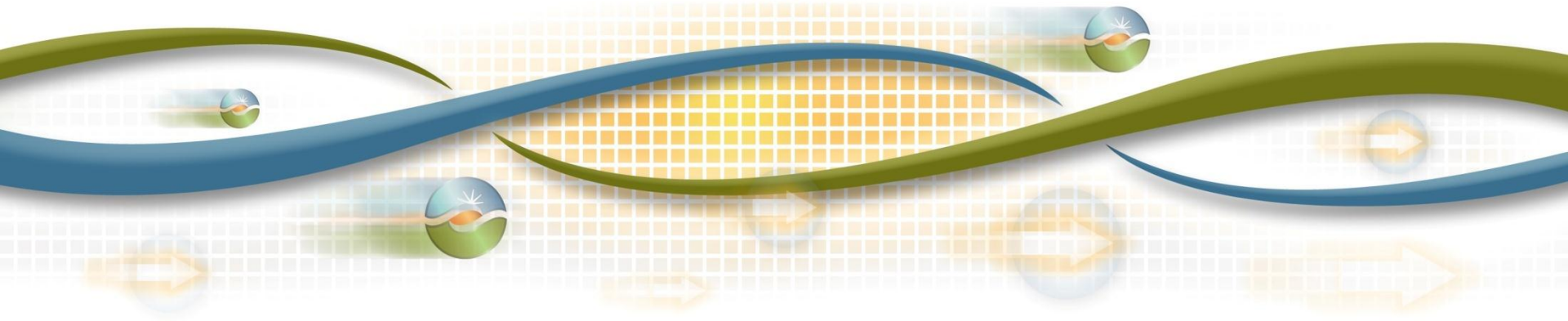




Transmission Access Charge Options

Public Workshop – Salt Lake City
December 15, 2015

Lorenzo Kristov
Principal, Market & Infrastructure Policy

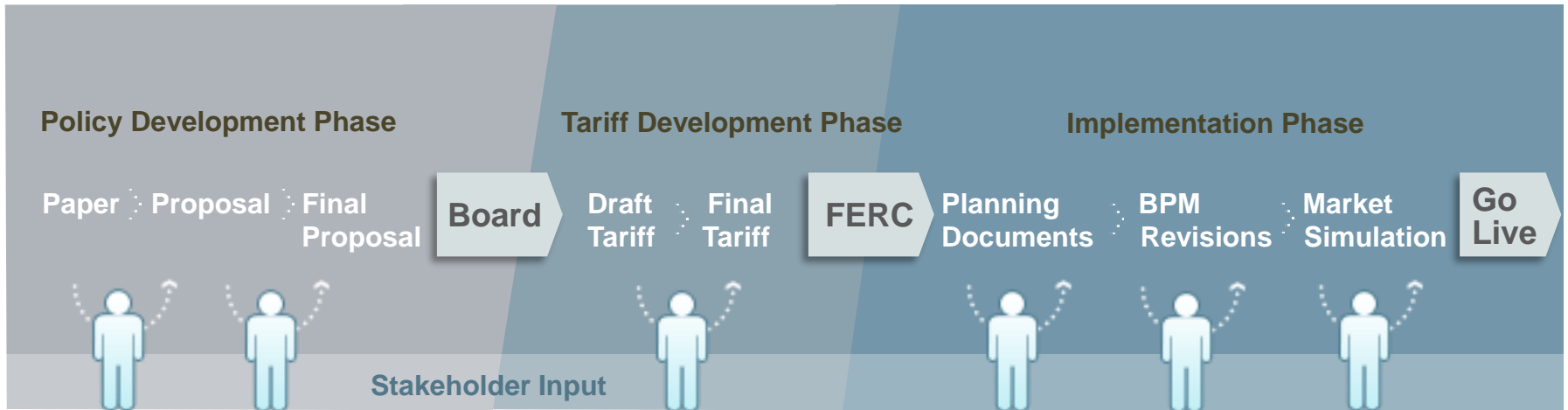


December 15, 2015 workshop agenda

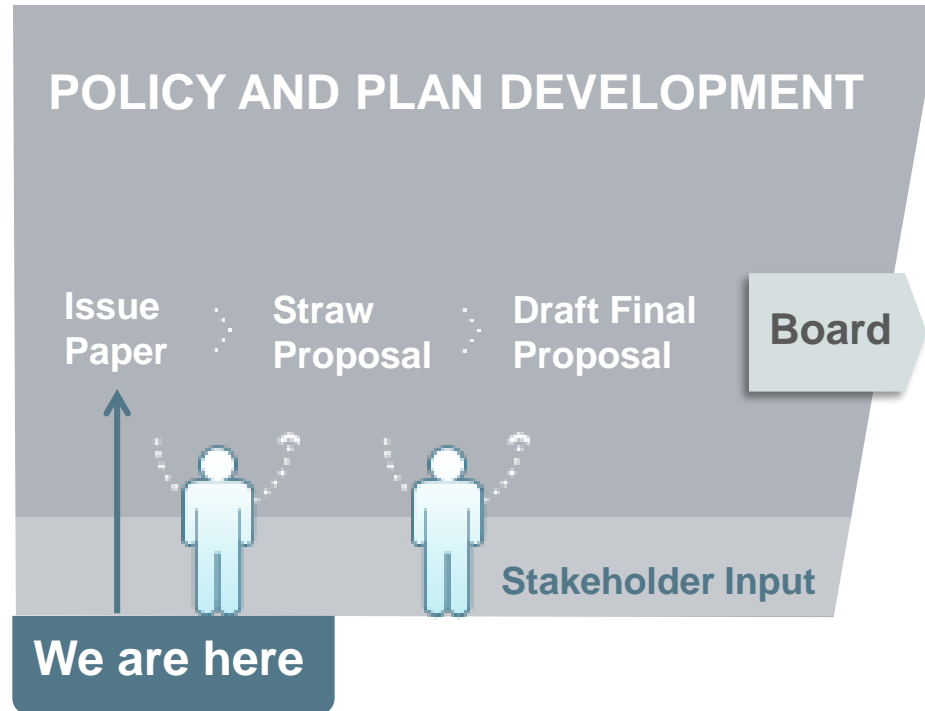
Time (MST)	Topic	Presenter
10:00-10:10	Introduction and Stakeholder Process Overview	Kristina Osborne
10:10-12:00	Background, scope of initiative and important clarifications	Lorenzo Kristov
12:00-12:45	Lunch break	
12:45-2:45	Discussion of issues raised in submitted comments	Lorenzo Kristov
2:45-3:00	Next Steps	Kristina Osborne

ISO Stakeholder Engagement Process:

This diagram represents the typical process, often phases will run in parallel.



ISO Stakeholder Process



Initiative Schedule

Milestone	Date
Issue Paper posted	October 23, 2015
Stakeholder conference call	October 30, 2015
Stakeholder comments due	November 13, 2015
Workshop on Issue Paper	December 15, 2015
Workshop #2 on Issue Paper (in Folsom)	January 11, 2016
Post Straw Proposal	February 8, 2016
Stakeholder meetings & comments	Dates TBD
Post Draft Final Proposal	April 7, 2016
Stakeholder meetings & comments	Dates TBD
Present proposal to ISO Board of Governors	June 28, 2016

Background, scope of initiative and important clarifications

Transmission Access Charge (TAC) is ISO's mechanism for transmission-owning utilities to recover their costs of transmission assets.

- A transmission-owning utility transferring operational control to the ISO becomes a “participating transmission owner” (PTO)
- The PTO continues to own, maintain and operate transmission assets turned over to ISO operational control
- ISO “operational control” involves performing balancing authority area (BAA) functions through day-ahead and real-time markets

ISO market system integrates reliable operation with energy transactions.

- Day-ahead and real-time markets perform essential BAA functions:
 - Schedule use of the grid by suppliers and load-serving entities
 - Maintain supply-demand balance and reliable grid operation
 - Manage congestion to ensure schedules are feasible
- ISO market settlements manage and clear transactions related to grid and market use
 - ISO invoices grid and market users for their use of the grid and market energy transactions
 - Invoices include TAC charges, which ISO redistributes to PTOs
 - ISO maintains financially neutral position except for Grid Management Charge (GMC) for ISO services

Transmission-owning utilities recover costs of owning, maintaining and operating transmission assets.

- PTO files “transmission revenue requirements” with FERC for approval of costs to be recovered (TRR)
- The ISO uses a FERC-approved mechanism to recover the TRR from users of the transmission system
- That mechanism is the Transmission Access Charge (TAC)
 - The TRR amounts are approved at beginning of each year
 - A \$/MWh rate is calculated to fully recover TRR from internal load and exports
 - Balancing accounts enable periodic adjustment as needed to ensure actual revenues equal approved recovery amounts
 - Wheel-through transactions and some municipal load pay “wheeling access charge” (WAC) – same charge by a different name

FERC Order 890 (2007) set broad principles for regional transmission cost allocation.

- Allows regional flexibility
- Weighs several factors, including
 - Alignment of costs among participants
 - Adequate incentives to construct new transmission
 - General support from participants across the region
- Recognizes that cost allocation is not an exact science

Order 1000 established six principles that apply to regional cost allocation of newly approved projects.

1. Costs must be allocated in a way that is roughly commensurate with benefits
2. Costs may not be allocated involuntarily to those who do not benefit
3. A benefit to cost threshold may not exceed 1.25
4. Costs may not be allocated involuntarily to a region outside of the facility's location
5. The process for determining benefits and beneficiaries must be transparent
6. A planning region may choose to use different allocation methods for different types of projects

Existing TAC structure for the current ISO region was approved by FERC as part of Order 1000 compliance.

Existing TAC structure consists of:

- Postage stamp “regional” rate to recover TRR for all facilities rated > 200 kV under ISO operational control
 - \$/MWh charge to all internal load and exports
- PTO-specific “local” rates to recover TRR for all facilities rated < 200 kV under ISO operational control
 - \$/MWh charge to internal load in each PTO’s territory
- Currently there is no differentiation of cost allocation based on project type (e.g., reliability, economic, or policy projects), in-service date or other non-voltage level factors

This initiative considers whether revisions to TAC structure are appropriate when adding a new PTO with a load service territory to the ISO.

- ISO is not assuming *ex ante* that revisions to existing TAC structure are or are not needed
- Initiative focuses on “regional” or high-voltage TRR only
 - Assume that < 200 kV costs continue to be recovered through PTO-specific rates
- Focus on adding a PTO with load service obligation
 - Entities who build transmission but have no load service territory become PTOs under existing TAC structure, but have no load that pays TAC
- Assume, initially, that TAC will continue to be charged as a per-MWh rate to internal load and exports

TAC versus Wheeling Access Charge (WAC)

- WAC rates are the same as TAC rates
- WAC is paid by wheeling schedules based on export MWh
- WAC is paid by non-PTO load – municipal utilities embedded within ISO BAA that are not PTOs – based on load measured at “city gate” or point of interconnection to the ISO controlled grid

TAC versus transmission service contracts

- TRR recovery in other BAAs may be achieved through sales of long-term transmission rights or contracts
- ISO's TAC aligns with system of allocating transmission use through the day-ahead and real-time markets
 - ISO honors qualified pre-ISO legacy contracts but mostly uses market allocation of transmission use
- This initiative does not preclude possibility that new PTO may maintain its qualified existing transmission contracts upon joining the ISO

Additional features of initiative scope

- Purpose is to arrive at TAC structure that can be applied to any new PTO in the future
- Focus on aligning cost allocation with benefits of using the ISO controlled grid
- Strive for simplicity
- This initiative will not consider:
 - Comprehensive benefits and costs of joining the ISO
 - Specifics of transmission planning and new resource interconnection processes
 - Possible change of TAC allocation to exports
 - Possible treatment of pre-integration transmission contracts
 - Review of TAC allocation to reflect utility-side distributed generation
 - Congestion revenue rights (CRR)

Some considerations for refining TAC structure

Allocation of TRR may differ based on:

- Simple voltage-level criterion – similar to today's TAC
- In-service date – facilities in service at time of new PTO integration versus facilities energized later
- Approval process – facilities approved under separate planning processes versus through integrated planning process for the expanded BAA
- Category of facility – reliability, public policy, economic

Issue paper provided illustrative examples using TRR data for the existing ISO region and PacifiCorp.

Current ISO region TRR data includes:

- Existing high voltage transmission (>200 kV) plus all projects approved through the ISO TPP through the March 2015 plan approved by the Board
- Minimum \$250 million per year for future reliability projects
- Annual capital maintenance costs at 2% of gross plant

Does NOT try to estimate any public policy or economic projects that may be approved in the future

PacifiCorp TRR data includes:

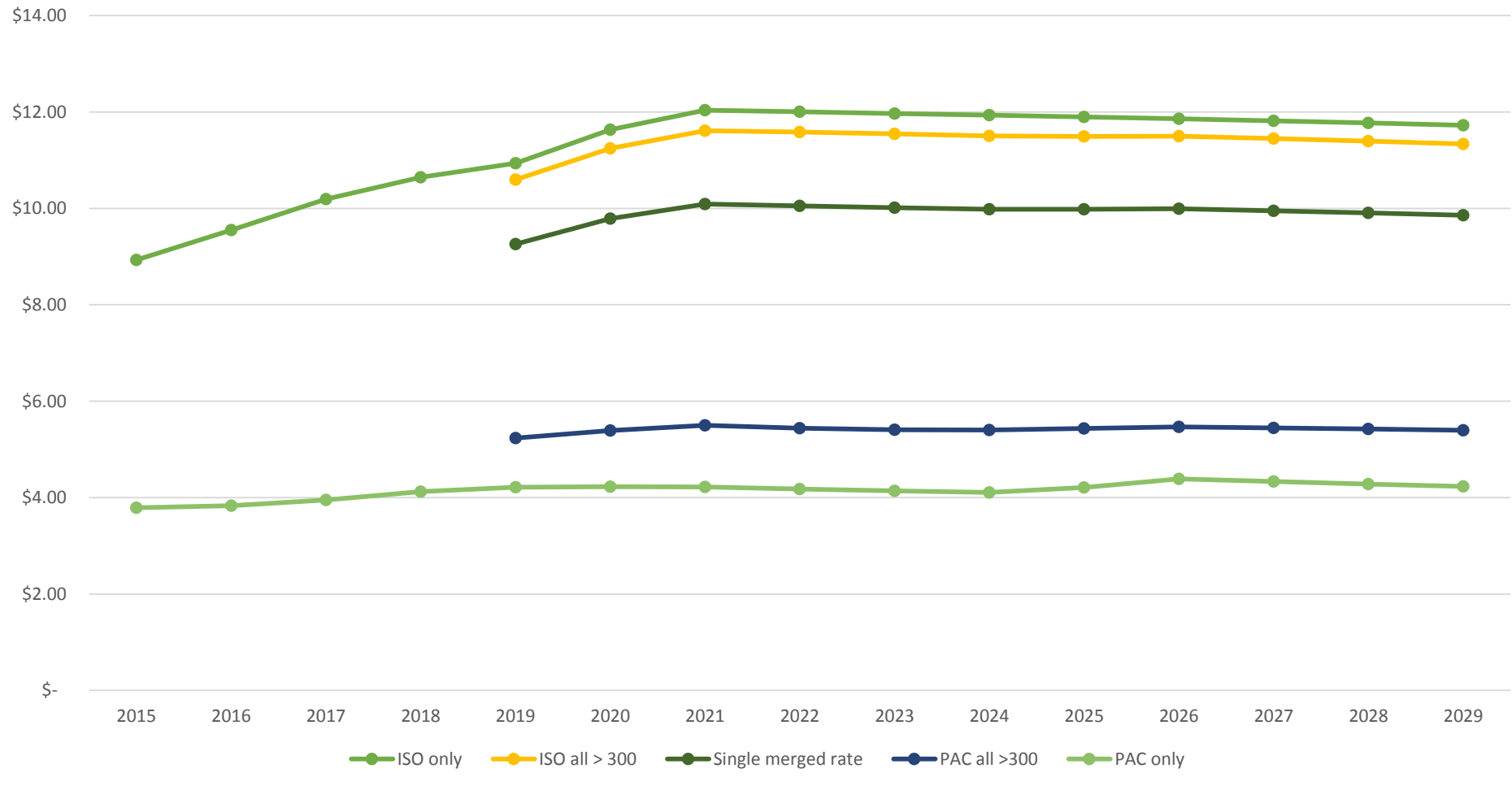
- Existing high voltage transmission (>200 kV) plus all projects currently planned by PacifiCorp EXCEPT Gateway D & F
- Capital maintenance costs as estimated by PacifiCorp

Illustrative examples, based on PacifiCorp joining ISO effective 1/1/2019.

- Baseline 1: Maintain separate sub-regional rates for PacifiCorp and current ISO footprint
- Baseline 2: Immediately combine > 200 kV facilities into a single postage stamp rate for the expanded BAA
- Alternative 1: Create postage stamp rate for > 300 kV (i.e., 345 kV and 500 kV facilities), with separate sub-regional rates for facilities between 200 and 300 kV
- Alternative 2: Use a 5-year phase-in period to go from separate rates (Baseline 1) to Alternative 1 structure

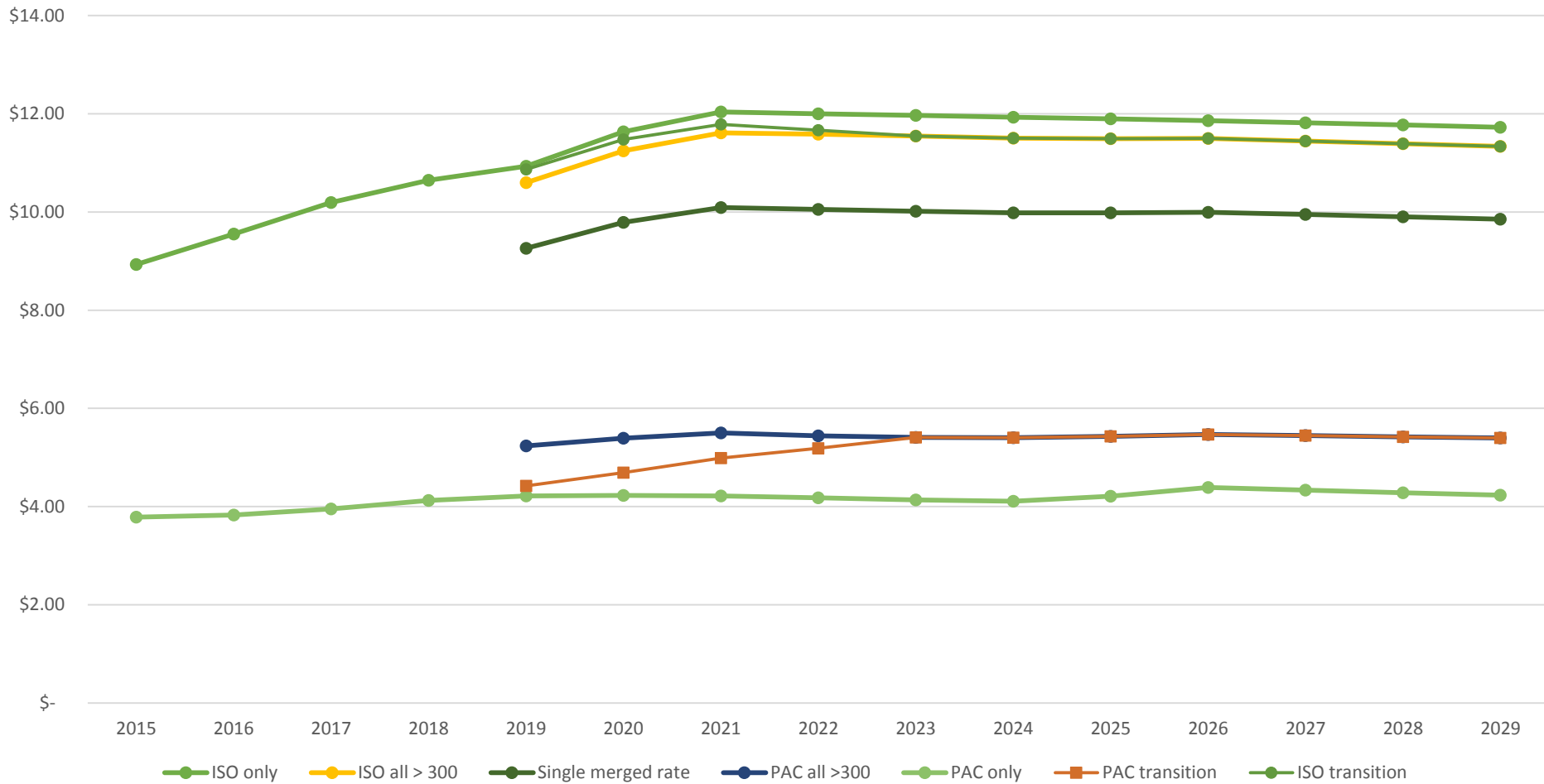
Illustration of Baselines 1 & 2 and Alternative 1

TAC Scenarios - Example 1



Previous slide, plus Alternative 2

TAC Scenarios - Example 2



How a multi-tiered TAC rate works

- Consider example of Alternative 1 above
- TAC charge to load is based on voltage level of load take-out point on the ISO controlled grid
 - Load connected at >300 kV pays only >300 region-wide TAC
 - Load connected at 230 kV pays sub-regional 230 kV TAC plus >300 region-wide rate
 - Load connected at <200 kV but still ISO controlled grid pays local PTO-specific TAC plus sub-regional 230 kV TAC plus >300 region-wide rate
- Within the expanded ISO region there are no imports or exports

Impacts of potential future transmission upgrades

- ISO is preparing a spreadsheet for parties to use to estimate impacts of future transmission upgrades
- Spreadsheet will contain the aggregated data used to calculate examples in Issue Paper
 - Projected high-voltage TRR for current ISO BAA and PacifiCorp in 200-300 kV category and >300 kV category
 - Projected MWh billing determinant (internal load & exports)
- Brief user guide will offer guidelines for incorporating new projects – e.g., converting capital cost to annual revenue requirements
- Spreadsheet will be posted in January

Discussion of issues raised in submitted comments

1. Importance of aligning transmission cost allocation with the distribution of benefits

Partial list of submitted comments

- It is crucial to identify project costs and allocate those costs to beneficiaries
- Benefits must be measured quantitatively
- Concern over cost shifting due to blending costs of existing facilities
- Voltage-based TAC structure provides good alignment of costs and benefits and meets all Order 1000 criteria
- Need to specify scope of benefits to be considered:
 - Does a project driven by one state's policy benefit only that state's customers?

2. Factors to be considered for TAC structure

From the Issue Paper:

1. Is it a new or existing facility? (type)
2. What are the facility's electrical characteristics? (voltage)
3. What is the geographic scope of the project; e.g., system, regional, local? (scope)
4. What is the purpose of the project; e.g., reliability, economic, policy? (purpose)
5. Which zones or sub-regions benefit from the project? (benefit criteria)
6. When was the facility approved? (transition)
7. Under what planning process was the facility approved? (procedure)

Almost all factors were identified by some stakeholders as high priority.

- Most important factors
 - cost assignment of existing facilities
 - facility approval process
 - identifying beneficiaries
 - identifying the purpose of a transmission project
 - electrical characteristics of a facility
 - geographical scope of the transmission project

3. Voltage-level as cost allocation criterion

- Many commenters supported the use of a voltage criterion.
- Many said that voltage-level should only be one of several factors in cost allocation.
- Non-supporters believe that a high voltage split does not accurately allocate costs to beneficiaries.
- Some commenters requested more data in order to determine if the criterion would correctly allocate costs.

4. Type of transmission facility – reliability, economic, policy – as a cost-allocation criterion

- A majority of commenters did not support using facility type for cost allocation.
- The main reason given was the difficulty of placing all benefits of a facility into one category.
- Those who support the criterion believe that it would add transparency to identifying and aligning benefits with costs.

5. In-service date as a cost allocation criterion

- Cost allocation might differ based on three categories:
 - Pre-existing facilities prior to opening negotiations to join the ISO
 - New facilities placed in service while in negotiations
 - New facilities placed in service after the new PTO joins the ISO
- Commenters expressed mixed views on the use of in-service date for cost allocation
- Main argument was that all facilities should be examined under the same assessment regardless of timing of the development, construction, and operation.

6. Planning process in which facility was approved as a cost allocation criterion

- Facilities approved under different planning processes:
 - Approved under separate planning processes conducted by prospective PTO and existing ISO PTOs
 - Approved under a comprehensive planning process that includes ISO PTOs along with a new PTO
- No prevalent position on this question
- Most commenters said the ISO should perform its approved planning process, especially if the project is above a certain economic threshold.

7. Use of “sub-regional” TAC rates as in Alternative 1 in the issue paper

- This criterion gained the most interest from commenters.
- Many commenters asked for more details on how this approach might work.

Follow-up questions

- Lorenzo Kristov (lkristov@caiso.com)
- Eric Kim (ekim@caiso.com)

Resources

Regional Integration Resources on the ISO Website:

www.caiso.com

Regional Energy Market webpage

<http://www.caiso.com/informed/Pages/RegionalEnergyMarket/BenefitsofaRegionalEnergyMarket.aspx>

Stakeholder Processes webpage



<http://www.caiso.com/informed/Pages/StakeholderProcesses/Default.aspx>

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Recent news releases

- NV Energy Enters The Western Energy Imbalance Market
- Portland General Electric Formalizes Agreement to Join EIM
- Federal Regulators Clear Way for NV Energy Entry into the Western Energy Imbalance Market
- California ISO Board Approves Energy Imbalance Market Enhancements
- NV Energy Entry into the Energy Imbalance Market Delayed
- Western Energy Imbalance Market Q3 Benefits Total \$12m

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Benefits of a regional energy market

A regional energy market would better use resources, especially renewables, to reduce greenhouse gas emissions and costs. Enabling the ISO's sophisticated market and grid optimization systems to pick the lowest cost energy to serve demand and give preference to renewable resources across a wide geographic region also means grid planners can build a cleaner, more resilient energy generation and delivery network that will create tangible economic benefits.

PacifiCorp benefits study (October 13, 2015)

-  [Western Grid Integration Could Produce Significant Cost Savings, Environmental Benefits](#) 10/14/2015 14:59
-  [FAQ - Benefits Study of PacifiCorp and ISO Integration](#) 10/13/2015 14:12
-  [Study: Benefits of PacifiCorp and ISO Integration](#) 10/13/2015 09:52
-  [Study: Technical Appendix - Benefits of PacifiCorp and ISO Integration](#) 10/13/2015 09:52
-  [What They're Saying - PacifiCorp Integration Study](#) 10/19/2015 14:42
-  **Web conference Oct 16, 2015** 
 -  [Agenda and Presentation - PacifiCorp Integration Benefits Study Oct 16, 2015](#) 10/19/2015 09:08
 -  [PacifiCorp Integration Benefits Study Posted, Call 10/16/15](#) 10/13/2015 10:15
-  **Stakeholder comments - PacifiCorp and ISO integration benefits study** 
 -  [Comments and Responses Matrix - PacifiCorp and ISO Integration Benefits Study](#) 12/03/2015 16:53
 -  [BAMx Questions - PacifiCorp and ISO Integration Benefits Study](#) 12/03/2015 16:53
 -  [CDWR Questions - PacifiCorp and ISO Integration Benefits Study](#) 12/03/2015 16:53
 -  [CPUC Questions - PacifiCorp and ISO Integration Benefits Study](#) 12/03/2015 16:53
 -  [TURN Comments - PacifiCorp and ISO Integration Benefits Study](#) 12/03/2015 16:53

Audio recording of the ISO - PacifiCorp benefits study web conference



Featured documents

-  [SB-350 Clean Energy and Pollution Reduction Act of 2015](#)
Establishes a 50-percent renewable portfolio standard (RPS) and starts the process of allowing the ISO to become a regional grid.
-  [Benefits of a Regional Energy Market - Fast Facts](#) 8/28/2015 18:52



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