



Transmission Access Charge Options for Integrating New Participating Transmission Owners

Draft Regional Framework Proposal

December 6, 2016

Market & Infrastructure Policy

Table of Contents

Preface	3
1. Executive Summary	4
2. Next Steps	8
3. Draft Regional Framework Proposal.....	8
3.1. Key terms, concepts and assumptions	8
3.2. Draft regional framework proposal: existing facilities	11
3.3. Draft regional framework proposal: new facilities.....	12
3.4. Draft regional framework proposal: region-wide export charge.....	19
3.5. An additional issue	22

Transmission Access Charge Options for Integrating New Participating Transmission Owners

Draft Regional Framework Proposal

Preface

The California Independent System Operator (“CAISO”) is using the term “draft regional framework proposal” for the Regional Resource Adequacy (“Regional RA”) proposal and the Transmission Access Charge Options (“TAC Options”) proposal it is releasing for discussion at the December 2016 regional expansion stakeholder meetings, in an effort to distinguish these proposals and the initiatives through which they were developed from the standard CAISO stakeholder initiative structure. At this stage in a standard CAISO policy initiative the CAISO would normally issue a “draft final proposal,” indicating that the stakeholder process is near completion and that CAISO management has arrived at what it believes to be the best resolution of the issues and intends to present the proposal to its Board of Governors for approval in the very near future.

In contrast, the Regional RA and TAC Options initiatives are elements of a larger set of initiatives that comprise the CAISO’s development of a framework for regional expansion of its Balancing Authority Area (“BAA”). Both of these proposals have been under development with stakeholders for a year, during which time the full range of issues and the stakeholder positions and recommendations on those issues have surfaced and been discussed. However, other elements of that larger set – in particular the initiative on governance for an expanded ISO BAA – are proceeding in parallel, and the process for finalizing the entire set of initiatives is still to be determined. Thus, although the Draft Regional RA Framework Proposal and the TAC Options Draft Regional Framework Proposal are sufficiently advanced to provide the basis for Resource Adequacy and TAC frameworks, there is no imminent CAISO Board decision planned for these draft Regional RA and TAC Options proposals.

Stakeholders and other parties interested in the CAISO’s regional initiatives should view these proposals as reflecting the CAISO’s best efforts to find a reasonable, workable balance among the various positions stakeholders have articulated and should provide stakeholders and regulators with enough information and guidance on the CAISO’s intent for regional provisions on these topics to allow them to make informed decisions. The CAISO intends to use these draft regional framework proposals and stakeholder feedback on them to inform the ongoing discussions regarding CAISO governance modifications, as well as other components related to the expansion of the BAA.

1. Executive Summary

In 2015 the CAISO began considering how it might need to modify some elements of its tariff to integrate additional transmission-owning utilities with load-service territories into an expanded balancing authority area (“BAA”). The CAISO’s rationale for starting this effort was based on the operational and market efficiencies of larger BAAs that have been demonstrated in the eastern United States, plus the environmental and cost benefits of geographic resource and load-shape diversity in the west for integrating renewable generation. At the same time, PacifiCorp, the first BAA to join the energy imbalance market (“EIM”) operated by the CAISO, expressed interest in joining the CAISO as a full participating transmission owner (“PTO”).

A central policy element of expanding the CAISO BAA is to determine how to allocate the costs of owning, maintaining and operating the transmission assets¹ that would comprise the expanded ISO’s controlled grid.² This element is referred to as the Transmission Access Charge (“TAC”), which is the mechanism the CAISO currently uses to recover these costs. To address this policy element the CAISO opened the “TAC Options” stakeholder initiative with the release of its October 23, 2015 issue paper, to consider whether the CAISO’s existing TAC design would be suitable for a significantly expanded BAA, and if not, how to revise it to better align cost allocation with the benefits that different sub-regions of the expanded ISO would receive from the transmission facilities placed under ISO operational control. The CAISO issued a TAC Options straw proposal on March 1, 2016, a revised straw proposal on May 20, a second revised straw proposal on September 28, and conducted several public meetings and received written comments on all of these proposals.³

The present draft regional framework proposal modifies the September 28 second revised straw proposal based on comments received from stakeholders on that proposal and on further consideration by the CAISO of the pros and cons of the alternatives discussed over the course of this initiative.⁴

This draft regional framework proposal incorporates the following changes from the September 28 proposal in response to stakeholder input.

- a) For certain policy-driven new transmission projects approved through the integrated transmission planning process (“TPP”) for the expanded BAA, the CAISO proposes to allocate cost shares on a more granular basis than just to each sub-region. Specifically, if a policy-driven transmission project is built within one sub-region to meet the policy

¹ These costs are referred to as “transmission revenue requirements” (“TRR”). The amount of money a PTO can recover as its TRR is approved by the Federal Energy Regulatory Commission (FERC).

² This paper uses “CAISO” to refer to various aspects of the current California ISO BAA, including its member PTOs, its controlled grid and its tariff. The term “ISO” is used with reference to an expanded BAA that may be formed by combining the CAISO BAA with the service territory of one or more additional transmission-owning utilities.

³ The CAISO’s web page for this initiative contains all prior documents issued by the CAISO and all written comments submitted by stakeholders. See: <http://www.caiso.com/informed/Pages/StakeholderProcesses/TransmissionAccessChargeOptions.aspx>

⁴ For brevity this paper omits most of the background discussion and comparison of other ISOs/RTOs, which was provided in prior CAISO papers on this initiative. Readers of this paper should refer to the October 23, 2015 issue paper and March 1, 2016 straw proposal for these additional details.

mandates of entities within another sub-region, the CAISO proposes to allocate cost shares corresponding to the policy benefits of the project to the load served under the state or local regulatory authority or authorities in the second sub-region, whose policy mandates drove the need for the project. In this case these policy-related costs would not be included in the sub-regional TAC for the second sub-region. Where multiple regulatory authorities drove the need for the project, their shares of the policy-related costs will be proportional to their needs for the project.

This change to the prior proposal responds to the point made by several commenters that policy mandates driving a need for additional transmission capacity will typically arise at the state or local level, which may comprise only a portion of a sub-region, and if the transmission project selected to meet the mandates is built within a different sub-region, the project will not likely provide any benefits to the load not located in the sub-region where the project is being built and not served under the regulatory authorities driving the policy mandates. In such cases this draft regional framework proposal will align costs with benefits more accurately than the previous proposal. (Section 3.3, item 9.b) To be clear, this more granular allocation of policy-related transmission costs will apply only within a sub-region where policy mandates drive transmission needs that are met by a project built within another sub-region.

