

April 18, 2017

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

**Re: California Independent System Operator Corporation
Docket No. ER17-_____-000**

**Tariff Amendment to Implement Generator Interconnection Driven
Network Upgrade Cost Allocation Recovery Initiative**

Dear Secretary Bose:

The California Independent System Operator Corporation (“CAISO”) submits this tariff amendment to ensure that the CAISO’s transmission rate design effectively balances the costs of generator-interconnection-driven network upgrades with commensurate benefits for its transmission owners.¹ The CAISO proposes to create a new class of transmission owner—the Certified Small Participating Transmission Owner—whose low-voltage, generator-interconnection-driven network upgrade costs will be allocated regionally instead of to that transmission owner alone. The CAISO also proposes to memorialize that Valley Electric Association (“VEA”) meets the Certified Small Participating Transmission Owner criteria.

I. Executive Summary

The CAISO’s tariff requires that the cost of generation interconnection-driven network upgrades on a participating transmission owner’s low-voltage transmission facilities (*i.e.*, below 200kV) be recovered only through that specific transmission owner’s low-voltage transmission access charge. The costs of high-voltage network upgrades, on the other hand, are recovered through the CAISO’s regional transmission access charge, and thus borne by all load on the system (not just the load of a single participating transmission owner). As such, if a large generator or a large number of generators with significant low-voltage network upgrade costs interconnect to a transmission owner with a relatively small rate base, that transmission owner’s local transmission access charge can increase significantly

¹ The CAISO submits this filing pursuant to section 205 of the Federal Power Act, 16 U.S.C. § 824d. Capitalized terms not otherwise defined herein have the meanings set forth in the CAISO tariff, and references to specific sections, articles, and appendices are references to sections, articles, and appendices in the current CAISO tariff and revised or proposed in this filing, unless otherwise indicated.

under the current cost allocation framework, even though the upgrades and the associated generation capacity do not materially benefit or are not needed by that transmission owner's ratepayers.

The CAISO's Generator Interconnection Driven Network Upgrade Cost Recovery initiative proposes a solution tailored specifically to prevent very small transmission owners from being allocated disproportionately large network upgrade costs. The proposal specifies three criteria that will identify whether a transmission owner would qualify for rate treatment as a "Certified Small Participating Transmission Owners" that would allow the cost of interconnection driven, low-voltage upgrades into the CAISO high-voltage/regional transmission access charge:

1. Relatively very small transmission owner: filed annual gross load is 2,000 GWh or less;
2. The small transmission owner is located in a renewable resource rich area that is leading to significant generator regional procurement interest within the area; and
3. The small transmission owner is not under a Renewable Portfolio Standard ("RPS") requirement or, if under an RPS requirement, does not have a need for the interconnecting generation to meet that requirement.

Where a Certified Small Participating Transmission Owner meets these criteria but its own procurement triggers the need for network upgrades on its low-voltage system, the cost of those network upgrades will remain in its low-voltage/local transmission access charge. If a Certified Small Participating Transmission Owner's situation changes such that it fails to meet any one of the three criteria above, it would no longer qualify for this transmission access charge treatment prospectively. At that time, any low-voltage network costs stemming from new generator interconnections, as well as any as-yet unrecovered low-voltage costs, would be applied to the transmission owner's low-voltage transmission access charge. Any transmission owner approved as meeting these criteria is required to certify to the CAISO annually that it still meets the three criteria to continue to receive this treatment.

Because the CAISO Board of Governors has found that VEA meets the criteria described above, the CAISO also proposes to revise its tariff to list VEA as a Certified Small Participating Transmission Owner. If other transmission owners qualify for Certified Small Participating Transmission Owner status in the future, the CAISO will submit a separate filing to the Commission listing them as such in the tariff.

II. Background

Interconnection customers proposing to construct new generators generally trigger the need for new network upgrades on the CAISO controlled grid to support them. The CAISO tariff requires interconnection customers to provide the initial financing for these upgrades.² Once the generator and the upgrades achieve commercial operation, the connecting transmission owner reimburses the interconnection customer for the network upgrades.³ The transmission owner then includes these costs in its transmission revenue requirement. Under the CAISO tariff, network facilities operating at or above 200 kV are Regional Transmission Facilities.⁴ The costs of Regional Transmission Facilities are included in the transmission owner's Regional Transmission Revenue Requirement.⁵ The CAISO aggregates the Regional Transmission Revenue Requirements of all transmission owners and recovers them via the CAISO's Regional Access Charge, which the CAISO charges to utility distribution companies and metered subsystem operators based on the gross load in their service areas.⁶ Simply put: the costs for high-voltage facilities are aggregated among all the CAISO transmission owners and collected via one average rate.

On the other hand, network facilities operating below 200 kV are Local Transmission Facilities.⁷ The costs of Local Transmission Facilities are included in the transmission owner's Local Transmission Revenue Requirement.⁸ Local

² See Section 14.3.2 of Appendix DD; Section 11.4 of Appendix EE to the CAISO tariff.

³ *Id.* The transmission owner does not reimburse the interconnection customer for facilities that are not network upgrades, such as interconnection facilities or merchant facilities. In addition, reimbursement for reliability network upgrades is capped at \$60,000 per MW of generating capacity to balance network upgrade costs with the new generator benefits. Costs exceeding this cost cap may be reimbursed through Merchant Transmission Congestion Revenue Rights. See Section 11.4.2 of Appendix EE; Section 36.11 of the CAISO tariff.

⁴ Appendix A to the CAISO Tariff: "A transmission facility that is owned by a Participating TO or to which a Participating TO has an Entitlement that is represented by a Converted Right, that is under the CAISO Operational Control, and that is not (1) a Local Transmission Facility or a Location Constrained Resource Interconnection Facility, and supporting facilities, or (2) a Merchant Transmission Facility."

⁵ Appendix A to the CAISO tariff ("Regional Transmission Revenue Requirement (RTRR)"); Section 26.1 of the CAISO tariff; Section 6 of Schedule 3 of Appendix F to the CAISO tariff.

⁶ Appendix A to the CAISO tariff ("The Access Charge applicable under Section 26.1 to recover the Regional Transmission Revenue Requirements of each Participating TO"); Section 26.1(c) of the CAISO tariff; Section 6 of Schedule 3 of Appendix F to the CAISO tariff.

⁷ Appendix A to the CAISO tariff: "A transmission facility that is (1) under the CAISO Operational Control, (2) is owned by a Participating TO or to which a Participating TO has an Entitlement that is represented by a Converted Right, (3) operates at a voltage below 200 kilovolts, and (4) only in the case of a transmission facility approved in the final 2013/2014 comprehensive Transmission Plan and thereafter, is located entirely within a Participating Transmission Owner's footprint or PTO Service Territory."

