in current snapshots is realistic
GENERATION INTERCONNECTIONS

- Identified facility upgrades are assigned to the GIA

- GIA customer qualifies for ARR/LTCR process similar to other RTOs

- Create no new Z2 facilities from GIA process

- Current Z2 facilities

  - Current Z2 facilities would be rolled into Tariff funding once a certain utilization factor is reached.
TRANSMISSION SERVICE

• Keep current process of transmission service request to establish service for capacity to meet SPP criteria

• Add second option for customers to request study to establish ARR feasibility, but it is not required

• ARR/LTCR modeling will be based on current LTCR feasibility and should identify upgrades required to grant LTCR
TRANSMISSION SERVICE

• New DAUC facilities identified from study process would be eligible for ARR/LTCR process

• DAUC facilities become Tariff funded once facilities reach a specified utilization factor

• Existing Z2 facilities
  • Z2 facilities associated with TSR would be Tariff funded once facilities reach a specified utilization factor
SPONSORED PROJECTS

• Modify Tariff

  • Any project proposed as a sponsored project would be studied by SPP for inclusion in planning process and could be selected by SPP for Tariff funding
  
  • Projects that are not selected could still be sponsored project eligible for ARR/LTCR process

• Existing Z2 facilities

  • Z2 facilities can Tariff funded once a certain utilization factor is reached
OTHER ITEMS

• Change in technical parameters of GIA study

• Requires modifications to existing Tariff

• Resistance to non-cash payment for sponsored upgrades

• Project’s Tariff funding allocation (regional/zonal) would need to be determined

• Allow customers with Z2 facilities to select ARR/LTCR process over waiting for certain utilization factor for Tariff funding
QUESTIONS
HELPING OUR MEMBERS WORK TOGETHER TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE.
Simplification of the Crediting Process

January 16, 2017
“Reverse Engineering” Proposals Discussed Previously

- **Proposal 1: Annual Z2 Billing**
  - Calculate and issue crediting settlements annually

- **Proposal 2: Schedule 13 – Remove stacking process**
  - Replace Att. Z2 with a general fee to fund upgrades

- **Proposal 3: Remove short-term TSRs**
  - Focus the crediting process on long-term service only

- **Proposal 4: Alternate source for TDFs**
  - For short-term, use annual or monthly impacts to reduce data needs

- **Proposal 5: Provide impact ratios**
  - Post impact ratio for each TSR for shadow settlement purpose

- **Proposal 6: Remove Short-term TSRs from reverse stacking**
  - Do not stack ST TSRs, which eliminates ST reverse creditability

- **Proposal 7: Utilize ATRR calculation for PTP CPOs**
  - Put PTP CPOs on the same basis as Network CPOs

- **Proposal 8: Hybrid of the above proposals**
Staff Recommendation to Implement Reverse Engineering Options

Near-term – Proposal 3:

• Remove short-term Transmission Service Requests from both stacking and crediting
  ñ “Near-term” is within a year, including both regulatory filings and implementation

Long-term – Modified Proposal 7:

• If Att. Z2 is retained, implement a standard credit payment rate for all creditable impacts
  ñ Same credit rate for both Network and PTP
  ñ Same credit rate regardless of upgrade type or upgrade cost
Staff Comments Regarding the Other Proposals

• Proposal 1: Annual Z2 Billing
  ñ Would require a major effort to implement and would result in large annual bill impacts on customers

• Proposal 2: Schedule 13 – Replace Att. Z2
  ñ This is addressed in a different presentation because it is not a simplification of Z2

• Proposal 4: Alternate source for TDFs
  ñ If short-term crediting is eliminated, this is unnecessary

• Proposal 5: Provide impact ratios
  ñ This has been implemented already

• Proposal 6: Remove Short-term TSRs from reverse stacking
  ñ This should be considered as an alternative approach if Staff recommendation to eliminate short-term credits is not adopted
Reverse Engineering Proposal #3
Advantages of Removing ST TSRs from Crediting and Stacking

Advantages to SPP:

- Reduction in administrative time
- Faster run time in processing (currently over 4 hours per run)
- Less computer storage
- Reduction in system maintenance time
- Estimated total savings of at least 1 FTE

Advantages to Stakeholders:

- Easier to shadow settle
- Less risk of data errors and resulting resettlement
- Lower transmission service charges under all schedules because TOs can credit more PTP revenue in formula rates
Other Considerations about Removing ST TSRs from Crediting and Stacking

- After implementation of the Integrated Marketplace, short-term PTP service has accounted for about 2.5 percent of total credits.
  - As noted in the November 29 meeting, short-term revenues declined substantially after start of the current market.