- b) The CAISO describes the steps within the integrated TPP for the expanded BAA that would be required for a project previously considered in the context of Order 1000 inter-regional coordination to become a new regional project for possible cost allocation across multiple sub-regions of the expanded BAA. (Section 3.1, item (e))
- c) The CAISO clarifies the process and proposes specific criteria for determining whether a new PTO that joins the expanded ISO BAA should be integrated into an existing sub-region rather than become its own new sub-region. (Section 3.1, item (g))
- d) The CAISO clarifies that its proposal to apply the relevant sub-regional TAC rate to “non-PTO” entities within a sub-region is not intended to change the existing provisions for calculating the billing determinant – i.e., the quantity of load subject to the TAC. (Section 3.2 item 1 in this paper and tariff section 26.1.4.4)

This draft regional framework proposal does not change or address the following items from the second revised straw proposal, although several commenters did propose changes or request further consideration.

- e) This proposal retains the use of sub-regional license plate TAC rates to recover the costs of existing high-voltage facilities each new PTO turns over to CAISO operational control upon joining the expanded BAA.
- f) This proposal does not modify the Transmission Economic Assessment Methodology (“TEAM”) to incorporate additional types of benefits. The CAISO’s planning department is updating the on-line TEAM documentation as several parties have requested, but any consideration of modification to the TEAM itself is outside the scope of this initiative.
- g) This proposal retains the prior decision not to recalculate benefits of new transmission projects nor to revise their cost allocation after their approval in the expanded TPP,

either on a periodic basis or in response to significant events such as changes to the controlled grid or membership of the expanded ISO BAA.

- h) This proposal retains formula for calculating the region-wide export access charge (“EAC”) as proposed in the second revised straw proposal, and only slightly modifies the allocation of EAC revenues to align with the more granular allocation of costs for certain policy-driven projects as described in item (a) above.

The major provisions of the draft regional framework proposal are summarized as follows. Section 3 provides the complete details.

1. The proposal distinguishes between “existing” and “new” transmission facilities for cost allocation purposes. “Existing” facilities are defined here to mean transmission facilities that are in service or have been approved in separate planning processes for the current CAISO BAA and the new PTO’s area at the time the new PTO is fully integrated into the expanded BAA. In contrast, “new” facilities are defined here to mean facilities that are planned and approved under an integrated TPP that will plan new transmission infrastructure for the entire expanded BAA and will commence upon integration of the first new PTO. Simply stated, all transmission facilities that are included in the controlled grid for the expanded BAA and are not “new” facilities will be considered “existing” facilities.
2. Upon integrating the first new PTO to form the expanded BAA, the expanded BAA will be considered a “region” in the terminology of FERC Order 1000, and the existing CAISO BAA and the new PTO service territory will each be a “sub-region” for transmission cost allocation purposes. Similarly, the load service territory of another transmission-owning utility that joins the expanded BAA as a new PTO at a later date will become another sub-region, unless that entity is embedded within or electrically integrated with an existing sub-region, in which case it will become part of that sub-region.
3. The costs of existing high-voltage (rated 200 kV and above) facilities will be recovered on a sub-regional basis, where the current ISO BAA is considered one sub-region and the new PTO is another. This means that each sub-region would continue to pay the same costs for existing facilities under an expanded ISO BAA that they would have paid if they remained separate. In the case of a new PTO that is embedded within or electrically integrated with an existing sub-region, the costs associated with its existing high voltage facilities will be combined with the existing high voltage facility costs of that sub-region for recovery through the sub-regional TAC rate.
4. The costs of new high-voltage facilities will be allocated to sub-regions of the expanded ISO, or in some cases on a more granular basis, depending on the classification of the facility and the benefits it provides to each sub-region.
 - a. The cost of a reliability project within a sub-region that addresses a reliability need of that sub-region will be allocated entirely to that sub-region.
 - b. The cost of a policy-driven project within a sub-region that supports policy mandates for that sub-region only will be allocated to that sub-region.

- c. The cost of an economic project, for which its economic benefits must exceed its cost, will be allocated to sub-regions in proportion to each sub-region's economic benefits.
 - d. For a reliability or policy-driven project that is enhanced or replaced by a more costly project that also provides economic benefits that exceed the incremental cost above the cost of the original reliability or policy-driven project, the avoided cost of the original project will be allocated to the sub-region with the original reliability or policy need, and the incremental cost will be allocated to sub-regions in proportion to each sub-region's economic benefits. If the original project was a policy-driven project and the new project is built outside the sub-region where the regulatory authorities driving the policy need are located, the ISO will allocate the associated avoided cost to the load served under the state or local regulatory authority or authorities whose policy mandates drove the need for the original project. If the policy driver of the project was a federal policy, then for sub-regions other than the sub-region in which the project is built the ISO will allocate the associated avoided cost to the load served in each state in proportion to the state's need for the project to comply with the federal policy mandate.
 - e. For a policy-driven project that supports policy mandates of more than one sub-region, or that is built in one sub-region to meet the policy mandates of another sub-region, the ISO will calculate the economic benefits of the project and allocate costs to each sub-region in proportion to the sub-region's benefits, but only up to the point where each sub-region's cost share equals the sub-region's benefits. Any additional cost of the project will be allocated to the load served under the state or local regulatory authorities within each sub-region, other than the sub-region in which the project is built, whose policy mandates drove the need for the project. If the policy driver of the project was a federal policy, then for sub-regions other than the sub-region in which the project is built the ISO will allocate the project costs to the load served in each state in proportion to the state's need for the project to comply with the federal policy mandate. In such cases, if the project also supports policy mandates within the same sub-region in which the project is built, the ISO will allocate that sub-region's share of the policy-driven costs to the entire sub-region as part of the sub-regional TAC.
5. In discussions of governance for an expanded ISO BAA, which are in progress in parallel to this initiative, the CAISO and stakeholders are exploring the formation of a Western States Committee ("WSC") that would have certain roles and functions with respect to some aspects of transmission cost allocation. Resolution of WSC roles and functions will be determined as part of the governance initiative, not within this TAC Options initiative. At this time, the CAISO intends the transmission cost allocation provisions described here to comprise an appropriate and effective framework that it will be able to propose following resolution of the governance initiative for inclusion in the FERC-approved tariff for the expanded BAA. The role of the WSC in approving either this initial structure or any changes to that structure over time has not yet been determined.