⁸ Appendix A to the CAISO tariff ("Local Transmission Revenue Requirement (LTRR)"); Section 26.1(d) of the CAISO tariff.

Transmission Revenue Requirements are published in the transmission owner’s own tariff and are not aggregated by the CAISO with the revenue requirements of other transmission owners. A transmission owner collects its Local Transmission Revenue Requirements through its specific Local Access Charge.⁹ The transmission owner bills and collects its Local Access Charge to distribution companies using its Local Transmission Facilities.¹⁰ Generally, therefore, only the ratepayers connected to that transmission owner pay for the use of Local Transmission Facilities.

Although this rate design has worked for over a decade, recent circumstances have presented an issue the CAISO and its stakeholders did not anticipate when this rate design was implemented. Interconnection customers have begun proposing new generating facilities located on the VEA’s Local Transmission Facilities (below 200 kV). As such, the costs of the network upgrades required to interconnect these generators would be allocated to VEA ratepayers alone.

VEA is relatively very small compared to the other CAISO transmission owners that serve load.¹¹ The following table sets forth the transmission revenue requirements as of January 1, 2017 for the CAISO transmission owners that are load-serving entities and have Local Transmission Facilities:¹²

Transmission Owner	Local TRR	Regional TRR	Total TRR
Pacific Gas & Electric	\$653,436,882	\$468,014,921	\$1,121,451,803
Southern California Edison	\$34,798,476	\$1,030,478,735	\$1,065,277,211
San Diego Gas & Electric	\$298,854,329	\$469,609,354	\$768,463,683
Valley Electric Association	\$3,413,410	\$11,934,204	\$15,347,614

⁹ Appendix A to the CAISO tariff (“The Access Charge applicable under Section 26.1 to recover the Local Transmission Revenue Requirement of a Participating TO.”); Section 26.1(d) of the CAISO tariff.

¹⁰ Section 26.1(d) of the CAISO tariff.

¹¹ To avoid unnecessary complexity, the CAISO has omitted the rate treatment and cost allocation for its transmission owners operating as Metered Subsystems and its transmission owners that are not load-serving entities (generally entities that have constructed transmission projects through a competitive solicitation process). Metered Subsystem owners do not have Local Transmission Facilities and are otherwise not relevant here. Like VEA, however, they are relatively small compared to the other transmission owners and thus could be affected by the CAISO’s proposal if they have and turn over operational control of any Local Transmission Facilities to the CAISO. The transmission revenue requirements of non-load serving transmission owners are collected by adjacent load-serving entity transmission owners.

¹²

http://www.caiso.com/Documents/HighVoltageAccessChargeRatesEffective1Jan_2017.pdf. VEA’s total transmission revenue requirement may become split between Local and Regional because it presently is seeking Commission approval to sell most of the facilities that comprise its Regional Transmission Revenue Requirement. See *Valley Electric Association*, Docket Nos. ER17-693-000; ER17-706-000.

Similarly, VEA’s gross load is very small compared to load-serving transmission owners with Local Transmission Facilities:

Transmission Owner	Gross Load (MWh)	Percentage
Pacific Gas & Electric	91,500,000	45.33%
Southern California Edison	88,983,449	44.08%
San Diego Gas & Electric	20,824,991	10.32%
Valley Electric Association	544,970	0.27%

VEA has other key differences besides its size. VEA is a rural electric cooperative in Nevada and is not subject to a renewable portfolio standard. The other transmission owners in this table are investor-owned utilities based in California that are subject to a number of state procurement directives, including California’s renewable portfolio standard.¹³

These disparities present a cost allocation issue when an interconnection customer proposes to build a large generating facility that will trigger significant network upgrades, and its point of interconnection is on VEA’s Local Transmission Facilities. Even though VEA is not the transmission owner contracting for the new generator’s capacity, and it does not need the generating capacity to meet a renewable portfolio standard, under the current CAISO tariff VEA’s ratepayers will ultimately bear all the costs to construct the network upgrades to support that generator. The following table demonstrates the extent to which a specified amount of network upgrades would increase the total transmission revenue requirements (Regional and Local) of each transmission owner.¹⁴

Cost of New Upgrades	VEA	PG&E	SCE	SDG&E
\$0	0.00%	0.00%	0.00%	0.00%
\$5,000,000	6.93%	0.04%	0.06%	0.12%
\$10,000,000	13.86%	0.08%	0.13%	0.25%
\$15,000,000	20.80%	0.12%	0.19%	0.37%
\$20,000,000	27.73%	0.16%	0.25%	0.49%
\$25,000,000	34.66%	0.19%	0.32%	0.61%

¹³ As discussed above, the CAISO has other transmission owners—non-load serving transmission owners and transmission owners operating as metered subsystems—who have separate rate designs.

¹⁴ This table is based on Fall 2016 transmission access charges.

Although a \$25 million network upgrade would increase the large transmission owners' transmission rates less than 1%, the same network upgrade would increase VEA's transmission rates by 35%.

Most importantly, this issue is not hypothetical. The issue arose because generation developers have identified the VEA low-voltage system as an ideal, cost-efficient point to interconnect photovoltaic solar resources, and other load-serving entities have contracted with these developers for future generation capacity. VEA is based in Pahrump, Nevada, which is adjacent to Death Valley. The region receives more solar radiance than anywhere in the country.¹⁵ In other words, VEA's Local Transmission Facilities present an ideal point of interconnection for load serving entities to meet renewable portfolio standard requirements and provide cost-efficient power, unless you are a VEA ratepayer.

Although this issue currently affects VEA alone, it potentially could affect other similarly-situated transmission owners in the future. If the CAISO does not address this issue, the consequences for VEA will be significant, and similarly situated transmission owners may forego future CAISO membership to avoid these costs, especially if they are not under government policy directives to procure more renewable energy.

III. Proposed Tariff Revisions

A. Cost Allocation

In addressing the cost allocation issue described above, the CAISO and its stakeholders were determined to (i) maintain the CAISO's overall rate design and generator interconnection procedures—the cost caps and other fundamentals of which are largely premised on that rate design; and (ii) avoid significant cost shifts among the various CAISO transmission owners. The CAISO and its stakeholders believed that a solution narrowly tailored for VEA and similarly situated potential future transmission owners would be optimal.