- No direct effect on charges to Transmission Customers because ST service is based on the standard rates with no DAUC.

- ST service does not fund upgrades that are initially constructed for Transmission Service. Elimination of ST credits would be consistent with this approach, thereby treating construction funding and sponsor funding in a parallel manner.

- Estimated implementation time is less than 2 months, including testing.

- FERC approval of the change would be necessary.
Reverse Engineering
Modified Proposal #7
What Issue Does a Standard Credit Rate Address?

- The Att. Z2 approach effectively creates a separate credit payment rate ($ per MW-impact) for each upgrade-TSR combination.
- When multiplied by the impact amount, this creates a separate CPO for each upgrade-TSR combination:

<table>
<thead>
<tr>
<th>TSR</th>
<th>Creditable Upgrade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CPO₁A CPO₁B CPO₁C CPO₁y</td>
</tr>
<tr>
<td>2</td>
<td>CPO₂A CPO₂B CPO₂C CPO₂y</td>
</tr>
<tr>
<td>3</td>
<td>CPO₃A CPO₃B CPO₃C CPO₃y</td>
</tr>
<tr>
<td>x</td>
<td>CPOₓA CPOₓB CPOₓC CPOₓy</td>
</tr>
</tbody>
</table>

- The current Z2 system effectively has over 1,200 credit payment rates for long-term service alone.
- This number will grow as additional upgrades are built and TSRs approved.
- Many of these rates are still subject to true-up because the upgrade costs are not final.
Implementation of a Standard Credit Rate

- A uniform rate per MW-impact would apply to both Network and PTP service and to any upgrade
- The method of calculating the standard value would be detailed in the Tariff
  - The value could be updated periodically (e.g., annually) through either a formula process or a stated rate filing
- The value applicable to each long-term TSR would be that which is in effect when the customer accepts service in an aggregate study
  - This could provide more cost certainty for the customer than one or more CPO estimates that are subject to true-up
- All or a portion of the standard credit payment rate would be covered by Base Plan or PTP rates, as is done currently
- If ST service continues to pay credits, the value applicable would be the amount in effect when service either starts or is confirmed
  - The ST value would be limited to what can be funded through PTP rates
Advantages of Implementing a Standard Credit Payment Rate

- Eliminates the need for true-up adjustments, and potentially resettlement, when upgrade costs are finalized or PTP rates are revised

- Reduces the data requirements for calculating the rate, which currently is dependent on:
  - Upgrade cost, upgrade in-service date, TO carrying charge, TO cost of capital, TSR start date, TSR type of service, TSR point of delivery, FERC interest rate

- Although calculation of a standard rate requires several data inputs, the calculation would be performed only periodically rather than every time a subsequent TSR is approved

- The standard rate calculation can be more transparent than the current process

- Reduces the shadow settlement burden for members
Standard Credit Payment Rate: Calculation Details

- Rate update
  - How often?
  - Stated rate filing or formula process?

- The calculation could be as follows:
  - \( \text{Std. Rate} = \frac{\sum \text{DAUC initial sponsors}}{\sum \text{Upgrade Capacity}} \)
  - \( \text{Total CPOTSR} = \text{Std. Rate} \times \text{MW Impact} \)
  - \( \text{Monthly CPOTSR} = \frac{\text{Total CPOTSR}}{\text{Term of Service}} \)

* For a non-capacity upgrade, substitute GIA capacity for Upgrade capacity
Standard Rate: More Calculation Details

- All DAUC of the initial sponsors of each included upgrade would be used in the rate calculation.

- An upgrade would be included in the rate calculation if that upgrade has any sponsors, initial or subsequent, with an uncompensated creditable balance.