6. New high-voltage transmission facilities will be subject to competitive solicitation to determine the entity that will build and own the facility, except, as stated in tariff section 24.5.1, where the facility involves “an upgrade or improvement to, addition on, or a replacement of a part of an existing Participating TO facility,” in which case the Participating TO will construct and own such upgrade, improvement, addition or replacement facilities unless a Project Sponsor and the Participating TO agree to a different arrangement.” This is consistent with FERC Order 1000 and the CAISO’s current provisions regarding competitive solicitation.
7. The ISO will charge a single region-wide “export access charge” (“EAC”) to all export and wheel-through transactions from the expanded ISO BAA, calculated as the sum of the sub-regional high-voltage TRRs divided by the sum of the forecasted annual sub-regional load quantities. The ISO will allocate shares of the annual EAC revenues to each sub-region in proportion to the sub-region’s TRR. Note that the TRRs used in the EAC calculation will reflect the costs of any new high-voltage policy-driven transmission facilities whose costs may be allocated to the loads of specific state or local regulatory authorities. Therefore, in distributing shares of the EAC revenues, the ISO will further break down the EAC revenue share of each sub-region into shares for the sub-region as a whole and for the load of each state or local regulatory authority in proportion to their contribution to the sub-regional TRR.

2. Next Steps

Date	Activity
December 5, 2016	Post draft regional framework proposal
December 13, 2016	Stakeholder meeting in Folsom
January 4, 2017	Submit written comments on draft regional framework proposal
2017 Dates TBD	Process for Board approval and FERC filing TBD

3. Draft Regional Framework Proposal

This section provides the details of the CAISO’s draft regional framework proposal.

3.1. Key terms, concepts and assumptions

- a) This proposal applies only to transmission cost allocation for high-voltage (200 kV and above) transmission facilities. We assume that cost allocation for low voltage (<200 kV) facilities that become part of the expanded ISO controlled grid will be recovered on a PTO-specific basis, comparable to “local” facilities in the terminology of Order 1000 and the CAISO TAC structure today.

- b) “CAISO” as used here refers to the existing CAISO BAA, including the CAISO Controlled Grid and member PTOs as they are today, prior to integrating a new PTO with a load service territory.
- c) “Expanded ISO” refers to the expanded BAA after a new PTO with a load service territory integrates with the CAISO.
- d) “PTO#1” refers to the first new PTO with a load service territory to join the CAISO to form the expanded ISO.
- e) “New facilities” or “new transmission facilities” are high-voltage transmission elements that are planned and approved via an integrated TPP for the expanded ISO BAA. This proposal does not address the specific details of an integrated TPP for the expanded ISO BAA, but generally assumes that the integrated TPP will retain the same overall structure and annual schedule as today’s CAISO TPP (see section 3.3 item 8). On that basis, because the current TPP starts in January of each year, the first iteration of the integrated TPP for the expanded ISO BAA would start in January of the first full calendar year in which PTO#1 is integrated into the expanded ISO BAA.

The “new facilities” category could include a project that the CAISO was already considering prior to the new PTO joining the expanded ISO as an “inter-regional” project in accordance with the FERC Order 1000 approved provisions for inter-regional planning coordination, and then is subsequently adopted and approved via the integrated TPP for the expanded BAA. For this to occur, the integrated TPP would have to perform the following steps:

- First, identify a reliability or public policy need, or an opportunity to capture significant economic benefits, for which the inter-regional project may be a suitable solution;
- Second, evaluate the pros and cons of alternative solutions to meet the identified need, including non-transmission alternatives where feasible; and
- Third, determine that the inter-regional project is the most cost-effective solution and, on that basis, include it in the comprehensive transmission plan.

All three steps would need to be performed through the integrated TPP for the expanded BAA, irrespective of any prior evaluation that may have been done under regional planning processes or the Order 1000 inter-regional provisions. Thus the existence of a project under consideration in the inter-regional context does not necessarily mean that it will line up with specific transmission needs identified in the integrated TPP or that, if it does appear to be a candidate solution, it will be selected as the preferred solution.

- f) “Existing facilities” or “existing transmission facilities” are the high-voltage transmission assets of a PTO that are not “new facilities” as defined above.
- g) Currently the CAISO is considered a “region” as that term is used for purposes of complying with FERC Order 1000. Once PTO#1 joins, the expanded ISO BAA will become the new “region” under Order 1000. After that the current CAISO system would be considered a “sub-region,” as would PTO#1 and each subsequent new PTO with a load service territory that joins, unless the new PTO is embedded within or electrically integrated with an existing sub-region. In the latter case the new PTO would become part of the sub-region in which it is embedded or with which it is integrated.

“Embedded” is defined to mean that the new PTO is dependent on the transmission facilities of an existing sub-region to meet its load-serving obligations. That is, the new PTO cannot fully serve the load within its service territory without importing power using the transmission facilities of an existing sub-region. “Integrated” is harder to define for establishing a sub-region under this proposal. The term is intended to capture the situation where a new PTO is not dependent on another PTO’s transmission facilities to import energy prior to joining, but it does have significant interconnections with one or more PTOs in an existing sub-region and, once it joins the expanded BAA, the new PTO will benefit significantly from the transmission system of the sub-region with which it is integrated. These criteria would be challenging if not impossible to spell out in formulaic terms so as to correctly capture each potential future case, so rather than establish a precise definition of “integrated,” the CAISO proposes to make this determination on a case-by-case basis.