The CAISO proposes to create a new transmission owner category: the Certified Small Participating Transmission Owner ("CSPTO"). The costs of generator-interconnection-driven Local Transmission Facility upgrades will be included in the CSPTO's Regional Revenue Requirement instead of its Local Transmission Revenue Requirement.¹⁶ The proposed tariff provisions would spread generator-interconnection-driven upgrades on CSPTO's low-voltage systems among all load just like the CAISO's current rate design for upgrades on high-voltage systems. This treatment would be limited to generator-interconnection-driven

¹⁵ See, e.g., National Renewable Energy Laboratory, U.S. Solar Resource Maps, *available at* <http://www.nrel.gov/gis/solar.html>.

¹⁶ Proposed Sections 26.1(g) and 26.7 of the CAISO tariff.

upgrades, not the CSPTO's existing transmission facilities or future expansions resulting from load growth or the CAISO's transmission planning process.¹⁷

The CAISO proposes some limitations to this rate treatment for CSPTOs. First, generator-interconnection-driven network upgrade costs on Local Transmission Facilities would *not* be included in the CSPTO's Regional Transmission Revenue Requirement if the generating facility will serve the needs of the CSPTO, including, for example, where the CSPTO executes a power purchase agreement with the generator or otherwise selects the generating facility through a procurement process.¹⁸ Second, the only costs that would be eligible for this treatment are network upgrade costs to be recovered while the transmission owner is a CSPTO. Costs already included in the transmission owner's revenue requirements before it is a CSPTO would not be eligible for this treatment and would remain in the CSPTO's Local Transmission Revenue Requirement. Third, if the transmission owner loses its CSPTO status, all Local Transmission Facility costs that would have been included in the transmission owner's Local Transmission Revenue Requirement but were instead included in the Regional Transmission Revenue Requirement because of its CSPTO status, but were not recovered while the transmission owner was a CSPTO, will revert to recovery through, or otherwise be included in, the transmission owner's Local Transmission Revenue Requirement.¹⁹ In other words, the only timing factor for this rate treatment is the CSPTO term. It is immaterial when the generator proposes to interconnect, when the parties sign a generator interconnection agreement, and when the transmission owner constructs the facilities. CSPTO network upgrade costs already recovered through the Regional Access Charge would not need to be reimbursed regionally and then re-allocated locally; but unrecovered Local Transmission Facility costs that had been in the Regional Transmission Revenue Requirement would immediately revert to the Local Transmission Revenue Requirement upon loss of CSPTO status.

B. Criteria for Certified Small Participating Transmission Owner Status

The CAISO and its stakeholders developed three criteria that a transmission owner must meet to be a CSPTO. These criteria reflect that the transmission owner's own needs are not driving construction of the new generation and the network upgrades to support that generation, and the new generation and network upgrades do not materially benefit the transmission owner's ratepayers.

¹⁷ *Id.*

¹⁸ Proposed Section 26.7.3 of the CAISO tariff.

¹⁹ *Id.*

A load-serving participating transmission owner may qualify as a CSPTO if:

1. The transmission owner maintains annual gross load at or below 2,000 GWh;
2. The transmission owner is located in an area where there is significant interest in developing new generating facilities that can support municipal, county, state, federal, or other renewable portfolio standards;
3. The transmission owner is not subject to a renewable portfolio standard or comparable directive.²⁰

The first criterion reflects that the CSPTO is small, and therefore its customers cannot bear the costs of large system upgrades resulting from the procurement activities of other load serving entities. Larger load-serving entities may be less affected by external procurement in their service areas in a given year, and these load-serving entities themselves may procure generation on other systems in a given year. Very small CSPTOs, on the other hand, would face significant rate spikes from external procurement, and may not be able to find counter-balancing cost savings. The CAISO and its stakeholders selected 2,000 GWh as a metric because a fixed number provides more certainty and predictability than a percentage of the CAISO's total gross load.²¹ As of March 2, 2017, the CAISO's aggregate gross load was 205,549 GWh. 2,000 GWh reflects a very small transmission owner that is no more than approximately 1% of the CAISO's load.

The second criterion reflects that the CSPTO's location has significant regional benefits, namely, the ability for load-serving entities to procure cost-efficient new generation to meet renewable portfolio standards or similar procurement policies. As such, the benefits balance the costs that regional ratepayers will incur (instead of the costs being allocated only to local ratepayers). The CAISO and its

²⁰ Proposed Section 26.7.1 of the CAISO tariff.

²¹ Gross Load is a defined term under Appendix A to the CAISO tariff: "For the purposes of calculating the transmission Access Charge, Gross Load is all Energy (adjusted for distribution losses) delivered for the supply of End-Use Customer Loads directly connected to the transmission facilities or directly connected to the Distribution System of a Utility Distribution Company or MSS Operator located in a PTO Service Territory. Gross Load shall exclude (1) Load with respect to which the Wheeling Access Charge is payable; (2) Load that is exempt from the Access Charge pursuant to Section 4.1 of Appendix I; and (3) the portion of the Load of an individual retail customer of a Utility Distribution Company, Small Utility Distribution Company or MSS Operator that is served by a Generating Unit that: (a) is located on the customer's site or provides service to the customer's site through arrangements as authorized by Section 218 of the California Public Utilities Code; (b) is a qualifying small power production facility or qualifying cogeneration facility, as those terms are defined in the FERC's regulations implementing Section 201 of the Public Utility Regulatory Policies Act of 1978; and (c) secures Standby Service from a Participating TO under terms approved by a Local Regulatory Authority or FERC, as applicable, or can be curtailed concurrently with an Outage of the Generating Unit serving the Load. Gross Load forecasts consistent with filed Transmission Revenue Requirements will be provided by each Participating TO to the CAISO."

stakeholders discussed whether this criterion should be a bright-line rule (e.g., X number of interconnection requests, Y% of capacity, Z% of interconnection capacity relative to local demand), but ultimately decided that bright-line rules may not account for all circumstances that would meet the purpose of the standard. Application of the standard to determine if an entity qualifies as a CSPTO will be subject to review in a transparent CAISO stakeholder process and Commission proceeding. The CAISO believes that the standard it proposes here will allow stakeholders, the CAISO, and the Commission to examine the totality of the circumstances facing each potential CSPTO, including factors such as geography, potential fuel sources, proposed generating capacity relative to load, and the number of interconnection requests proposing to interconnect to a potential CSPTO, among myriad other factors.

