

NRG Energy, Inc. Comments on August 1, 2016 Generator Interconnection
Low Voltage Network Upgrade Cost Recovery Issue Paper and Straw Proposal

Submitted By	Company	Date Submitted
Brian Theaker	NRG Energy, Inc. ("NRG")	August 22, 2016

Background

As the CAISO explains in the Issue Paper and Straw Proposal, the costs to upgrade Valley Electric Association's (VEA's) 138 kV transmission network to accommodate hundreds of MW of renewable resources that are seeking to interconnect to VEA's system has the potential to greatly increase the costs of VEA's low-voltage Transmission Access Charge (LV TAC). Pursuant to the CAISO's current two-tiered design of its TAC, the costs of transmission facilities lower than 200 kV are recovered from load within that Participating Transmission Owner (PTO's) service area, while the costs of transmission facilities 200 kV and higher are recovered from all load with the CAISO's footprint. This design reflects the principles that transmission 200 kV and under is used to transmit energy within the PTO's local service area, while transmission higher than 200 kV is used to move power throughout the CAISO bulk power network.

According to the CAISO, the magnitude of the costs associated with the generation build-out in VEA's service area would affect VEA customers disproportionately because of the relatively small amount of load in the VEA area. Further, the CAISO notes that the generation being developed in the VEA service area that is driving the network upgrade costs is being developed not to serve VEA customers' load but to help California meet its RPS goals.

The CAISO offers two options to address this situation:

1. Include the cost of generator-triggered low-voltage facilities in the PTO's high-voltage Transmission Revenue Requirement (TRR). This option is based on the idea that all generators within the CAISO's footprint provide energy for the entire CAISO region and therefore their low voltage network upgrade costs should be shared CAISO-wide.
2. Split the cost recovery for low-voltage interconnection-driven upgrades between the LVTAC and the HVTAC. The amount of LV upgrade costs that could be allocated to the HV TAC would be limited by a figure that is: (1) an escalating dollar-value cost cap; (2) a percentage of the PTO's LV TRR; or (3) a percentage of the PTO's HV TRR recovered from local customers.

NRG comments

NRG agrees that allocating the increase in LV TAC costs resulting from generators connecting to VEA's system for the purpose of providing energy to California to meet California's RPS goals to VEA's customers is unreasonable.

The CAISO has proposed two options to address this situation:

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- Option 1 is to “peanut butter” all generator interconnection-driven LV network upgrade costs to all CAISO load under the premise that all load within the CAISO footprint benefits from generation connected within the CAISO footprint.
- Option 2 is to move some of the generation interconnection-driven LV network upgrade costs to the HV TRR, with various caps proposed for the amount of LV costs that would be moved to the HV TRR. Moving some of the LV costs to the HV TRR would spread those costs CAISO-wide.

Comments on Option 1

From a practical matter, moving VEA’s LV TRR into the CAISO’s HV TRR does not appreciably change the CAISO’s HV TAC, given the small amount of VEA’s LV TAC. Option 1, nevertheless, has some challenges:

- *First*, applying this principle CAISO-wide would negate the CAISO’s two-tiered TAC rate design and result in large shifts in transmission costs among the three IOUs’ customers. Adopting this principle for VEA but not CAISO-wide would not seem consistent with the principles of open and non-discriminatory access to the transmission system.
- *Second*, the principle of allocating generator interconnection costs CAISO-wide makes sense where the generator need not be located in a particular area and is serving CAISO-wide energy needs, but does not makes sense in the situation in which the generator was interconnected at a particular location on the grid either to meet a local area reliability need or because of its need to access a particular fuel source (e.g., the sun or the wind). While it is true that the energy from such generators could serve load at other locations within the CAISO Controlled Grid, the LV network interconnection costs are a direct result of locating the generation *at that particular location*.

Comments on Option 2

Option 2, which sets a cap on the amount of LV costs that should be socialized CAISO-wide through the HV TRR, suffers from two flaws.

- *First*, it continues to allocate a portion of the generator interconnection-driven LV network upgrade costs to load within the service area of the PTO, even if the generators interconnecting there are not benefitting the load within that area, as in the case with VEA.
- *Second*, it suffers from the same flaw as Option 1, namely, spreading a portion of the LV costs system-wide, even though the LV costs are a direct result of siting the generator in that particular location (as opposed to some other location).

An alternative for consideration

Rather than spreading local costs system-wide, or leaving some or all the costs on the shoulders of load that is not benefitting from the generation within its service area, the CAISO should consider whether

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the generator-interconnection LV network upgrade costs in one PTO's service area should be allocated to the load within the service area of the PTO that is the intended recipient and beneficiary of the power supplied by that remotely-located generator.

Allocating the LV network upgrade costs to the load within the benefitting PTO could cut both ways. Such upgrade costs could be either more or less expensive than siting that generator within the receiving PTO's service area. In either case, directly assigning those LV network upgrade costs to the load within the PTO that is receiving and benefitting from that power produced by the remotely-connected generator is a better allocator of the costs of the benefits and burdens of the generator's interconnection costs than simply spreading those costs CAISO-wide. Moreover, allocating these LV costs to the load within the benefitting PTO would ensure that the load within the remote PTO does not shoulder network upgrade costs for generator that provides it with little or no benefit.

Arguably, local generation does provide some benefit to local load, even if the energy is not intended for use by the local load – through the provision of reactive power, for example. In recognition of this principle, some proportionate (likely small) portion of the LV network upgrade costs for the remotely-connected generation could be allocated to the local load.

Summary

In sum, while it seems reasonable that VEA customers should not be forced to pay the network upgrade costs for generation that does not serve their load, NRG urges the CAISO to consider an alternative that follows cost causation principles, promotes efficient contracting outcomes and preserves the current two-tiered TAC structure, which rationally assigns local network costs to local customers and regional network costs more broadly. Where a generator is connecting in a location outside of the PTO service area that primarily benefits from that generator, the generator interconnection-driven LV network upgrade costs should be allocated to the load within the PTO that is contracting for, and benefitting from, the remotely-connected generation.