The expanded ISO would work with the candidate new PTO and other stakeholders to apply specific criteria stated in the tariff for determining whether the new PTO should be integrated into an existing sub-region. The ISO would then make a recommendation for approval of the new PTO by the Board of Governors as part of the new PTO application process, and upon Board approval would file for FERC approval of the proposal to treat the new PTO as either a new sub-region or part of an existing sub-region. Using as a model the criteria in tariff section 27.5.3.8.1 that are considered today for establishing a new Integrated Balancing Authority Area (“IBAA”), the CAISO proposes the following for the present context:

- 1) The proportion of the new PTO’s annual and peak load served over the facilities of the existing sub-region;
 - 2) The number of Interties between the new PTO and the existing sub-region and the distance between them;
 - 3) Whether the transmission system within the new PTO runs in parallel to major parts of the existing sub-region;
 - 4) The frequency and magnitude of unscheduled power flows at applicable interties;
 - 5) The number of hours where the actual direction of power flows was reversed from scheduled directions.
- h) This proposal assumes that TAC will continue to be charged on a per-MWh basis to load and exports. It does not consider whether anyone other than load or exports should pay the TAC, nor does it consider alternative billing determinants such as demand-based charges.

Some stakeholders have expressed concerns that using a volumetric basis for TAC charges (in contrast to a demand basis) in the expanded ISO’s settlements process would inevitably translate into a purely volumetric basis for recovering a PTO’s transmission revenue requirement (“TRR”) from retail customers. They point out that if this occurs for a customer that has a high load factor and had been paying for transmission service based on demand, that customer will be allocated a larger cost share than before for the same TRR.

The CAISO clarifies that using a per-MWh TAC rate for wholesale market settlements does not necessarily mean that retail customers must also pay a purely volumetric charge. Today in most cases the CAISO settlements process applies the per-MWh TAC to each utility

distribution company (“UDC”) taking service from the CAISO grid based on the total end-use metered load (called “Gross Load” as defined in the CAISO tariff) served over that UDC’s system during each settlement period.⁵ The CAISO’s settlement process does not prescribe how each UDC will recover its TAC payment to the CAISO from its end-use customers. For example, the UDCs within the investor-owned utilities who are CAISO PTOs today have retail rate structures for TRR recovery that are volumetric for residential and a combination of volumetric and demand-based for commercial and industrial customers. The question of how a UDC will recover TRR from its retail customers is not determined by the structure of the TAC.

3.2. Draft regional framework proposal: existing facilities

1. TRR associated with existing facilities will be recovered on a sub-regional basis, where the CAISO is one sub-region and PTO#1 is the other sub-region. This is referred to as the “license plate” approach, where each “license plate” rate applies to an entire sub-region even though the sub-region may be comprised of multiple PTOs.

The sub-regional license plate rate will be charged to internal load within each sub-region, including the load of entities that are known today as “non-PTOs” in the CAISO system and currently pay the CAISO’s wheeling access charge (“WAC”).⁶ The CAISO clarifies that in applying the license plate sub-regional rate to non-PTOs located within a sub-region, the CAISO intends to retain the current provisions for determining the quantity of load subject to the TAC (i.e., the billing determinant), as specified in tariff section 26.1.4.4. Exports out of the expanded BAA, including wheel-through transactions, will be charged a region-wide export access charge (EAC) described later in this document.

Some stakeholders advocated blending costs of some existing facilities for cost recovery on a region-wide basis. The CAISO considered alternative ways to carve out a subset of existing facilities for this purpose and ultimately concluded that the complexities and risks of such an approach would be counterproductive. In approving license-plate rates for existing facilities in the context of other ISOs/RTOs, FERC has accepted the rationale that the individual PTO or planning areas had made decisions to build their existing systems for the benefit of their existing ratepayers without any anticipation of some other parties paying part of those costs. By coming together into a larger BAA all PTO areas benefit. Keeping the existing facility costs separate means that no area experiences a positive or negative rate impact that would occur if some costs of existing transmission facilities were merged and reallocated.

⁵ There is a small number of non-PTO UDCs within the CAISO today who pay the wheeling access charge (“WAC”) rather than the TAC, which is still a volumetric charge but is based on their quantity of wheeling out transactions at their point of interconnection with the CAISO controlled grid rather than Gross Load. See tariff section 26.1.4.4 and the definition of Gross Load in tariff Appendix A, which explicitly excludes “Load with respect to which the Wheeling Access Charge is payable.”

⁶ The non-PTOs are listed in tables 3-4 of the following document:
http://www.caiso.com/Documents/WheelingAccessRatesEffectiveJul6_2016_UpdatedJul12_2016.pdf

An important feature of this approach is that all sub-regions have equal access to the benefits of the expanded ISO transmission system and BAA and continue to pay the same TRR for existing facilities that they otherwise would have paid. FERC has agreed that this approach meets their standards for aligning costs and benefits.⁷

This approach also preserves the clear principle that any facilities eligible for region-wide cost allocation would have to be planned and approved under an integrated planning process that includes all member PTOs and their stakeholders. In particular, this approach mitigates the risk of incentivizing a potential new PTO to develop costly new high-voltage transmission for its area outside of the integrated TPP with the expectation that some of its costs can be transferred to other members of the expanded ISO upon its joining. With an approach that blends some costs of existing facilities the ISO would have to design and impose a rule that mitigates this incentive in a manner that could transparently and clearly apply to any subsequent new PTO. The CAISO has concluded that the complexities of developing such rules would outweigh their potential benefits.

2. The existing facilities at the time PTO#1 joins the expanded ISO will be referred to as “Legacy Facilities” for purposes of integrating subsequent new PTOs (explained in the next step).
3. When PTO#2 joins the expanded ISO and creates a new sub-region, the TRR for PTO#2’s existing facilities will be recovered from the PTO#2 sub-region, and PTO#2 will have no cost responsibility for the Legacy Facilities. This is comparable to the treatment of the CAISO and PTO#1 existing facilities when the larger ISO BAA is first formed. PTO#2’s existing facilities then become part of the Legacy Facilities for purposes of integrating PTO#3. Similarly, each subsequent new PTO for which a new sub-region is created for will be responsible for the costs of its own existing facilities at the time it joins, and will not be responsible for the costs of the Legacy Facilities.
4. Alternatively, if a new PTO joins and becomes part of an existing sub-region, that PTO’s costs for existing facilities 200 kV and above will be combined with the corresponding costs of the sub-region it joins for recovery through the common sub-regional license plate rate.