The third criterion reflects that the CSPTO itself is neither the beneficiary nor the driving force for the additional network upgrade costs. The CAISO includes clarifying language that, without limitation, a transmission owner may satisfy this criterion where (1) it has already fulfilled its renewable portfolio standard or comparable municipal, county, state, or federal directive, or (2) it has already sufficiently contracted with resources that have achieved commercial operation or will achieve commercial operation within a year that will fulfill its renewable portfolio standard.²² These provisions clarify that if a transmission owner is subject to a renewable portfolio standard but is not benefitting from additional generation, it should qualify for CSPTO status to avoid bearing disproportionate network upgrade costs.

Importantly, any transmission owner approved as meeting these criteria is required to certify to the CAISO annually that it still meets the three criteria to continue to receive this treatment.²³ While the CAISO and interested parties would be able to track gross load and whether renewable generators continue to propose to interconnect to a CSPTO, the annual affirmation process will help the CAISO ensure that a CSPTO continues to meet the third criterion.

C. Non-load-serving Transmission Owners

Non-load-serving transmission owners generally own large transmission projects that result from the CAISO's competitive transmission planning process. Although these transmission owners' facilities are overwhelmingly high-voltage and therefore categorized as Regional Transmission Facilities, some of these transmission owners have Local Transmission Facilities as well. The CAISO tariff assesses the Local Access Charge for these facilities to the utility distribution companies or metered subsystems of the transmission owner(s)

²² Proposed Section 26.7.1 of the CAISO tariff.

²³ Proposed Section 26.7.1 of the CAISO tariff.

directly connected to such Local Transmission Facilities.²⁴ In other words, the non-load-serving transmission owner's Local Transmission Revenue Requirement is aggregated with its interconnected load-serving transmission owners' Local Transmission Revenue Requirements. As such, the issue the CAISO is attempting to resolve here potentially also could apply if a generator interconnects to a non-load-serving transmission owner's Local Transmission Facility that is adjacent to a CSPTO.

To avoid the same problematic result in a different context, the CAISO proposes to revise its tariff to provide that any Local Transmission Facility costs associated with generator interconnection network upgrades on a non-load serving transmission owner's system will be included in the Regional Transmission Revenue Requirement consistent with the treatment described above for interconnections directly to a CSPTO.

D. VEA Qualifies for Certified Small Participating Transmission Owner Status

The CAISO and its stakeholders agreed that the CAISO should not be able to unilaterally designate transmission owners as CSPTOs. Rather, CSPTOs should be listed in the CAISO tariff as such before they can receive CSPTO treatment.²⁵ The proposed tariff provisions provide a firm effective date for CSPTO's status, namely, the effective date of the tariff revision listing the CSPTO.²⁶ This process will ensure that CAISO stakeholders and interested parties have two fair and transparent processes to discuss whether a transmission owner should be a CSPTO: Through a CAISO stakeholder process and again through a filing at the Commission. Both the CAISO Board and the Commission must determine that a transmission owner qualifies as a CSPTO.

In addition to the tariff revisions discussed above implementing the CSPTO structure, the CAISO proposes to revise its tariff to list VEA as a CSPTO. Although stakeholder opinions differed on the CSPTO structure, stakeholders agreed and the CAISO Board of Governors found that VEA satisfies the criteria proposed above and should be a CSPTO. VEA currently has a gross load of 545 GWh, and thus meets the first criterion.²⁷ In meeting the second criterion, VEA is based in Pahrump, Nevada, which is adjacent to Death Valley. The region receives more solar radiance than anywhere in the country.²⁸ It is unquestionably a renewable resource rich area

²⁴ Section 26.1(f) of the CAISO tariff.

²⁵ Proposed Section 26.7.2 of the CAISO tariff; Proposed definition of Certified Small Participating TO in Appendix A to the CAISO tariff.

²⁶ *Id.*

²⁷

[http://www.aiso.com/Documents/HighVoltageAccessChargeRatesEffectiveMar1_2017.p](http://www.aiso.com/Documents/HighVoltageAccessChargeRatesEffectiveMar1_2017.pdf)

[df.](#)

²⁸ See, e.g., National Renewable Energy Laboratory, U.S. Solar Resource Maps, *available*

with relatively low local demand. In addition, there is significant generator regional procurement interest within the area to serve remote load. VEA has a number of generators planning to interconnect to its system to help CAISO load-serving entities meet their policy goals (including renewable portfolio standards). The CAISO has received 25 interconnection requests to points of interconnection on the VEA system.²⁹ Of these 25 interconnection requests, 23 were for solar resources (21 photovoltaic and two thermal), one was for wind, and one for energy storage. These 25 interconnection requests would comprise 3,952 MW of new generating capacity (including 3,742 MW of solar). The VEA service area actually received its highest number of interconnection requests in the CAISO's most recent application window: eight interconnection requests comprising 2,008 MW. These figures dwarf VEA's peak system demand of 135 MW, highlighting the proposed generators' intended regional beneficiaries. Although VEA only represents 0.27% of CAISO gross load, proposed generation interconnecting to the VEA system from the most recent interconnection request window comprised 8.5% of capacity and 6% of total interconnection requests. In meeting the third criterion, VEA is a Nevada electric cooperative, and is not under a renewable portfolio standard or similar policy directive. For these reasons, the CAISO believes that granting VEA CSPTO status is just and reasonable, and will avoid significant and undue costs being imposed on VEA ratepayers.

IV. Stakeholder Process

The stakeholder process that resulted in this filing included:

- Four CAISO issue papers/proposals;
- Five stakeholder meetings and conference calls to discuss the CAISO papers and the draft tariff provisions; and
- Five opportunities for stakeholders to submit written comments on the CAISO papers and the draft tariff provisions.³⁰

The proposal reflected in this filing was presented to the CAISO Board Governors on March 15, 2017. The CAISO Board of Governors approved the proposal and authorized this filing.³¹

The tariff revisions described herein were not the CAISO's first proposal to

at <http://www.nrel.gov/gis/solar.html>.

²⁹ CAISO interconnection request reports are available on the CAISO public website at <https://www.aiso.com/planning/Pages/GeneratorInterconnection/Default.aspx>.

³⁰ All stakeholder materials are available on the CAISO website: <http://www.aiso.com/informed/Pages/StakeholderProcesses/GeneratorInterconnectionDrivenNetWorkUpgradeCostRecovery.aspx>.