- If ST service continues to pay credits, an assumption is needed about service term in order to calculate a monthly rate value. Options include:
  - Average term of all long-term TSRs with credit payment obligations
  - 20 years, which is the maximum length of project sponsorship under Att. J
Other Considerations Regarding a Standard Credit Payment Rate

- Due to the time and effort required to implement a standard rate, it should not be pursued if the Att. Z2 crediting framework is ultimately replaced.

- For upgrades constructed to provide service, the cost responsibility of subsequent customers generally would not be proportional to the cost responsibility of the initial sponsor. Two reasons for this:
  - The impact allocation would be calculated similarly to the method now used for GI or sponsored projects, which is based on an allocation denominator of upgrade capacity rather than total impacts.
  - A standard credit rate is not linked to specific upgrade costs.

- FERC approval of the change to implement a standard credit payment rate would be necessary.
QUESTIONS?
HELPING OUR MEMBERS WORK TOGETHER TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE.
Order 2003 Compliance

January 16, 2017
Compensation for GI Costs Required Under Order 2003

- Different approaches have been accepted by FERC:
  - CAISO, MISO and SPP offer both credits and congestion rights
  - ISO-NE, NYISO and PJM offer only congestion rights
• FERC accepted the use of congestion rights even though they did not always provide full reimbursement for GI upgrades and even in situations where the GI customer was not guaranteed to get a congestion right (e.g., where the upgrade did not provide incremental capacity)
Order 2003

• “the transmission pricing policies that the Commission has permitted for an RTO or ISO with locational pricing, in which the Interconnection Customer bears the cost of all facilities and upgrades that would not be needed but for the interconnection of the new Generating Facility and receives valuable transmission rights in return, are acceptable forms of participant funding.”

• “…it is not ‘and’ pricing if, for example, the Interconnection Customer is allowed to receive well-defined capacity rights that are created by the upgrades. For example, PJM, which uses locational pricing, gives Firm Transmission Rights (FTRs) and Capacity Interconnection Rights (CIRs) to the Interconnection Customer in exchange for a ‘but for’ cost payment.”
PJM Case (ER04-457)

• “The Commission concluded in Order No. 2003 that it was acceptable for an independent entity to offer Interconnection Customers FTRs and ARRs in exchange for payments for Network Upgrades.”

• “…there is no requirement that ARRs awarded for Network Upgrades have equal value to the cost of the Network Upgrades, as the costs would not exist ‘but for’ the proposed interconnection.”
NYISO Case (ER04-449)

“Specifically, the Commission said it would allow independent Transmission Providers to adopt the “but for” approach and noted that it differs from the crediting approach established for non-independent Transmission Providers. The Commission also noted that the Developer is allowed to receive well-defined, long-term and tradable capacity rights (in lieu of transmission credits) that are created by the upgrades.”
New England Case (ER04-433)

- “NEPOOL’s cost allocation methodology under Schedule 11 requires the Interconnection Customer to bear all costs of sole use, direct assignment facilities as well as all costs for Network Upgrades...subject to a market compensation mechanism for transmission upgrades that increase the transfer capability of the PTF.”

- “If the System Operator determines that a generator interconnection-related upgrade needed to meet the Minimum Interconnection Standard provides benefits to the system as a whole, the upgrade costs are rolled into the system-wide rate.”
Tariff and Market Differences

- There are significant differences between SPP’s Tariff and other regional transmission tariffs that can affect the level of compensation received from congestion rights associated with GI upgrades
HELPING OUR MEMBERS WORK TOGETHER TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE.
ILTCRs as Transmission Credits

Ty Mitchell
Supervisor, Congestion Hedging
Today’s Process Flow

GI
- Connect *new generation* to SPP
- Used for *energy, capacity, ancillaries*

TS
- Transmission Service *deliverable* via ATC for:
  - *Capacity* Requirements
  - *Congestion Hedge*

CH
- Transmission Congestion Rights (TCRs) provide *price certainty* by mitigating congestion cost

DA
- Allows BA to *operate* most *reliably* and *cost effectively* for all participants
ILTCRs in lieu of Z2 Credits