3.3. Draft regional framework proposal: new facilities

5. A “new” facility – i.e., a facility planned and approved through the integrated ISO TPP for the expanded BAA – will be considered for regional cost allocation if it is rated 200 kV or higher, regardless of whether the facility is categorized as a reliability, policy, or economic project. Regional cost allocation means allocation of costs to more than one sub-region. The fact that a transmission project is eligible to be considered for regional cost allocation does not mean automatic allocation of costs to multiple sub-regions; it just means the facility will be

⁷ Refer to the ISO’s October 23, 2015 issue paper and March 1, 2016 straw proposal for information on specific FERC and court decisions on this topic.

subject to further criteria or analysis, as described below, to determine whether regional allocation is warranted based on benefits. A new facility in this context need not be a “greenfield” transmission facility; it could also be a project to upgrade an existing facility.

6. The expanded ISO will use the existing Transmission Economic Assessment Methodology (“TEAM”) to determine sub-regional economic benefits of certain types of new transmission facilities rated 200 kV or above, as described in item 9 below, in addition to determining economic benefits to the expanded BAA as a whole.⁸ Several parties have commented that the CAISO should consider modifications to the TEAM that may be appropriate for applying it to the needs of an expanded multi-state BAA. The CAISO does not take up this question within the scope of the present initiative, but may revisit it at a later time in a more in-depth discussion of the integrated TPP for the expanded BAA.
7. Although the scope of the present initiative does not include developing the details of an integrated TPP for the expanded BAA, the working assumption is that the integrated TPP will retain the overall process structure of the current CAISO TPP. It will begin with a Phase 1 to specify the unified planning assumptions and study plan for the current TPP cycle. Phase 1 will include selecting the federal, state or local public policy requirements or mandates driving needs for transmission that will be addressed in the current TPP cycle. Because a given sub-region could be affected by different state and local policy mandates within its territory, this proposal assumes there will be procedures in place for authorities whose policies may drive transmission needs to provide input to the integrated TPP, in a manner analogous to the California Public Utilities Commission’s (“CPUC”) provision of renewable energy procurement portfolios to the CAISO today for this purpose. Thus, public policy drivers of new transmission will either be national and thus applicable to the entire expanded BAA (though these may entail federal delegation to the states for purposes of implementation), or will be clearly associated with specific states or local jurisdictions within states.

The rest of this item summarizes features of the existing CAISO TPP that we expect will carry over to an integrated TPP for the expanded BAA.

Phase 2 of the current TPP identifies needed new transmission facilities or upgrades in three steps:

- a. First, perform reliability studies and identify mitigations for anticipated future reliability problems such as criteria violations. Such mitigations are categorized as reliability projects.
- b. Second, assume that the identified reliability mitigations are in place and determine the transmission projects that are needed to meet federal, state or local public policy requirements, based on criteria along the lines of those specified in the current CAISO tariff section 24.4.6.6. The projects identified in this step are categorized as

⁸ The CAISO is in the process of updating the online documentation of TEAM; as several stakeholders noted in their comments, the existing documentation was prepared about ten years ago and would benefit from an update.

policy projects or policy-driven transmission solutions. In some cases a policy project may offset the need for a reliability project identified in the first step. In this case the project will still be categorized as policy, and the cost of the avoided reliability project will be included in determining the cost allocation for the policy project, as described below.

- c. Third, assume that the projects identified in the first and second steps are in place (removing any reliability projects that may have been superseded by policy projects), and consider whether any economic projects would be appropriate. In this step the CAISO performs economic studies for specific areas of the grid that were identified in Phase 1 of the TPP as areas where new transmission might provide significant economic benefits. Projects identified in this step must be shown by the TEAM to have a benefit-to-cost ratio (BCR) greater than 1 in order to be proposed in the comprehensive transmission plan at the end of the TPP cycle, in which case they are categorized as economic projects.

In some cases an economic project may offset the need for, or may be specified as an expansion of, a reliability or policy project identified in step 1 or 2. In such a case the BCR requirement for the project is only that its economic benefits be greater than the incremental cost of the project beyond the cost of the original project it offsets or expands. In such a case the project will still be categorized as economic, and the cost of the original reliability or policy project will be included in determining cost allocation for the economic project, as described below.

8. The CAISO proposes that costs for new transmission projects be allocated as follows.
 - a. With the present proposal, the CAISO introduces provisions for allocating the costs of certain new policy-driven projects on a more granular geographic basis than just to the sub-region. Some parties asserted in their comments that cost allocation should be more geographically granular, particularly in the case of policy-driven projects for which policy drivers would likely originate at the level of a state or a local regulatory authority that comprises only a portion of a sub-region. In response to this concern, the CAISO now proposes a more granular cost allocation approach for certain policy-driven projects, as explained in the next item. Apart from these cases the cost allocation provisions proposed here apply only to the sub-region granularity level.
 - b. For allocating the costs of policy-driven projects, the ISO will use the policy drivers provided by the state or local regulatory authorities in Phase 1 of the TPP. In Phase 1, as part of developing the unified planning assumptions and study plan, the ISO will receive input from the regulatory authorities regarding the policy requirements or mandates they would like the ISO to address in the current TPP cycle, along with information from those same authorities regarding their intended resource procurement patterns or other factors that clearly link the policy mandates to transmission needs. Note that this approach can apply equally well to federal policy mandates as to state and local mandates; in general a federal policy will designate the states as the responsible entities to implement the mandates it imposes.

For today's TPP, for example, the CPUC provides RPS portfolios to the CAISO, which describe the anticipated procurement of new renewable generation by its regulated load-serving entities to meet their RPS mandates. Based on this information the CAISO is able to determine whether new transmission capacity is needed and, if so, what electrical characteristics and configurations the needed transmission should have.

For the new integrated TPP for the expanded BAA, the ISO will rely on analogous information from the regulatory authorities responsible for the policy mandates to determine (1) what new transmission capacity is needed, and (2) appropriate cost shares for specific regulatory authorities in cases where more than one authority contributed to the need for the project and the necessary condition for more granular cost allocation applies. Specifically, the CAISO proposes to apply more granular cost allocation for policy-driven projects, or economic projects that enhance or replace a previously selected policy-driven project, when the project selected is built within a different sub-region from the one where the policy mandates drove the need for the project. The ISO will then assess an additional TAC charge, above the sub-regional postage stamp rate, to recover the TRR for a given policy project from the load served under those regulatory authorities outside the sub-region in which the project is built who drove the need for the project. If more than one regulatory authority in this sub-region drove the need for the project, the ISO will allocate cost shares to the load of each such authority in proportion to authority's need for the project. For example, if regulatory authorities A and B, both within a sub-region different from the sub-region in which the project is built, both needed the new project to procure, respectively, 500 MW and 1000 MW of renewable generation capacity, the ISO would allocate the cost of the project one-third to the load in A and two-thirds to the load in B.