³¹ <http://www.aiso.com/informed/Pages/BoardCommittees/Default.aspx>.

stakeholders, but they resulted from comprehensive discussions and vetting in the stakeholder process, including an assessment of several alternatives. The factors discussed above support a finding that the proposed tariff provisions are just and reasonable. As the Commission has often stated, “Our decisions regarding transmission cost allocation reflect the premise that allocation of costs is not a matter for the slide-rule. It involves judgment on a myriad of facts. It has no claim to an exact science. We therefore allow regional flexibility in cost allocation and, when considering a dispute over cost allocation, exercise our judgment by weighing several factors.”³²

The CAISO’s first proposal to stakeholders was to shift *all* generator-interconnection-driven network upgrade costs to the transmission owners’ Regional Transmission Revenue Requirements. Although the CAISO believed that this proposal constituted an uncomplicated solution and would provide similar treatment for all transmission owners, the actual results likely would have been far from elegant. The CAISO transmission owners each have unique systems, especially in the divisions between high-voltage and low-voltage transmission and between transmission and distribution. The following table sets forth the Transmission Revenue Requirements for the CAISO transmission owners that serve load and have both regional and local transmission:³³

Transmission Owner	Local TRR	Regional TRR	Total TRR
Pacific Gas & Electric	\$653,436,882	\$468,014,921	\$1,121,451,803
Southern California Edison	\$34,798,476	\$1,030,478,735	\$1,065,277,211
San Diego Gas & Electric	\$298,854,329	\$469,609,354	\$768,463,683
Valley Electric Association	\$3,413,410	\$11,934,204	\$15,347,614

The following table breaks these revenue requirements into percentages of total transmission revenue requirements.

Transmission Owner	Local TRR %	Regional TRR %	Total TRR
Pacific Gas & Electric	58.3%	41.7%	\$1,121,451,803
Southern California Edison	3.3%	96.7%	\$1,065,277,211
San Diego Gas & Electric	38.9%	61.1%	\$768,463,683
Valley Electric Association	22.2%	77.8%	\$15,347,614

³² *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, FERC Stats. & Regs. ¶ 31,241 at P 559 (quoting *Colorado Interstate Gas Co. v. FPC*, 324 U.S. 581, 589 (1945)), order on reh’g, Order No. 890-A, FERC Stats. & Regs. ¶ 31,261 (2007), order on reh’g, Order No. 890-B, 123 FERC ¶ 61,299 (2008), order on reh’g, Order No. 890-C, 126 FERC ¶ 61,228, order on clarification, Order No. 890-D, 129 FERC ¶ 61,126 (2009).

³³ As of January 1, 2017.

http://www.caiso.com/Documents/HighVoltageAccessChargeRatesEffective1Jan_2017.pdf.

These tables demonstrate that the CAISO's initial proposal likely would have significantly shifted costs and disproportionately affected Southern California Edison Company ("SCE") going forward because SCE has relatively very little Local Transmission Facilities.³⁴ On the other hand, the CAISO's initial proposal would have benefited Pacific Gas and Electric Company ("PG&E") and San Diego Gas and Electric Company ("SDG&E"), which both have significantly more Local Transmission Facilities to which new generators could interconnect.

Moreover, the vast majority of stakeholders commenting on the CAISO's initial proposal opposed it because they believed it represented a substantial paradigm change to remedy what they considered a relatively small, isolated problem. These stakeholders felt that it was unnecessary and imprudent to overhaul a cost allocation paradigm that has worked well for over a decade. The CAISO agreed and proposed the tariff revisions described above instead.

Although the majority of stakeholders supported or did not oppose the CAISO's final proposal, SDG&E opposed the final proposal and maintained its support for the CAISO's initial proposal.³⁵ SDG&E argued that the CAISO's original proposal better aligned costs and benefits and solved the issue facing VEA. SDG&E also argued that the size of a transmission owner or load-serving entity should not be used as a factor in aligning costs and benefits. In response, the CAISO agreed that size alone should not be the only determinant, which is why CSPTOs must satisfy all three proposed criteria for the proposed rate treatment. Further, the CAISO believes that size is a relevant criterion because larger transmission owners may be less affected by external procurement on their systems in a given year because the rate impacts will be relatively smaller and transmission owners themselves may procure generation on other systems in the future, thus offsetting rate impacts on their system. Very small transmission owners, on the other hand, would face significant rate spikes from external procurement, and may not ever be able to find counter-balancing cost savings.

Silicon Valley Power ("SVP") and the California Public Utility Commission Office of Ratepayer Advocates ("ORA") opposed the CAISO's final proposal, arguing that the CAISO has not considered the counter-balancing benefits VEA receives as a CAISO participating transmission owner. They argue that the

³⁴ SCE has planned its system such that its low-voltage facilities generally are distribution facilities and not CAISO transmission facilities. The costs of these facilities (including generator-interconnection-driven network upgrades) are addressed by SCE's Wholesale Distribution Access Tariff.

³⁵ A matrix of stakeholder comments on the CAISO's draft final proposal and the CAISO's responses is available at http://www.caiso.com/Documents/Decision_GeneratorInterconnectionDrivenNetworkUpgradeCostRecoveryProposal-StakeholderMatrix-Mar2017.pdf.

potential to be allocated interconnection-driven costs on its low-voltage system was a known risk when VEA joined the CAISO. As such, VEA ratepayers should not be spared from bearing all of the costs of generator-interconnection-driven network upgrades, even where VEA is not procuring additional capacity and does not need to meet policy goals. The CAISO disagrees with this conclusion. Although all transmission owners generally benefit from CAISO membership, the Commission's cost causation principles provide that costs should be allocated to entities who are the beneficiaries. In other words, cost causation principles are not a holistic test examining whether a transmission owner's costs and benefits are roughly equal overall, or whether a transmission owner receives other types of benefits that should be counted against it in determining cost allocation in another context; the Commission examines whether costs are allocated to beneficiaries. A CSPTO is not the *sole* beneficiary of generator-interconnection-driven network upgrades on its low-voltage system, and therefore should not bear *all* of those upgrades' costs. After all, a CSPTO's ratepayers will not "free-ride" on these network upgrades; they will incur their costs to the extent that they use high-voltage CAISO transmission and pay the Regional Transmission Access Charge just as all transmission owners do.

ORA also recommended that the CAISO perform energy flow analyses to evaluate whether load outside of a CSPTO service area could benefit from proposed interconnection projects. Further, ORA recommended that the CAISO evaluate new CSPTO-interconnection project to ensure that they are feasible and add value to the CAISO/California energy resource portfolio. The CAISO did not feel it was appropriate to include either recommendation in the CAISO tariff. Because stakeholders will have two opportunities—once through a CAISO stakeholder process and again at the Commission—to argue why a particular transmission owner should or should not be a CSPTO, the CAISO believes that there is ample opportunity to present data such as power flow analyses. Moreover, the California Public Utilities Commission and the California Energy Commission are involved in the CAISO's generator interconnection and transmission planning processes to ensure that new CAISO generation is consistent with California's procurement needs.

SVP also argued that the CAISO has not adequately demonstrated that a CSPTO's generator-interconnection-driven low-voltage network upgrades benefit CAISO ratepayers such that their costs should be socialized regionally. SVP believes that the load-serving entity procuring the interconnecting resource should bear its interconnection-driven costs.³⁶ The CAISO and the majority of stakeholders disagreed. The CAISO included criteria for CSPTO status regarding meeting others' renewable portfolio standards to ensure that regional benefits would be commensurate with costs incurred. In contrast, maintaining the *status quo* would

³⁶ SVP noted, however, that the CAISO's final proposal was a significant improvement over its initial proposal, and that it was appropriate to narrow the scope.

expose CSPTO ratepayers to excessive rate hikes with no commensurate benefits. Moreover, allocating interconnection costs to the entity contracting with the new generator would be a major policy change that would be highly controversial and well beyond the limited issue facing VEA and be addressed in a narrow and targeted manner by this proposal. Several stakeholders—including the generation community *en masse*—indicated that they would oppose such a proposal. Generator interconnection-driven network upgrade costs in the CAISO have historically been allocated to transmission revenue requirements rather than power purchase agreements. This rate design has enabled the CAISO to modernize and implement efficient and effective interconnection procedures to interconnect a high number of new generators—procedures that the Commission has identified as best practices.³⁷

V. Effective Date

Pursuant to 18 C.F.R. § 35.17(b), the CAISO requests an effective date of June 18, 2017, 61 days from this filing.

VI. Communications

Correspondence and other communications regarding this filing should be directed to:

Roger E. Collanton
General Counsel
Sidney L. Mannheim
Assistant General Counsel
William H. Weaver*
Senior Counsel
California Independent System
Operator Corporation
250 Outcropping Way
Folsom, CA 95630
Tel: (916) 351-4400
Fax: (916) 608-7222
E-mail: bweaver@caiso.com

* Individual designated for service pursuant to Rule 203(b)(3), 18 C.F.R. § 385.203(b)(3)

³⁷ Reform of Generator Interconnection Procedures, 157 FERC ¶ 61,212 (2016).

VII. Service

The CAISO has served copies of this filing on the California Public Utilities Commission, the California Energy Commission, and all parties with scheduling coordinator agreements under the CAISO tariff. In addition, the CAISO has posted a copy of the filing on the CAISO website.

VIII. Contents of Filing

In addition to this transmittal letter, this filing includes the following attachments:

Attachment A	Clean CAISO tariff sheets incorporating this tariff amendment
Attachment B	Red-lined document showing the revisions contained in this tariff amendment
Attachment C	Draft final proposal
Attachment D	Board memoranda
Attachment E	List of key dates in the stakeholder process

IX. Conclusion

The CAISO's proposed tariff revisions will ensure that VEA and future similarly-situated transmission owners are not over-allocated costs for generator-interconnection-driven network upgrades. For the reasons set forth above, the CAISO respectfully requests that the Commission accept these proposed tariff revisions as just and reasonable, with an effective date of June 18, 2017.

Respectfully submitted,

/s/ William H. Weaver
Roger E. Collanton
General Counsel
Sidney L. Mannheim
Assistant General Counsel
William H. Weaver
Senior Counsel

Counsel for the California Independent System
Operator Corporation

Attachment A – Clean Tariff Records

Generator Interconnection Driven Network Upgrade Cost Allocation Recovery Amendment

California Independent System Operator Corporation

26. Transmission Rates And Charges

26.1 Access Charges

- (a) In General. All Market Participants withdrawing Energy from the CAISO Controlled Grid shall pay Access Charges in accordance with this Section 26.1 and Appendix F, Schedule 3, except as provided in Section 4.1 of Appendix I (Station Power Protocol). The Access Charge shall comprise two components, which together shall be designed to recover each Participating TO's or Approved Project Sponsor's Transmission Revenue Requirement. The first component shall be the annual authorized revenue requirement, as approved by FERC, associated with (1) the transmission facilities and Entitlements turned over to the Operational Control of the CAISO by a Participating TO or (2) transmission facilities that are not yet in operation, but approved under Section 24, and assigned to an Approved Project Sponsor. The second component shall be based on the Transmission Revenue Balancing Account (TRBA), which shall be designed to flow through the Participating TO's Transmission Revenue Credits calculated in accordance with Section 5 of the TO Tariff and other credits identified in Sections 6 and 8 of Schedule 3 of Appendix F of the CAISO Tariff.
- The Access Charges shall be paid by any UDC or MSS Operator that is serving Gross Load in a PTO Service Territory, and shall consist, where applicable, of a Regional Access Charge, and a Local Access Charge. The Regional Access Charge and the Local Access Charges shall each comprise two components, which together shall be designed to recover each Participating TO's Regional Transmission Revenue Requirement and Local Transmission Revenue Requirement, as applicable. The Regional Access Charge and the Local Access Charge for the applicable Participating TO shall be paid by each UDC and MSS Operator based on its Gross Load in the PTO Service Territory.
- (b) Allocation of Transmission Revenue Requirement. Each Participating TO or Approved Project Sponsor shall provide in its TO Tariff or Approved Project Sponsor Tariff filing with FERC an appendix to such filing that states the Participating TO's or Approved

Project Sponsor's Regional Transmission Revenue Requirement, its Local Transmission Revenue Requirement (if applicable) and its Gross Load used in developing the rate. The allocation of each Participating TO's Transmission Revenue Requirement between the Regional Transmission Revenue Requirement and the Local Transmission Revenue Requirement shall be undertaken in accordance with Section 11 of Schedule 3 of Appendix F. To the extent necessary, each Participating TO shall make conforming changes to its TO Tariff. A Participating TO that is a UDC or MSS Operator to whom the Local Access Charge of a Non-Load-Serving Participating TO is assessed shall include these billed Local Access Charge amounts in its Local TRBA adjustment for its Local Access Charge, together with all other applicable Local TRBA adjustments. If an Approved Project Sponsor that is a Non-Load-Serving Participating TO has been assigned responsibility to construct and own a Local Transmission Facility because the CAISO concluded, pursuant to Section 24.4.10, that it was not reasonable to divide construction responsibility, the Approved Project Sponsor shall include any pre-operational cost recovery approved by FERC for the Local Facility in its Local Transmission Revenue Requirement. The division of the total revenue requirement associated with the facility between Regional and Local Transmission Revenue Requirements shall be consistent with Appendix F, Schedule 3, Sections 11 and 12.

