# Stakeholder Comments Template

# Review TAC Structure
# Stakeholder Working Groups

This template has been created for submission of stakeholder comments on the Review Transmission Access Charge (TAC) Structure Working Group Meetings that were held on August 29 and September 25, 2017. The working group presentations and other information related to this initiative may be found on the initiative webpage at: http://www.caiso.com/informed/Pages/StakeholderProcesses/ReviewTransmissionAccessChargeStructure.aspx

| Submitted by | Organization | Date Submitted |
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Upon completion of this template, please submit it to initiativecomments@caiso.com. Submissions are requested by close of business on **October 13, 2017.**

**Please provide your organization's comments on the following issues and questions.**

*NOTE: See last page for definitions of some key acronyms and terms.*

1. One concept for allocating the costs of the existing transmission infrastructure is to charge each user of the grid in accordance with their usage of or benefits received from the grid. What do you believe is the most appropriate way to measure each end-use customer's or load-serving entity's (LSE) benefits or usage of the grid? What specific benefits should be considered? Please explain you answer.

***SDG&E Response:***

*In theory, it is possible to consider revising the existing TAC structure such that the CAISO would charge "each user of the grid." SDG&E believes this would require a significant expansion of the current initiative and go far beyond what stakeholders and the CAISO intended. SDG&E recommends that the current initiative be limited to exploring different mechanisms for allocating the HV transmission revenue requirement (TRR) among CAISO Load Serving Entities (LSEs), not "each user of the grid."*

*In this regard, SDG&E recommends that the CAISO undertake a review of existing law and regulation which may limit which entities can legally be a CAISO LSE. Comments by Sue Mara and Barbara Barkovich at the August 29, 2017 and September 25, 2017 workshops appeared to suggest there may be limitations on whether Community Choice Aggregators*

*(CCAs) and Direct Access (DA) suppliers could elect to become CAISO LSEs, receive an allocation of the HV TRR, and subsequently bill those costs to their end-use customers.*[1] *If either or both of these types of entities are not allowed to become a CAISO LSE, or are otherwise prohibited from recovering these costs from their end-use customers, it significantly changes the complexion of the Clean Coalition proposal. If neither entity can effectively become a CAISO LSE, then the effect of the Clean Coalition proposal is mostly limited to reallocating the HV TRR among the three IOUs; not among a larger number of LSEs, some of which could have a profoundly higher proportion of DG.*

*SDG&E understands that if such limitations do in fact exist, they could be changed via new law or regulation. Nevertheless, it is important that all stakeholders understand what would be required for the Clean Coalition proposal to apply to CCAs and DA suppliers as suggested by the examples used in Clean Coalition's presentation package.*

*As to the question of how a LSE's usage of, or benefits from, the transmission system are most appropriately measured, SDG&E has yet to be convinced that a LSE-specific TED represents an improvement over the current method which relies on LSE-specific CED.*[2] *The simple fact is that every connected end-use customer benefits from the transmission system. This is true regardless of whether the end-use customer consumes real- and reactive-power, injects real- and reactive power, or even if there were no real- and reactive power flow measured at the point of interconnection with the distribution system. This is not contestable.*

*Under the Clean Coalition proposal, it is possible to imagine a CAISO LSE who would be credited with enough distribution-connected generation to result in an LSE-specific TED of 0 MWh over an applicable settlement period. Such an LSE would be allocated $0.00 of the HV TRR even though the LSE's end-use customers are connected to the grid and thereby benefit from the transmission system. This possibility, even if unlikely, demonstrates to SDG&E a fundamental flaw in the Clean Coalition proposal.*

*It is true, of course, that the existing LSE-specific CED based approach could theoretically result in a CAISO LSE being allocated $0.00 of the HV TRR. This could happen if, over the course of the applicable settlement period, the LSE's end-use customers collectively produced enough on-site generation to offset their collective on-site consumption. However, because the existing LSE-specific CED based approach has no crediting of distribution-connected generation, SDG&E believes the possibility of a $0.00 HV TRR allocation is far less-likely than for a LSE-specific TED based approach.*

*In SDG&E's opinion, compared to the Clean Coalition proposal, the existing LSE-specific CED based approach provides a better—though certainly not perfect—measurement of a LSE's usage of, or benefit from, the transmission system. SDG&E believes there are simple ways of improving the existing measurement approach. These are discussed in SDG&E's response to question 10 below.*

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[1] *See for example, SCE's CPUC-jurisdictional Tariff Rule 23, Sections N and P.*

[2] *As both the Clean Coalition and the CAISO have pointed out, the CAISO's existing HV TAC mechanism already allocates HV TRR to certain municipal utilities on the basis of an LSE-specific TED. For the reasons indicated in these comments, SDG&E believes this allocation arrangement needs to be closely monitored to ensure these municipal utilities continue to pay a fair share of the CAISO's HV TRR.*

2. The example the ISO presented at the August 29 working group meeting (slides 21-22 of the ISO presentation) illustrated how using transmission energy downflow (TED) as the high-voltage TAC billing determinant (instead of end-use metered load) affects all ratepayers of each utility distribution company (UDC) irrespective of which LSE serves that load. If the ISO were to adopt TED as the billing determinant for the high-voltage TAC, what further procedures would be needed to ensure that the benefits of reduced TAC payments go to the correct LSEs that make the decisions to procure DG? Please explain your answer.

   ***SDG&E Response:***

   *As the example developed by SDG&E and posted on the CAISO website demonstrates,[3] the Clean Coalition's LSE-specific TED approach fails to ensure that the HV TRR is fully recovered from LSEs. Accordingly, it does not appear that the benefits of a reduced HV TRR allocation are going to the "correct LSEs;" or to say it the other way around, that the disbenefits of an increased HV TRR allocation are going to the "correct LSEs." At the September 25, 2017 working group meeting, Clean Coalition appeared to acknowledge this possibility and indicated it would think about how its current proposal could be modified to address this issue.*

   *No doubt there are numerous procedures that could be used to ensure that, in aggregate, LSEs pay exactly the HV TRR, nothing more and nothing less. SDG&E is concerned that such procedures would involve allocations of the HV TRR that are largely unrelated to a LSE's usage of, or benefit from, the transmission system.*

3. The ISO could (a) continue to use the end-use metered load (EUML) or customer energy downflow (CED) as the basis for assessing high-voltage TAC, or (b) propose a change to assess HV TAC based on downflow at the transmission-distribution interface (T-D TED), or (c) assess HV TAC based on downflow at the interface between the high-voltage and low-voltage transmission systems (HV-LV TED). Does your organization prefer one of these approaches at this time? Please explain the reasons for your preference.

   ***SDG&E Response:***

   *As explained in SDG&E's response to question 1, SDG&E prefers approach (a) over approaches (b) or (c). Both approaches (b) and (c) create the possibility that one or more LSEs could be allocated $0.00 of the HV TRR.*

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[3] *http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=668AD0D3-78C4-4BE1-8595-BE102F3C305C*

4. Does your organization believe that any of the options in the previous question present any potential problems or issues that have not been identified or explained during the stakeholder process thus far? If so, please explain. Also, please indicate what other analyses could be done to help understand the impacts of changing the point of measurement?

   ***SDG&E Response:***

   *As explained in SDG&E's response to question 2, Clean Coalition's current proposal does not result in full recovery of the HV TRR. As SDG&E's example shows, the under-collection is related to a number of factors including real-power losses, generation connected to the low voltage transmission and distribution systems that is not associated with any LSE, and an "LSE Refund" calculation that overstates LSEs' "overcollection."*

5. Does your organization believe that the ISO should change *only* the point of measurement utilized for assessing TAC apart from considering other changes to the TAC structure? Alternatively, should the ISO change the point of measurement in conjunction with other changes to the TAC structure? Please explain your position.

   ***SDG&E Response:***

   *As indicated in SDG&E's response to question 1, SDG&E does not support changing the point of measurement.*

6. Does your organization believe that changing the point of measurement for assessing TAC to use TED instead of metered customer demand will result in increased procurement of DG by LSEs? Please explain your position.

   ***SDG&E Response:***

   *Changing the point of measurement for assessing the HV TRR creates an incentive to increase LSEs' procurement of distribution-connected generation because doing so shifts the allocation of the existing HV TRR from LSEs with more DG to LSEs with less DG.*[4] *In SDG&E's opinion, this incentive has little to do with economic efficiency; it's mostly about cost shifting. A LSE's decision to procure distribution-connected generation should be based on whether such procurement is expected to reduce future costs compared to other resource procurement options, not on whether such procurement shifts existing HV TRR costs to other LSEs.*

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[4] *Of course, while the Clean Coalition proposal creates an incentive to shift transmission costs to other LSEs, a LSE's decision to procure distribution-connected generation is subject to many other considerations, not the least of which is the cost of the procured distribution generation in relation to the magnitude of the shifted transmission costs.*

7. Does your organization believe that increased procurement of DG by LSEs will reduce the need for future investment in transmission infrastructure? Please explain your position.

   ***SDG&E Response:***

   *As a general matter, adding distribution-connected generation – which is close to loads—tends to reduce the need to invest in future transmission infrastructure. However, from the perspective of consumer economics, this is not the important question. The important question is whether adding distribution-connected generation will reduce consumer costs compared to other supply options, including those that require future investment in transmission infrastructure.*

   *For the foreseeable future, SDG&E does not believe adding DG at levels exceeding those already incorporated in the CEC's Integrated Energy Policy Report (IEPR), in the CAISO's annual Transmission Planning Process (TPP) and in CPUC-ordered procurement plans, is likely to have a material impact on future investment in transmission infrastructure. SDG&E anticipates that there will be little in the way of planned transmission infrastructure investment that can be economically avoided by adding incremental amounts of DG.*

   *The CPUC's ongoing Distributed Resources Plan (DRP) proceeding is investigating mechanisms by which DG additions could compete to defer or avoid planned transmission. The CPUC's Integrated Resource Plan (IRP) proceeding will consider whether, and the extent to which, DG additions could, on a planning basis, be an economical way of meeting future resource needs and meeting aggressive Greenhouse Gas (GHG) reduction goals.*

   *The CAISO's TPP identifies the "need" to add transmission infrastructure and then solicits solutions for meeting this need. One solution could be adding DG not otherwise accounted for in the CAISO's annual TPP. Where DG is an economic solution, compensation mechanics, wholesale market issues, cost recovery policies and jurisdictional matters would need to be sorted out.*

   *In summary, SDG&E believes the CAISO's annual TPP and existing CPUC regulatory proceedings are the right place for determining (i) which increments of DG would represent an economic alternative to otherwise planned investment in transmission infrastructure, and (ii) how such increments should be implemented.*

8. The Clean Coalition provided a spreadsheet and documentation (available at the ISO's TAC initiative web page link on page 1) showing their approach for estimating the savings from avoided future transmission investment that could result from increased DG procurement in response to the ISO adopting TED as the point of measurement for assessing TAC. Does your organization believe that Clean Coalition's analysis provides a reasonable projection of transmission cost savings as a result of DG growth? Please explain your position.

   ***SDG&E Response:***

   *SDG&E does not believe the Clean Coalition's projection of avoided future transmission investment is reasonable. Historical growth in transmission investment is not representative* *of what should be expected in the next decade. The Investor Owned Utilities (IOUs) have largely satisfied their Renewable Portfolio Standard (RPS) requirements and are building renewable energy banks that will cover future obligations for many years. The CAISO's 2016-2017 transmission plan did not approve cost recovery for any major new transmission investment to support RPS requirements. Moreover, as discussed in SDG&E's response to question 7, the CAISO's annual TPP, and ongoing CPUC proceedings, are the appropriate venues for considering whether increased DG can economically defer or displace potential transmission investment that supports RPS requirements.*

*Load growth is flat. Future transmission investment to support load growth will likely be modest, and, as noted in SDG&E's response to question 7, the possible deferral or avoidance of such investment by increased DG should be addressed on a case-by-case basis through existing regulatory processes.*

*Congestion on the CAISO grid is limited in duration and the economic consequences very modest. Additionally, much of the congestion is related to short term transmission outages related to construction activities or to unforeseen events. It would be exceedingly difficult to identify and locate additional DG that would be an effective and economic remedy for these congestion patterns.*

*Much of Clean Coalition's projection of avoided future transmission is premised on the belief that transmission additions falling outside of the CAISO's TPP purview, can be avoided by adding DG. SDG&E disagrees. Most of these transmission infrastructure additions are driven by maintenance requirements, communication needs, municipal under-grounding initiatives, safety considerations and unique reliability issues (e.g., fire-hardening). Additional DG will not change the need for these types of transmission additions.*

9. If you do not agree with Clean Coalition's projections of transmission cost savings, what approach would you suggest for estimating savings from reduced need for future investment in transmission that could result from increased DG development?

***SDG&E Response:***

*As indicated in SDG&E's responses to questions 7 and 8, SDG&E believes existing CPUC proceedings and the CAISO's annual TPP are the appropriate venues for considering whether, and the extent to which, increased DG development can economically reduce the need for future investment in transmission. SDG&E believes such considerations will require case-by-case analysis because transmission is added in different grid locations for different reasons.*

10. The ISO must decide what types of analyses to perform to evaluate alternative TAC approaches, and how to prioritize them. Please provide your organization's view on what

analyses would be most useful, and indicate the relative importance of each analysis you recommend to assist the ISO in determining which analyses should take precedence.

***SDG&E Response:***

*As of the date of these comments SDG&E does not have an official company position on how the existing HV TAC mechanism should be changed. However, SDG&E believes it would be useful for the CAISO to explore the feasibility and implications of an alternative that (1) retains the current LSE-specific CED as the measurement basis for allocating the HV TRR, (2) allocates a portion of the HV TRR to LSEs on the basis of all LSEs' cumulative CED across a defined settlement interval, and (3) allocates the remaining portion of the HV TRR in proportion to each LSE's share of all LSEs' aggregated non-coincident hourly peak CED measurements during the defined settlement interval.*

*By way of a simple example, assume there are three LSEs and a HV TRR of $70,000 that needs to be allocated. Across the defined settlement interval LSE1 has a CED of 3200 MWh, LSE2 has a CED of 2900 MWh and LSE3 has a CED of 0 MWh. During the same time interval, LSE1's non-coincident peak CED was 10 MW, LSE2's non-coincident peak CED was 7 MW, and LSE3's non-coincident peak CED was 2 MW. Finally, assume the recovery of the HV TRR is 50/50 between energy- and demand-based allocations, respectively.*

*LSE1:*
*[($70,000 x 50%) x 3200 MWh/(3200 MWh + 2900 MWh + 0 MWh)] + [$70,000 x 50%) x 10 MW/(10 MW + 7 MW + 2 MW)] = $36,782*

*LSE2:*
*[($70,000 x 50%) x 2900 MWh/(3200 MWh + 2900 MWh + 0 MWh)] + [$70,000 x 50%) x 7 MW/(10 MW + 7 MW + 2 MW)] = $29,534*

*LSE3:*
*[($70,000 x 50%) x 0 MWh/(3200 MWh + 2900 MWh +0 MWh)] + [$70,000 x 50%) x 2 MW/(10 MW + 7 MW + 2 MW)] = $3,684*

*This conceptual approach for allocating the HV TRR has an important advantage over the existing approach. The existing approach would allocate 100% of the HV TRR to LSEs based on all LSEs' cumulative CED across a defined settlement interval. In the above example, the existing approach would allocate LSE3 $0 of the HV TRR. This allocation is unfair because LSE3 is clearly using or benefitting from the transmission system by recording a non-coincident peak CED of 2 MW but not paying any contribution to the cost recovery of the transmission system.*

*The conceptual approach described above ensures that LSE3 will receive an allocation of the HV TRR (and contribute to transmission system costs) in all but the most extreme cases—where LSE3's end-use customers collectively have enough on-site generation and storage such that there would be no withdrawal of real power from the distribution system during any hour of the settlement period.*

*The conceptual approach could be refined in various ways. For example, the settlement period could be defined in terms of a year, by season, or by month. If the settlement periods were defined by month, the weighting factors allocating the HV TRR between energy and non-coincident peak could vary by month—perhaps 50/50 during the non-summer months and 20/80 during the summer months. Such variation would be designed to capture the extent to which transmission costs were incurred for purposes of satisfying public policy goals – which are largely energy-related – and for purposes of meeting instantaneous demands – which are largely peak-related.*

*Finally, the conceptual approach could be phased in over-time if it is determined that it would produce unacceptable rate shock if implemented at a single point in time.*

*SDG&E recommends that the CAISO evaluate the feasibility and practicality of implementing this conceptual approach. An immediate question is whether the quality of each LSE's non-coincident peak CED data is adequate for a fair allocation of the HV TRR. While many end-users have revenue quality metering at the hourly or 15-minute interval level, some may not. Absence of such time-stamped data would require load profiling techniques. Load profiling has been used for many years in CAISO settlement processes, so SDG&E believes it would be an acceptable basis for establishing each LSE's non-coincident peak CED during the relevant settlement intervals, but the CAISO should opine on this aspect.*

*SDG&E also recommends that the CAISO provide data showing each existing LSEs' non-coincident CED peak loads, by month, for the last several years. This will assist stakeholders in assessing how the conceptual approach would have changed the allocation of the HV TRR in prior years.*

11. How can the ISO evaluate the downstream financial impacts of potential changes to the TAC structure? What data would best inform the ISO and stakeholders of the potential impacts to various entities? Does your organization believe the ISO should focus on this question now, or wait until potential TAC structure options are better defined (e.g., after the ISO issues a straw proposal)? Please explain your position.

***SDG&E Response:***

*See SDG&E's response to question 10. Before the CAISO issues a straw proposal, the CAISO should consider the conceptual approach described by SDG&E and make available to stakeholders, the historical data necessary to understand its implications.*

12. How are transmission needs and costs driven by the delivery of energy versus the provision of capacity necessary to meet peak load conditions? Please explain your position.