- c. For a reliability project that is narrowly specified through the expanded TPP as the preferred solution to a reliability need within a sub-region, and which has not been expanded or enhanced in any way to achieve additional benefits, the CAISO proposes to allocate the project cost entirely to the sub-region with the driving reliability need, regardless of any incidental benefits that may accrue to other sub-regions. "Incidental" benefits are any unintended (by the planners) economic, policy or reliability benefits that may result from the proposed reliability project. These benefits are excluded from the cost allocation because the reliability project in question was identified as the preferred solution to the reliability need based solely on meeting that need, without the planners or the planning process trying to obtain any additional benefits.
- d. Similarly, for a policy-driven project that is connected entirely within the same sub-region in which the policy driver originated, the CAISO proposes to allocate the project cost entirely to the sub-region with the driving policy need, regardless of any incidental benefits that may accrue to other sub-regions. In this case the ISO would

not apply more granular cost allocation to the load served under specific regulatory authorities within the sub-region because the project would provide benefits to the entire sub-region.

- e. For a purely economic project with $BCR > 1$, cost shares will be allocated to sub-regions in proportion to their benefits, and because $BCR > 1$ this completely covers the costs. A purely economic project is one that is selected on the basis of the TPP economic studies following the selection of reliability and policy projects, and is therefore a distinct new project, not an enhancement of a previously selected reliability or policy project.
- f. For an economic project that is so categorized as a result of enhancing a reliability or policy project, and as a result has higher cost than the original reliability or policy project, a cost share equal to the avoided cost of the original project will be allocated to the sub-region with the reliability or policy need, and the balance of the cost will be allocated to sub-regions in proportion to their benefits as calculated by TEAM.

Note that in this situation, the economic benefits of the project must only exceed the incremental cost beyond the cost of the original reliability or policy project for the new project to be deemed “economic.” Also, the approach in this regional framework proposal adopts the suggestion made in several stakeholder comments that for such projects the ISO should allocate the avoided cost of the original reliability or policy project first, and only then allocate any residual project cost based on economic benefits.⁹ The approach recognizes the fact that the primary driver of the project is the reliability or policy need, and if not for that driver the project may not need to be built at all.

In addition, if the original and now superseded project was a policy-driven project, and if the new project is built within a different sub-region than the one in which the

⁹ The approach described in item e can be thought of as a “driver first” approach. In contrast, the ISO had previously presented a similar but not identical approach in which the avoided cost of the original reliability or policy project is included as a benefit along with the economic benefits for calculating sub-regional cost shares based on benefits (“total benefits” method). A simple example illustrates how the proposed “driver first” method will allocate a larger cost share to the sub-region with the reliability or policy driver than the “total benefits” method would do.

Consider a preferred or enhanced) project with cost = \$100 million

Sub-region A benefits

- \$30 million production cost savings (from TEAM)
- Meets sub-region A reliability need, where sub-regional reliability alternative would cost \$60 million but with no economic benefit

Sub-region B benefits

- \$40 million production cost savings (from TEAM)

Cost responsibilities under “driver first” method:

- Sub-region A = $\$60M + \$40M * \$30M / \$70M = \$77M$
- Sub-region B = $\$40M * \$40M / \$70M = \$23M$

Cost responsibilities under “total benefits” method:

- Sub-region A = $\$100M (\$30M + \$60M) / (\$30M + \$40M + \$60M) = \$69M$
- Sub-region B = $\$100M (\$40M) / (\$30M + \$40M + \$60M) = \$31M$

policy drivers originated, the ISO would allocate the avoided cost portion of the new project cost following the more granular approach described in item b above, to the load of the relevant state or local regulatory authorities.

- g. For more complicated policy projects – e.g., if the same project meets the policy needs of more than one sub-region, or if a policy project is built in the system of one sub-region to meet the policy need of another sub-region – the allocation of costs using the “driver first” method becomes challenging. As a matter of principle it may appear desirable and logical to follow the “driver first” method, but the problem is that a credible avoided cost for an alternative pure policy project may not be achievable.

Case 1. Consider a policy driver originating in sub-region A for which the policy project proposed is within sub-region B. The CAISO expects that such a project would likely have significant benefits to sub-region B, so that allocation of the full costs to A would not be appropriate. But there appears to be no non-arbitrary way to estimate the avoided cost of an alternative project (or alternative procurement approach) that A might take to meet the policy mandate instead of building the project within sub-region B.

Case 2. Consider similar policy drivers originating in two sub-regions A and B such that the preferred project meets the policy mandates of both sub-regions. Here also the “driver first” method would say to allocate cost shares to A and B equal to the avoided costs of the alternative policy projects each would have had to build to meet their own policy needs. Presumably the preferred project should be less costly than the total cost of the two avoided projects. But again, the ability to apply this method depends entirely on being able to identify credible, concrete alternatives targeted narrowly to meet the policy mandate of only one sub-region that would have been built absent the preferred project. This simply may not be possible in many if not most situations.

Given the above considerations, the CAISO proposes to apply the “total benefits” method as the general approach for policy-driven projects. This means that the ISO will estimate economic benefits for each sub-region, allocate cost shares to each sub-region equal to the sub-regional economic benefits, and then allocate the residual cost to the sub-region(s) driving the policy need.

If the policy mandates driving the need for the project originate entirely within one sub-region, then the residual cost would go entirely to the load served under the regulatory authority or authorities within that sub-region whose policy mandates drove the need for the project. If the policy mandates come from more than one sub-region, the ISO proposes to allocate the residual cost to sub-regions in proportion to each sub-region’s need for the project. In addition, within a sub-region that is not where the project is built, the ISO would apply the more granular cost allocation so that the load of each regulatory authority that contributed to the need for the project would pay a cost share proportional to the authority’s need.