Use today’s ILTCR process as a cost recovery mechanism for Network Upgrades with Directly Assigned Upgrade Cost (DAUC)

- Keep only section “IV. ILTCRs” language in Attachment Z2

ILTCRs eligibility and MW capacities:

- For sponsors of upgrades with DAUC
- Must create additional Available Transfer Capability (ATC) on a specific path
- Are an outcome of a study request
ILTCR Process

1. Requests candidate ILTCR analysis of up to three source/sink paths
   - Sponsor pays for study cost

2. Determines the minimum increase in Available Transmission Capacity (ATC) on each path over a 10 year period
   - ATC may not be available for selected paths
   - Z2 Credits...
     - System is reduced to 50% and no counterflow is allowed

3. Selects one of requested paths for ILTCR candidates or chooses Z2 credits

4. Gives candidate ILTCRs equal to the amount of increased ATC on that path

5. Nominates cILTCRs in Initial ILTCR Allocation

6. Fully awards an ILTCR for the remainder of the TCR year

7. cILTCRs then must be nominated again in Round 2 of the next LTCR Allocation in the Annual Process

KEY
- Upgrade Sponsor Action
- Transmission Planner Action
SPP ILTCR Today

ILTCR example:

- Transmission Provider determines amount of incremental ATC created on up to three paths
- ILTCR uses upgrade capacity for a single path

100 MW ILTCR

GEN / LOAD  Upgrade with DAUC  GEN / LOAD

Other System Capability
SPP ILTCR Impacts Today

Purpose of Transmission Service:
- Provide ATC for capacity requirements and hedges

**TS example:**
- ILTCR uses upgrade capacity
- Upgrade no longer provides TCs:
  - New generation capacity for load
  - New hedging rights for load

**Note:**
- ILTCR uses other transmission system capabilities without payment for use of the transmission system
- ILTCR values when there is congestion and projects that reduce congestion reduce the ILTCR values
DAUC Types

Network Upgrades with DAUC today:

- SPP Transmission Service:
  - SPP Upgrades with DAUC
- Non-SPP planning:
  - Sponsored upgrades
- Generation Interconnection:
  - Capacity based upgrades
  - Non-capacity based upgrades

Potential for new ATC

No Potential for new ATC

By Cost of Upgrades
- 53%
- 47%

By Number of Upgrades
- 42%
- 58%
No Potential for new ATC

Non-capacity Based Upgrades:

Pros:
- None

Cons:
- ILTCR study evaluates and determines the MW value of the right via incremental ATC created by the upgrade
  - No ILTCR value is created for an upgrade that creates no capacity (0 MW ILTCR)
  - Congestion Hedging market is based on the transmission system’s transfer capability from a source to a sink
- Currently accounts for 58% of upgrades
Potential for new ATC

Capacity Based Upgrades:

Pros:

• ILTCR is an existing process for capacity based upgrades
• All data needed for shadow settlement is available

Cons:

• No guarantee of ILTCR plus requested study has additional cost
• ILTCRs can result in a charge to the owner
  ñ Path price can flip and MPs can also be exposed to uplift charges
• After the first interim period, ILTCRs are not guaranteed
  ñ Must compete in the LTCR allocation process before any guarantee
• ILTCR settlement value changes daily (difficult to forecast)
• Potential to limit availability of future transmission service and existing ARR/TCR portfolios
• ILTCRs require posting credit held out over each year
Fundamental ILTCR Issues

- ILTCRs are currently not capable of being a cost recovery mechanism for **58% or more** of upgrades with DAUC
  - Non-capacity upgrades fail to provide any additional ATC
  - Many capacity based upgrades will not create ATC for ILTCR

- ILTCRs have may not be granted or available:
  - Through the initial study for an ILTCR has cost
  - Through Round 2 of first LTCR process (guaranteed at least 50% reduction)
  - With a positive value for a cost recovery mechanism

- ILTCR can be a charge as values are unpredictable and risky... especially when not used as a hedge

- Potential limitation of transmission service availability and existing hedging portfolios
HELPING OUR MEMBERS WORK TOGETHER TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE.