

INDEPENDENT ENERGY PRODUCERS

To: CAISO TAC Working Group

From: Steven Kelly
Policy Director

Date: September 19, 2017

RE: Clean Coalition “TED” Proposal

The CAISO has scheduled a TAC Working Group (WG) meeting on September 25, 2017 to continue discussions on the Review Transmission Access Charge (TAC) Structure Initiative. Due to scheduling conflicts, I will be unavailable to participate in the WG meeting on September 25. Moreover, I will be unable to submit comments on October 13, 2107 as scheduled.

Given my schedule conflicts, I offer some initial comments and questions related to Clean Coalition’s proposal for a TAC billing determinant based on so-called Transmission Energy Downflow (TED) presented at the TAC WG meeting on August 29, 2017. Currently, the TAC billing determinant is based on metered energy flows across customer meters, i.e. what Clean Coalition describes as Customer Energy Downflow (“CED”). As a replacement, Clean Coalition recommends that the TAC billing determinant be based on TED, i.e. measured energy flows (“Downflow”) at the transmission substation (for High Voltage TAC, i.e. greater than 200 kV) and the distribution substation (for Low Voltage TAC, i.e. 200 kV or lower).

Clean Coalition alleges that the TED approach will result in major ratepayer savings in avoided transmission investment, reduce the “drivers” of transmission investment, and reduce market distortions for Distributed Energy Resources (DERs).¹ Moreover, Clean Coalition asserts that, while ratepayers will realize significant savings, shareholders in transmission investment(s) will be fully compensated under the TED framework.²

IEP wants to explore various assumptions underlying Clean Coalition’s claims.

¹ Clean Coalition Presentation, p. 6)

²IEP Notes of TAC Working Group Meeting, August 29, 2017

1. How Does DG Output Not Benefit from the Transmission System?

Clean Coalition's TED proposal is premised on the argument that DG energy output is produced and consumed on the distribution grid.³ The inference is that DER/DG output does not "use" or benefit from the transmission grid and, therefore, DER/DG output should not be subject to the TAC. To the extent that the DG power actually flows onto the transmission grid, then the Clean Coalition argues that the power would be subject to the TAC when the power is measured flowing back down to serve load (i.e. "downflow").⁴

IEP questions Clean Coalition's logic for a number of reasons. First, as a practical matter, IEP is not aware that Kirchhoff's First Law on electrical currents fades in the presence of DERs:

*The principle of conservation of electric charge implies that: At any node (junction) in an electrical circuit, the sum of currents flowing into that node is equal to the sum of currents flowing out of that node. The algebraic sum of currents in a network of conductors meeting at a point is zero.*⁵

Power delivered anywhere onto the integrated electric grid flows instantaneously across the electrical grid unconstrained by planners' nomenclature to distinguish the distribution system from the transmission system. DERs/DG output does benefit from the transmission grid when it flows "up" from the DG resource onto the grid as well as when power flows "down" from the transmission grid to load. While power should not be charged twice for using the electric grid, the physical reality is that DER/DG output benefits from the integrated electric grid (and not just that which is measured as a "downflow" under the Clean Coalition example), *except* in the unique condition that the DER/DG resource is fully disconnected from the electric grid.

Second, the argument that DER/DG output should enable load to avoid paying for its share of transmission investments seems fundamentally flawed given the context in which transmission investment is approved in California. The California electric grid is planned, designed, and built on an integrated basis. In the planning context, the growth of DER resources is a primary input into the biennial CEC Demand Forecast. In turn, the Demand Forecast is a primary input into transmission planning (e.g. TPP) and integrated resource planning (e.g. LTPP/IRP). Importantly, new transmission is planned and approved *after* and not before consideration of DER penetration over the planning horizon (10 years or more). Moreover, new

³ Clean Coalition Presentation, p. 5

⁴ IEP Notes of TAC Working Group Meeting, August 29, 2017

⁵ Kirchhoff's Circuit Laws, Wikipedia, Sept 19, 2017

transmission is approved for the limited purposes of meeting grid reliability, meeting public policy objectives, or reducing congestion (i.e. economic). Accordingly, all load shares in the recovery of the costs associated with approved transmission investment determined to be needed to serve the interests of load. The presence of DERs does not change this sequencing of the planning process; the presence of DERs should not absolve a subset of load from paying its share of the TAC; and, DERs should not be perceived as somehow avoiding embedded costs of transmission investment approved in the California context.

2. What is Included in the TED Ratepayer Savings Analysis?

Clean Coalition asserts the TED billing determinant will result in significant ratepayer savings. For PG&E ratepayers, Clean Coalition projects TAC savings ranging from \$23.5 billion to \$63.9 billion over 20 years.⁶ While savings to SCE and SDG&E customers are not presented, one might assume that the projected savings by Clean Coalition for SCE and SDG&E ratepayers would be proportional (based on peak demand) to those projected for PG&E ratepayers. If so, then the suggestion is that the TED structure might save ratepayers statewide as much as \$60-\$150 billion over 20 years.

