

# Stakeholder Comments Template

## Transmission Access Charge Options

### February 10, 2016 Straw Proposal & March 9 Benefits Assessment Methodology Workshop

Submitted by	Company	Date Submitted
<i>Tong Wu</i> <i>916-353-4016</i>	<i>Western Area Power Administration</i>	<i>3/23/2016</i>

The ISO provides this template for submission of stakeholder comments on the February 10, 2016 Straw Proposal and the March 9, 2016 stakeholder working group meeting. Section 1 of the template is for comments on the overall concepts and structure of the straw proposal. Section 2 is for comments on the benefits assessment methodologies. As stated at the March 9 meeting, the ISO would like stakeholders to offer their suggestions for how to improve upon the ISO's straw proposal, and emphasizes that ideas put forward by stakeholders at this time may be considered in the spirit of brainstorming rather than as formal statements of a position on this initiative.

The straw proposal, presentations and other information related to this initiative may be found at: <http://www.caiso.com/informed/Pages/StakeholderProcesses/TransmissionAccessChargeOptions.aspx>

Upon completion of this template please submit it to [initiativecomments@caiso.com](mailto:initiativecomments@caiso.com). Submissions are requested by close of business on **March 23, 2016**.

#### **Section 1: Straw Proposal**

1. The proposed cost allocation approach relies on the designation of "sub-regions," such that the current CAISO BAA would be one sub-region and each new PTO with a load service territory that joins the expanded BAA would be another sub-region. Please comment on the proposal to designate sub-regions in this manner.

2. The proposal defines “existing facilities” as transmission facilities that either are already in service or have been approved through separate planning processes and are under development at the time a new PTO joins the ISO, whereas “new facilities” are facilities that are approved under a new integrated transmission planning process for the expanded BAA that would commence when the first new PTO joins. Please comment on these definitions.
  
3. Using the above definitions, the straw proposal would allocate the transmission revenue requirements (TRR) of each sub-region’s existing facilities entirely to that sub-region. Please comment on this proposal.
  
4. If you believe that some portion of the TRR of existing facilities should be allocated in a shared manner across sub-regions, please offer your suggestions for how this should be done. For example, explain what methods or principles you would use to determine how much of the existing facility TRRs, or which specific facilities’ costs, should be shared across sub-regions, and how you would determine each sub-region’s cost share.
  
5. The straw proposal would limit “regional” cost allocation – i.e., to multiple sub-regions of the expanded BAA – to “new regional facilities,” defined as facilities that are planned and approved under a new integrated transmission planning process for the entire expanded BAA and meet at least one of three threshold criteria: (a) rating > 300 kV, or (b) increases interchange capacity between sub-regions, or (c) increases intertie capacity between the expanded BAA and an adjacent BAA. Please comment on these criteria for considering regional allocation of the cost of a new facility. Please suggest alternative criteria or approaches that would be preferable to this approach.
  
6. For a new regional facility that meets the above criteria, the straw proposal would then determine each sub-region’s benefits from the facility and allocate cost shares to align with each sub-region’s relative benefits. Without getting into specific methodologies for determining benefits (see Section 2 below), please comment on the proposal to base the cost allocation on calculated benefit shares for each new regional facility, in contrast to,

for example, using a postage stamp or simple load-ratio share approach as used by some of the other ISOs.

7. The straw proposal says that when a subsequent new PTO joins the expanded BAA, it may be allocated shares of the costs of any new regional facilities that were previously approved in the integrated TPP that was established when the first new PTO joined. Please comment on this provision of the proposal.
  
8. The straw proposal says that sub-regional benefit shares – and hence cost shares – for the new regional facilities would be re-calculated annually to reflect changes in benefits that could result from changes to the transmission network topology or the membership of the expanded BAA. Please comment on this provision of the proposal.
  
9. Please offer any other comments or suggestions on the design and the specific provisions of the straw proposal (other than the benefits assessment methodologies).

## **Section 2: Benefits Assessment Methodologies**

10. The straw proposal would apply different benefits assessment methods to the three main categories of transmission projects: reliability, economic, and public policy. Please comment on this provision of the proposal.
  
11. The straw proposal would use the benefits calculation to allocate 100 percent of the cost of each new regional facility, rather than allocating a share of the cost using a simpler postage stamp or load-ratio share basis as some of the other ISOs do. Please comment on this provision of the proposal.

12. Please comment on the DFAX method for determining benefit shares. In particular, indicate whether you think it is appropriate for reliability projects or for other types of projects. Also indicate whether the methodology described at the March 9 meeting is good as is or should be modified, and if the latter, how you would want to modify it.

According to CAISO's presentations at the stakeholder meeting (3/1/16) and the working group meeting (3/9/16), the DFAX method is based on the Power Transfer Distribution Factors (PTDF) using a linearized power flow model. The PTDFs are evaluated for each TAC sub-region based on the solution of a production cost simulation for a seasonal power flow case using the sub-region's non-coincidental peak load. The PTDFs are obtained using distributed generation sources and distributed load sinks. The generation distribution factors (GDF) are determined by the generation levels determined by the production cost simulation for the sub-region. The load distribution factors (LDF) are determined by the load levels determined by the production cost simulation for the sub-region. For each sub-region, a unique set of GDFs and LDFs is used to obtain a unique set of PTDFs. Once the sets of PTDFs for all the sub-regions are obtained, the load for each sub-region is allocated its share of the TAC proportional to its PTDF for the transmission equipment whose cost is being allocated.

This method has two fundamental defects.

The PTDFs are intended for evaluating impact and especially, incremental impact of nodal injections to power flows on transmission branches at a given operating point that is determined by a unique generation and load pattern. PTDFs are not intended for tracing power flows from a source to a sink and not suitable for assessing which generators and transmission branches have been used and by how much to serve the entire load at the operating point at a location.

A PTDF is defined as the incremental MW on a transmission line when a MW is injected into a node (or a set of nodes with prescribed percentages) at the source and withdrawn from another node (or a set of nodes with prescribed percentages) at the sink. The selection of the sources and the sinks affects the values of PTDFs and consequently the cost allocation. Simply mixing the PTDFs obtained under different assumptions of sources and sinks from different power flow cases and using their ratios to allocate TAC does not make sense.

13. Please comment on the use of an economic production cost approach such as TEAM for determining benefit shares. In particular, indicate whether you think it is appropriate for economic projects or for other types of projects. Also indicate whether the methodology described at the March 9 meeting is good as is or should be modified, and if the latter, how you would want to modify it.

According to CAISO's presentations at the stakeholder meeting (3/1/16) and the working group meeting (3/9/16), the TEAM methodology is based on assessment of "Net Load Payment" using product cost simulation. The "benefit" to a sub-region is proportional to the difference of net load payment between pre and post project cases. There are many details that are not clearly understood at this time.

How are benefits for each sub-region calculated? Although the CAISO attempted to explain at the 3/9 meeting that the benefit for each sub-region would be calculated using the nodes within the region, it is not clear how transmission revenue (i.e., congestion rent) from transmission lines across sub-regions is split among the sub-regions. Although for any transmission line that has been justified for construction, it is reasonable to assume the benefit to be positive for the entire expanded foot print, there is no guarantee in general that the benefit so defined for each sub-region is also positive. Please note that the generation and load within each sub-region may not be balanced; transfers among the sub-regions must also be considered in the calculation of "net load payment" for each sub-region.

There was some confusion among the stakeholders as to whether the "benefit" was a measure of change in consumer surplus as define in economic theory. In fact, the benefit as defined by the TEAM methodology is not related to the consumer surplus. Rather, the "net load payment" is the generation production cost; and the "benefit" is a measure of change in generation production costs between pre and post project cases. While it may be a convincing proposal to rank economic transmission projects by its effect on reducing the total generation production cost at the market equilibrium, it is not as convincing or at least not as obvious that the benefit of a transmission project for a sub-region is proportional to the change in generation production cost within the sub-region at the market equilibrium for the entire expanded footprint.

It would be helpful if CAISO could publish a TEAM methodology white paper to explain how the TEAM methodology would apply to transmission cost allocation on a sub-regional basis.

14. At the March 9 meeting some parties noted that the ISO's TEAM approach allows for the inclusion of "other" benefits that might not be revealed through a production cost study. Please comment on whether some other benefits should be incorporated into the TEAM for purposes of this TAC Options initiative, and if so, please indicate the specific benefits that should be incorporated and how these benefits might be measured.

15. Regarding public policy projects, the straw proposal stated that the ISO does not support an approach that would allocate 100 percent of a project's costs to the state whose policy was the initial driver of the need for the project. Please indicate whether you agree with this statement. If you do agree, please comment on how costs of public policy projects should be allocated; for example, comment on which benefits should be included in the assessment and how these benefits might be measured.
  
16. At the March 9 and previous meetings some parties suggested that a single methodology such as TEAM, possibly enhanced by incorporating other benefits, should be applied for assessing benefits of all types of new regional facilities. Please indicate whether you support such an approach.
  
17. Please offer comments on the BAMx proposal for cost allocation for public policy projects, which was presented at the March 9 meeting. For reference the presentation is posted at the link on page 1 of this template.
  
18. Please offer any other comments or suggestions regarding methodologies for assessing the sub-regional benefits of a transmission facility.