9. In an earlier proposal the CAISO proposed that new regional facilities whose costs are allocated to multiple sub-regions would be subject to competitive solicitation to build and own the facility. Some stakeholders commented this scope is too narrow, that limiting competitive solicitation to such projects would create a disparity between how competitive solicitation is applied within the CAISO today and how it would be applied in a new sub-region that is the territory of a single PTO. In particular, because costs of all 200 kV and above facilities within the CAISO today are allocated to the entire BAA on a postage stamp basis, all such facilities are subject to competitive solicitation except, as stated in tariff section 24.5.1, where the facility involves “an upgrade or improvement to, addition on, or a replacement of a part of an existing Participating TO facility,” in which case “the Participating TO will construct and own such upgrade, improvement, addition or replacement facilities unless a Project Sponsor and the Participating TO agree to a different arrangement.” The CAISO proposes to retain the same provision for the expanded ISO BAA, as it complies with the requirements of FERC Order 1000 and would create a level playing field for competitive solicitation across the expanded ISO. This means that new transmission facilities rated 200 kV or above in the expanded ISO that do not qualify for the exemption under section 24.5.1 would be subject to competitive solicitation, regardless of whether the costs of such projects would be allocated to more than one sub-region.
10. The CAISO proposes to retain the provision in the second revised straw proposal not to recalculate sub-regional cost/benefit shares of new regional facilities periodically to adjust for impacts of any changes to the network. Although patterns of flow can change when there are changes to grid topology or the supply fleet or when a new PTO joins the expanded ISO, which could in turn modify the benefit shares for a given facility, stakeholders commented that such recalculations would create serious uncertainty regarding future cost exposure for transmission upgrades. The CAISO therefore proposes that the cost allocation initially determined under the applicable cost allocation rules should be maintained without later recalculation to reflect system changes.
11. The CAISO also proposes to drop its earlier proposal that PTO#2 and subsequent PTOs joining the expanded ISO should be allocated cost shares for new regional facilities that were approved prior to PTO#2 or the subsequent PTOs joining. Thus, any regional facilities whose costs are allocated to the CAISO and PTO#1 when they were the only two sub-regions in the expanded BAA would essentially be treated similarly to “existing” facilities from the perspective of PTO#2 and others joining at a later date.

There are mixed incentives with this approach, however. On the one hand, this proposal removes a concern with the previous proposal that it could create a deterrent for PTO#2 to join the expanded BAA if it stands to be allocated a cost share for a project in whose planning and approval it had no involvement. On the other hand, if PTO#2 could avoid costs for projects approved through the regional TPP from which it receives substantial benefits, PTO#2 would have an incentive to stay out of the expanded ISO until after significant projects were approved, and then join after such approval. In this way PTO#2 could avoid paying a share for projects from which it actually receives significant benefits. On the whole,

the ISO has concluded it is preferable to adopt an approach that follows the same rationale as the distinction between existing and new high-voltage transmission facilities. This approach ensures that no customers of a new PTO will experience a positive or negative rate impact that could occur if some costs of transmission facilities approved prior to the new PTO joining were merged and reallocated.

12. As a point of summary and clarification, as a result of the provisions above regarding cost recovery for existing and new facilities rated 200 kV and above, each sub-region would have a high-voltage sub-regional license plate TAC rate that recovers its TRR for all existing facilities plus its cost shares of any new reliability and economic facilities (items 9.c and 9.e above), plus its cost shares for the economic benefits portions of projects described in items 9.f and 9.g above. In addition, the load of specific state or local regulatory authorities will pay an additional TAC charge to recover the cost of policy projects needed to meet their policy mandates or requirements, as described in items 9.b, 9.d, 9.f and 9.g above.

3.4. Draft regional framework proposal: region-wide export charge

13. The CAISO proposes to create a single region-wide export access charge (“EAC”) that would apply to all exports and wheel-through transactions out of the expanded ISO using high-voltage facilities. The rationale for the EAC is that having a different export rate for each sub-region would create incentives for parties who export from and wheel through the expanded ISO to distort their normal scheduling patterns and thereby cause inefficient grid congestion by seeking to export from the sub-region where the export rate is lowest. This is consistent with the practices of other multi-state ISOs and RTOs.
14. The new EAC would differ from today’s “wheeling access charge” (“WAC”) in that it would not apply to the non-PTOs within the CAISO system as the WAC does today, or to similarly situated entities within the service territories of the new PTO. Rather, the non-PTO entities would pay the sub-regional TAC for the sub-region in which they are located. Also, as noted earlier, the CAISO clarifies that in charging these non-PTOs the sub-regional TAC rate rather than the WAC rate they pay today (which is the same rate charged to exports from the CAISO BAA), the CAISO is not proposing any change to the billing determinant to which the non-PTO’s TAC charge is applied (see tariff section 26.1.4.4).
15. The CAISO proposes to calculate the EAC as the total of the high-voltage TRRs for all sub-region divided by the total forecasted load for all sub-regions.¹⁰ Thus, if there are only two sub-regions, if TRR1 and TRR2 are the TRRs for sub-regions 1 and 2 respectively, and L1 and L2 are the corresponding internal loads, then the EAC rate would be:

$$\text{EAC} = [\text{TRR1} + \text{TRR2}] / [\text{L1} + \text{L2}]$$

¹⁰ The second revised straw proposal defined the EAC as the load-weighted average of the sub-regional TAC rates. The definition given above is almost the same thing, but revised slightly to include the costs of policy-driven projects that may be allocated to specific state or local regulatory authorities within a sub-region instead of being included in the sub-regional TAC rate. Defining the EAC in terms of the TRRs means that all high-voltage transmission costs are reflected in the EAC.

This is unchanged from the second revised straw proposal. Some stakeholders argued that the EAC should be higher, e.g., set at the maximum sub-regional TAC rate, while others said it should be lower, e.g., set at the minimum sub-regional TAC rate, or even zero. The intermediate approach of setting the EAC at the weighted average of the sub-regional TAC rates is consistent with the practice of other multi-state ISOs/RTOs.

16. The relationship between EAC revenues and TAC revenues and how they figure into the calculation of rates requires some explanation. For purposes of this proposal the CAISO assumes that today's accounting approach will be retained for the expanded ISO. Today in the CAISO the WAC revenues in a given year are accumulated in a balancing account and applied as an offset to the TRR to be collected the following year.¹¹ For example, suppose $EAC_{rev1/1}$ = sub-region 1's share of EAC revenues in year 1, $TRR_{1/2}$ = the total revenue requirements associated with sub-region 1's existing assets and its shares of new facilities for year 2, and $L_{1/2}$ is sub-region 1's projected internal load for year 2, then its sub-regional TAC rate for year 2 would be:

$$TAC_{1/2} = [TRR_{1/2} - EAC_{rev1/1}] / (L_{1/2})$$

Similarly for sub-region 2, for year 2:

$$TAC_{2/2} = [TRR_{2/2} - EAC_{rev2/1}] / (L_{2/2}).$$

In the formulations that follow and the numerical example below, we assume we are using these "net" TRR values after subtracting the previous year's EAC revenues, and the TAC rates that result from these net TRR values, as reflected in the above formulas.

17. The CAISO proposes that the EAC revenues be allocated to sub-regions in proportion to each sub-region's TRR. This is unchanged from the second revised straw proposal.¹² Thus each sub-region's share would be:

$$\text{Sub-region 1 share} = (\text{total EAC revenues}) * TRR_1 / (TRR_1 + TRR_2)$$

$$\text{Sub-region 2 share} = (\text{total EAC revenues}) * TRR_2 / (TRR_1 + TRR_2).$$

18. One further refinement is necessary to align this element of the regional framework proposal with the cost allocation for policy-driven projects described in section 3.3 item 9.b above. The CAISO proposes to break down each sub-region's share of the EAC revenues into portions to be allocated to the sub-regional TAC and each state or local regulatory authority whose load is paying a share of the high-voltage TRR for policy-driven transmission whose costs are not included in the sub-regional TAC. These shares of the sub-region's EAC revenue would be in the same proportion as the corresponding shares of the sub-regional high-voltage TRR. This refinement only affects the distribution of a sub-region's share of

¹¹ The following link to the CAISO web site shows how this works today. The item labeled "TRBAA" stands for "transmission revenue balancing account adjustment" and includes WAC revenues the PTO received in the previous year. See: http://www.caiso.com/Documents/HighVoltageAccessChargeRatesEffectiveJun1_2016.pdf

¹² The second revised straw proposal also includes a numerical example using 2015 settlements data to illustrate the present proposal and compare it to an earlier proposal that was offered at the August 11 workshop.

EAC revenues within that sub-region; it does not alter the allocation of EAC revenue shares among the sub-regions.

Example. Within sub-region A there are two regulatory authorities LRA1 and LRA2 who each have need for a new policy-driven transmission project that is built within sub-region B. The transmission project that is built to meet the need costs \$100 million, of which LRA1's share is \$40 million and LRA2's share is \$60 million. Assuming that the annual TRR corresponding to a transmission project is 15 percent of the capital cost, LRA1's share of the TRR will be \$6 million and LRA2's share will be \$9 million. Suppose sub-region A's total TRR for the year is \$300 million (after subtracting out the previous year's EAC revenues). Then the TRR would be comprised of three parts: \$6 million charged only to the load served under LRA1, \$9 million charged only to the load served under LRA2, and \$285 million charged to all load within the sub-region through the sub-regional TAC.

Now, suppose sub-region A's share of EAC revenues for the same year equals \$30 million. Then using the same relative proportions as the TRR shares, the EAC revenues would be divided into three parts: \$0.6 million would offset LRA1's policy-driven portion of the next year's TRR; \$0.9 million would offset LRA2's policy-driven portion of the next year's TRR; and \$28.5 million would offset the part of next year's TRR that would be collected through the sub-regional TAC.

19. With the exception of the refinement to align the EAC proposal with the more granular allocation of policy-driven project costs in those cases where it applies, the current EAC proposal is essentially the same as the one presented in the second revised straw proposal. There was a broad range of stakeholder comments on that proposal. Many stakeholders supported the proposal, but some of these expressed a concern that a sub-regional license plate rate may result in lower EAC revenues for PTOs with higher sub-regional TAC rates, while others acknowledged the problems with charging exports at the different sub-regional TAC rates and allocating revenues to the sub-regions based on their export volumes. Stakeholders that did not support the proposal generally commented on cost shifts that would occur to PacifiCorp customers. One opponent of the proposal expressed a concern with the lack of cost justification for charging a different rate of exports to its load in a neighboring BAA.

Regarding the EAC revenue allocation, several parties supported the proposed allocation based upon each sub-region's TRR, while others did not support either the TRR basis for revenue allocation or the earlier proposal to allocate based on export volumes times sub-regional TAC rates. One party proposed an alternative that would allow a sub-region to recover its TAC out of EAC revenues and allocate the remaining EAC revenues through a TRR-weighted approach. Several parties supported an approach to allocate EAC revenues based on the quantity of exports.

In summary, although many parties expressed concerns about this proposal, the CAISO believes that the proposal strikes a reasonable balance among stakeholders' positions and

will achieve the objective of having a single region-wide export rate with fair allocation of the EAC revenues.

3.5. An additional issue

The current CAISO initiative known as GIDNUCR¹³ or “generator interconnection driven network upgrade cost recovery” deals with a narrow issue within transmission cost allocation. Some stakeholders asked about the linkage between that initiative and the TAC Options initiative. The CAISO’s most recent revised straw proposal on GIDNUCR proposes that for a small PTO, as defined in the proposal, and under certain circumstances specified in the proposal, the costs of network upgrades on the PTO’s low-voltage system that result from the ISO’s generator interconnection and deliverability allocation procedures (GIDAP) be incorporated in the PTO’s high-voltage TRR to be recovered in the same manner as high-voltage transmission facilities, i.e., through the system-wide high-voltage TAC rather than the PTO-specific low-voltage TAC. At present the outcome of the GIDNUCR initiative is still uncertain, as the CAISO has not yet issued a draft final proposal. That said, if the approach reflected in the current GIDNUCR straw proposal is eventually adopted by the CAISO and approved by FERC, the same principle would apply throughout the expanded ISO BAA when it is formed. In terms of the TAC provisions proposed in the present initiative, the CAISO expects that the costs of such an upgrade would be included in the sub-regional license-plate TAC rate for the sub-region in which the network upgrade is built.

¹³ See this page on the ISO web site for details:
<http://www.caiso.com/informed/Pages/StakeholderProcesses/GeneratorInterconnectionDrivenNetworkUpgradeCostRecovery.aspx>