- (c) Assessment of Regional Access Charge. The Regional Access Charge shall be paid to the CAISO by each UDC and MSS Operator based on its Gross Load connected to a Regional Transmission Facility in a PTO Service Territory, either directly or through intervening distribution facilities, but not through a Local Transmission Facility. The applicable Regional Access Charge shall be assessed by the CAISO as a charge for transmission service under this CAISO Tariff, shall be determined in accordance with Schedule 3 of Appendix F, and shall include all applicable components of the Regional Access Charge set forth therein.
- (d) Assessment of Local Access Charge of Load-Serving Participating TO. The Local Access Charge for each Load-Serving Participating TO is set forth in that Participating

TO's TO Tariff. Each Participating TO shall charge for and collect the Local Access Charge, as provided in its TO Tariff, except that the CAISO shall charge for and collect the Local Access Charge of each Non-Load-Serving Participating TO that qualifies under this Section 26.1 and Appendix F, Schedule 3, Section 13, unless otherwise agreed by the affected Participating TOs. If a Participating TO that is also a UDC, MSS Operator, or Scheduling Coordinator serving End-Use Customers is using the Local Transmission Facilities of another Participating TO, such Participating TO shall also be assessed the Local Access Charge of the other Participating TO by such other Participating TO, or by the CAISO pursuant to Section 13 of Schedule 3 of Appendix F. The CAISO shall provide to the applicable Participating TO a statement of the amount of Energy delivered to each UDC and MSS Operator serving Gross Load that utilizes the Local Transmission Facilities of that Participating TO on a monthly basis. If a UDC or MSS Operator that is serving Gross Load in a PTO Service Territory has Existing Rights to use another Participating TO's Local Transmission Facilities, such entity shall not be charged the Local Access Charge for delivery of Energy to Gross Load for deliveries using the Existing Rights. Local Access Charges for Participating TOs that are both Load Serving Entities and Certified Small Participating TOs will be assessed pursuant to Section 26.1(g) and Section 26.7.

- (e) Standby Transmission Charges. Each Participating TO shall recover Standby Transmission Revenues directly from the Standby Service Customers of that Participating TO through its applicable retail rates.
- (f) Assessment of Local Access Charge of Non-Load Serving Participating TOs. Where a Non-Load-Serving Participating TO has Local Transmission Facilities, the CAISO shall assess the Local Access Charge for each project of that Non-Load-Serving Participating TO to the UDC or MSS Operator of each Participating TO that is directly connected to one or more Local Transmission Facilities of that project, unless otherwise agreed by the affected Participating TOs. The Non-Load-Serving Participating TO shall calculate separately its Local Transmission Revenue Requirement for each individual transmission

project that includes one or more Local Transmission Facilities. Any Local Transmission Facility costs that would be assessed to the UDC or MSS Operator of a Certified Small Participating TO will instead be included in the Regional Transmission Revenue Requirement pursuant to the same treatment described in Section 26.7. If the Non-Load-Serving Participating TO's Local Transmission Facilities projects are directly connected to the facilities of the same Participating TO(s), the Local Access Charge shall be calculated for the group of Local Transmission Facilities. A separate Local Access Charge shall apply based on the Local Transmission Revenue Requirement for the relevant project or projects of such Non-Load-Serving Participating TO divided by the Gross Load of all UDCs or MSS Operators of a Participating TO that are directly connected to the relevant Local Transmission Facility or group of facilities.

A Non-Load-Serving Participating TO must include any over- or under-recovery of its annual Local Transmission Revenue Requirement for the relevant project or group of projects in its Local TRBA adjustment for its Local Access Charge for the relevant project or group of projects pursuant to Section 13.1 of Schedule 3 of Appendix F.

- (g) Local Access Charges for Certified Small Participating TOs. The Local Access Charge for each Participating TO that is both a Load Serving Entity and a Certified Small Participating TO under Section 26.7 is set forth in that Participating TO's TO Tariff and assessed pursuant to Section 26.1(d), except pursuant to Section 26.7, the Certified Small Participating TO's Local Transmission Revenue Requirement will not include the costs of Local Transmission Facilities incurred as a result of Generating Facility interconnections while participating as a Certified Small Participating TO unless the Local Transmission Facilities are constructed to serve the Certified Small Participating TO, as described in Section 26.7.3. Costs of Local Transmission Facilities excluded from Certified Small Participating TOs' Local Transmission Revenue Requirement will be included in its Regional Transmission Revenue Requirement, as determined in accordance with Schedule 3 of Appendix F.

* * * *

26.7 Certified Small Participating TOs

Certified Small Participating TOs may include the costs of Local Transmission Facilities incurred as the result of new generator interconnections to the CAISO Controlled Grid in its Regional Transmission Revenue Requirement in lieu of the Certified Small Participating TO's Local Transmission Revenue Requirement.

26.7.1 Criteria for Certification

A Participating TO that is a Load Serving Entity may qualify as Certified Small Participating TO if:

- (1) The Participating TO maintains annual Gross Load at or below 2,000 GWh.
- (2) The Participating TO is located in an area where there is significant interest in developing new Generating Facilities that can support municipal, county, state, federal, or other renewable portfolio standards.
- (3) The Participating TO is not subject to renewable portfolio standard or comparable municipal, county, state, or federal directive. Without limitation, a Participating TO may satisfy this criterion (i) where it has already fulfilled its renewable portfolio standard or comparable municipal, county, state, or federal directive, or (ii) where it has already sufficiently contracted with resources that have achieved commercial operation or will achieve commercial operation within a year that will fulfill its renewable portfolio standard or comparable municipal, county, state, federal, or other directive.

Certified Small Participating TO status will not be effective until approved by the CAISO Governing Board and effectively memorialized in Section 26.7.2. Annually, Certified Small Participating TOs must submit to the CAISO an affirmation that they continue to meet these certification criteria.

26.7.2 Current Certified Small Participating TOs

Certified Small Participating TOs are:

Valley Electric Association, as of June 18, 2017.

26.7.3 Exceptions to Inclusion in Regional Transmission Revenue Requirement

Certified Small Participating TOs may only include Local Transmission Facility costs in the Regional

Transmission Revenue Requirement while they are Certified Small Participating TOs. If a Participating TO no longer qualifies as a Certified Small Participating TO, any Local Transmission Facility costs that would otherwise be included in its Local Transmission Revenue Requirement but were included in the Regional Transmission Revenue Requirement pursuant to this Section 26.7, and that were not recovered while the Participating TO was a Certified Small Participating TO, will revert to recovery through or otherwise be included in the Participating TO's Local Transmission Revenue Requirement pursuant to Section 26.1(d).