***SDG&E Response:***

*Transmission is built for a wide range of reasons and it is often not possible to establish with precision whether, and the extent to which, the costs were incurred for purposes of delivering energy across all hours of the year or for delivering energy during peak load hours. Transmission construction triggered by a contingency-based overload during peak load hours also supports the flow of power in all hours of the year. Likewise, transmission that is built to economically reduce congestion in non-peak load hours will support the flow of power under contingency conditions occurring during peak-load periods.*

*The CPUC has issued an order which directs SDG&E to conduct a study on the allocation of retail transmission costs.*[5] *SDG&E is currently working on this study. SDG&E expects that part of its analysis will include a review of the principal drivers for existing and planned transmission projects with in-service dates beginning in year 2012. This analysis may prove helpful in determining a reasonable basis—at least for SDG&E-owned transmission—for allocating the HV TRR between energy and non-coincident peak demand.*

*Until this analysis is complete, SDG&E suggests—for purposes of exploring the implications of the conceptual approach described in this document—using a 50%/50% allocation of HV TRR between energy and non-coincident peak demand. Sensitivities can be used to test the implications of other percentages.*

13. In considering potential changes to the TAC structure, what kinds of changes would best align with the impacts of energy delivery, peak load and other drivers of new transmission investment? Please explain your answer.

***SDG&E Response:***

*See SDG&E's responses to questions 10 and 12.*

14. What are the cost drivers of operating and maintaining the existing transmission system and what, if anything, could materially affect these cost drivers? In particular, does your organization believe that increasing the share of load served by DG can reduce any costs associated with the existing transmission system? Please explain your position.

***SDG&E Response:***

*See SDG&E's response to question 8. In the foreseeable future, SDG&E does not expect that increasing the share of load served by DG will materially reduce the costs associated with the existing transmission system. The existing transmission system must continue to be maintained.*

[5] CPUC Decision 17.08-030, Ordering Paragraph 34 orders SDG&E to conduct a study to examine the appropriate allocation of retail transmission costs between non-coincident demand charges and system peak demand charges to be filed at the Federal Energy Regulatory Commission prior to SDG&E's next General Rate Case Phase 2 application. This application is scheduled to be filed by December 1, 2018.

15. Please offer any other comments your organization would like to provide on the material discussed in the two Review TAC Structure Working Group meetings (August 29 and September 25), or any other aspect of this initiative.

***SDG&E Response:***

*SDG&E reiterates its recommendation in the response to question 1 that the CAISO review laws and regulations that may limit the ability of certain LSEs (e.g., CCAs and Direct Access suppliers) to be allocated a portion of the HV TRR and to pass those costs on to those LSEs' end-use customers.*

*SDG&E also believes the time is approaching for deciding whether the Clean Coalition proposal has received vetting sufficient to determine whether the proposal warrants further consideration as an alternative to (i) the existing LSE-specific CED methodology for allocating the HV TRR, or (ii) other methodologies such as the conceptual approach offered by SDG&E in these comments.*

**Related Acronym Definitions:**

- **Community Choice Aggregator (CCA):** One type of non-utility Load Serving Entity that can operate in an investor-owned utility service area.

- **Customer Energy Downflow (CED):** Metered energy delivered from the grid to an end-use customer measured at a customer meter, also referred to as end-use metered load (EUML). Customer energy consumption that is met by output of DG located behind the same customer meter is not included in CED. Also, CED does not include any production of DG behind the customer meter in excess of consumption behind the same meter during the same interval.

- **Distributed Energy Resources (DER):** Energy resources connected at distribution level, either on the utility side or the customer side of the customer meter, without regard to technology type or size. DERs include distributed generation (DG), energy storage of various types, EV charging stations, as well as demand response and energy efficiency.

- **Distributed Generation (DG):** Generating resources deployed at the distribution system level, either on the utility side or the customer side of the customer meter; DG is one type of DER.

- **Electric Service Provider (ESP):** One type of non-utility Load Serving Entity that can operate in an investor-owned utility service area.

- **End Use Metered Load (EUML):** Another term for customer energy downflow (CED).

- **High Voltage (HV):** Transmission system 200kV and above.

- **Low Voltage (LV):** Transmission system below 200kV.

- **Transmission Energy Downflow (TED):** Gross metered energy flow measured at specified transmission system interfaces, either (a) from high-voltage to low-voltage transmission **(HV-LV TED)**, or (b) from transmission to distribution **(T-D TED)**. TED measurements do not reflect energy flows in the opposite direction from LV to HV transmission or from distribution to transmission.