To put the TAC savings estimates in context, recently the CAISO reported it approved over 30 transmission projects a year over the past six years, and these transmission investments are expected to result in a steady increase in the TAC from approximately \$10 to approximately \$14.⁷ As noted by CLECA, the costs associated with approved transmission investments are an embedded cost, i.e. they are not marginal.

Accordingly, IEP requests additional clarity regarding the Clean Coalition TAC savings estimates. Are the TAC savings estimates based on avoiding any embedded costs (e.g. capital, return on capital, O&M, etc.) associated with approved transmission assets including those recently approved by the CAISO?

On the other hand, if avoiding the cost of embedded transmission investment is not a component of the Clean Coalition savings estimate, what is the basis for assuming that the TED structure will save PG&E ratepayers \$23.5 billion to \$63.9 billion in transmission costs over the next 20 years? Specifically, what new transmission projects are to be avoided?

⁶ Clean Coalition Presentation, p. 32

⁷ CAISO Presentation, "Transmission Program Impact on High Voltage TAC: Estimating Model – 2016-2017 Version," Stakeholder Call, September 13, 2017, p. 5.

Finally, how do ratepayers derive the benefits? On the one hand, shareholders might receive less than needed to ensure full cost recovery. Yet, as indicated above, the Clean Coalition indicates that shareholders are expected to fully recover the costs of their investments. This suggests that the savings will accrue to some or all ratepayers. All ratepayers may benefit from transmission investment deferrals. Yet, as noted above, the benefit of deferrals occurs in the planning context and does not actually occur in the context of TAC cost recovery of approved investments. Alternatively, a preferred subset of well-positioned ratepayers could reap the benefits by shifting costs they would otherwise bear onto other “disadvantaged” ratepayers. (The cost-shifting would be necessary in order to uphold the principle that shareholders will be held harmless.) If this is the outcome, IEP is not convinced this approach supports fairness, economic efficiency, nor comparability as asserted by Clean Coalition.

3. Does the Current TAC Really “Distort” Market Outcomes?

The Clean Coalition asserts that the current TAC methodology, indeed any TAC methodology based on “Customer Energy Downflow” (CED), distorts market outcomes. As an example of market distortions, Clean Coalition argues that the current TAC artificially increases the cost of DER⁸ Moreover, the Clean Coalition suggests that transmission interconnected generators are subsidized when interconnecting to the electric grid while DERs interconnecting to the distribution system are not.⁹

First, IEP is puzzled by how the existing TAC fees distort market outcomes. As discussed above, a CED-based TAC only distorts TAC cost allocation if one assumes that DERS never use or “lean on” the integrated electric grid. However, this is clearly not the case except in the limited condition in which the DER/DG resource disconnects fully from the integrated electric grid. Unless DERs are disconnected from the electric grid, they are benefiting from the presence of the transmission system when their power flows reliably onto and throughout the electric grid. While the TAC may affect market outcomes, this is not the same as creating market distortions as argued by Clean Coalition.

Second, to the extent that there are inequities in the rules governing interconnection, these inequities should be addressed in the context of CAISO GIDAP reform and/or Rule 21 reform, rather than in the context of TAC reform. Currently, the CAISO GIDAP governs the interconnection responsibilities of resources at the transmission level, including cost

⁸ Clean Coalition Presentation, p. 12

⁹ IEP Notes of TAC WG Meeting, 29, 2017

responsibility. Under the GIDAP, after extensive modeling, interconnecting resources pay for all upgrades needed to interconnect either as either Full Deliverability or Energy-Only resources. To the extent that the interconnection triggers the need for reliability upgrades, i.e. network expansions, the interconnecting generators pay up-front the costs associated with these upgrades and are reimbursed over 5-years by the Participating Transmission Owner (PTO). DER resources interconnect under Rule 21 where they too pay the cost of interconnection (although, it is unclear to IEP whether Rule 21 imposes additional distribution-network upgrade costs on interconnecting DERs). Certainly, the principal of comparable treatment must govern with regards to all interconnecting customers, but reform of the interconnection rules rests outside consideration of how best to allocate costs among beneficiaries of the transmission system.

Third, at least with regards the investor-owned utilities (IOUs), transmission access and usage is considered in procurement decisions. The IOUs take into consideration in their least-cost and best-fit (LCBF) bid evaluation methodology a number of transmission factors, including the costs of interconnection and network upgrades (if any), losses associated with delivering power from the resource to load (i.e. the transmission “phone-book”), etc.

4. Should the TAC Billing Determinant Be Considered Separately From Rate Design?

Clean Coalition argues that consideration of the billing determinant is separable from consideration of overall rate design. IEP questions the logic and soundness of separating the two items. As indicated by CLECA, the transmission system serves multiple capacity- and energy-based functions. The TAC ought to be considered in the context of the capacity value of the transmission system as well as its energy value. Capacity and energy valuations may vary by time-of-use; but, the multiple functions are present. Adopting a fundamentally new billing determinant de-linked from a full and comprehensive consideration of the impacts for rate design risks a host of unintended consequences.

IEP looks forward to further discussion on this important topic.