Local Transmission Facilities constructed to serve either (i) the Certified Small Participating TO, or (ii) to support a Generating Facility or other resource that will serve the Certified Small Participating TO, will be included in the Local Transmission Revenue Requirement. Without limitation, where the Certified Small Participating TO executes a power purchase agreement with a Generating Facility or other resource or otherwise selects the Generating Facility or other resource through a procurement process at any time, the Local Transmission Facilities associated with the Generating Facility or other resource will be considered as serving the Certified Small Participating TO and will be included in its Local Transmission Revenue Requirement only.

* * * * *

Appendix A

- Certified Small Participating TO

A Participating TO that is a Load Serving Entity and has been memorialized as a Certified Small Participating TO pursuant to Section 26.7.

- Regional Transmission Revenue Requirement (RTRR)

The portion of a Participating TO's or an Approved Project Sponsor's Transmission Revenue Requirement associated with and allocable to: 1) the Participating TO's Regional Transmission Facilities and Converted Rights associated with Regional Transmission Facilities; 2) the CAISO's assigned share of Interregional Transmission Project costs; 3) Location Constrained Resource Interconnection Facilities that

are under the CAISO Operational Control or Transmission Facilities not yet in operation, but approved under Section 24 and assigned to the Approved Project Sponsor, that will be Regional Transmission Facilities or, in the case of an Approved Project Sponsor that is not a Participating Transmission Owner, Local Transmission Facilities when placed under the CAISO's Operational Control; and 4) for Certified Small Participating TOs, qualifying Local Transmission Facility costs under Section 26.

* * * * *

Appendix F

Schedule 3

Regional Access Charge and Wheeling Access Charge

5. Determination of the Access Charge.

- 5.1** The Access Charge consists of a Regional Access Charge (RAC) and a Local Access Charge (LAC) that is based on a utility-specific rate established by each Participating TO in accordance with its TO Tariff.
- 5.2** Each Participating TO and Approved Project Sponsor will develop, in accordance with Section 6 of this Schedule 3, a Regional Transmission Revenue Requirement (RTRR_{PTO}) consisting of a Transmission Revenue Requirement for (i) Regional Transmission Facilities; (ii) Transmission Facilities that are not yet in operation but have been approved under Section 24 and assigned to the Approved Project Sponsor, that will be Regional Transmission Facilities when placed under the CAISO's Operational Control; (iii) to the extent the costs have not been recovered, Location Constrained Interconnection Facilities; and (iv) for Certified Small Participating TOs, costs of Local Transmission Facilities resulting from new generator interconnections to the CAISO Controlled Grid pursuant to Section 26. The RTRR_{PTO} includes the TRBA adjustment described in Section 6.1 of this Schedule 3. If an Approved Project Sponsor that is a Non-Load-Serving Participating Transmission Owner has been assigned responsibility to construct and own a Local Transmission Facility because the CAISO concluded, pursuant to Section 24.4.10, that it was not reasonable to divide construction responsibility, the Approved Project Sponsor shall include any authorized pre-operational cost recovery for the Local Transmission Facility in its Local Transmission Revenue Requirement. The division of the total revenue requirement associated with the facility between Regional and Local Transmission Revenue Requirements shall be consistent with Appendix F, Schedule 3, Sections 11 and 12.

* * * * *

Attachment B – Marked Tariff Records

Generator Interconnection Driven Network Upgrade Cost Allocation Recovery Amendment

California Independent System Operator Corporation

26. Transmission Rates And Charges

26.1 Access Charges

- (a) In General. All Market Participants withdrawing Energy from the CAISO Controlled Grid shall pay Access Charges in accordance with this Section 26.1 and Appendix F, Schedule 3, except as provided in Section 4.1 of Appendix I (Station Power Protocol). The Access Charge shall comprise two components, which together shall be designed to recover each Participating TO's or Approved Project Sponsor's Transmission Revenue Requirement. The first component shall be the annual authorized revenue requirement, as approved by FERC, associated with (1) the transmission facilities and Entitlements turned over to the Operational Control of the CAISO by a Participating TO or (2) transmission facilities that are not yet in operation, but approved under Section 24, and assigned to an Approved Project Sponsor. The second component shall be based on the Transmission Revenue Balancing Account (TRBA), which shall be designed to flow through the Participating TO's Transmission Revenue Credits calculated in accordance with Section 5 of the TO Tariff and other credits identified in Sections 6 and 8 of Schedule 3 of Appendix F of the CAISO Tariff.
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The allocation of each Participating TO's Transmission Revenue Requirement between the Regional Transmission Revenue Requirement and the Local Transmission Revenue Requirement shall be undertaken in accordance with Section 11 of Schedule 3 of Appendix F. To the extent necessary, each Participating TO shall make conforming changes to its TO Tariff. A Participating TO that is a UDC or MSS Operator to whom the Local Access Charge of a Non-Load-Serving Participating TO is assessed shall include these billed Local Access Charge amounts in its Local TRBA adjustment for its Local Access Charge, together with all other applicable Local TRBA adjustments. If an Approved Project Sponsor that is a Non-Load-Serving Participating TO has been assigned responsibility to construct and own a Local Transmission Facility because the CAISO concluded, pursuant to Section 24.4.10, that it was not reasonable to divide construction responsibility, the Approved Project Sponsor shall include any pre-operational cost recovery approved by FERC for the Local Facility in its Local Transmission Revenue Requirement. The division of the total revenue requirement associated with the facility between Regional and Local Transmission Revenue Requirements shall be consistent with Appendix F, Schedule 3, Sections 11 and 12.

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Certified Small Participating TO status will not be effective until approved by the CAISO Governing Board and effectively memorialized in Section 26.7.2. Annually, Certified Small Participating TOs must submit to the CAISO an affirmation that they continue to meet these certification criteria.

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Local Transmission Facilities constructed to serve either (i) the Certified Small Participating TO, or (ii) to support a Generating Facility or other resource that will serve the Certified Small Participating TO, will be included in the Local Transmission Revenue Requirement. Without limitation, where the Certified Small Participating TO executes a power purchase agreement with a Generating Facility or other resource or otherwise selects the Generating Facility or other resource through a procurement process at any time, the Local Transmission Facilities associated with the Generating Facility or other resource will be considered as serving the Certified Small Participating TO and will be included in its Local Transmission Revenue Requirement only.

* * * *

Appendix A

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of Interregional Transmission Project costs; ~~and~~ 3) Location Constrained Resource Interconnection Facilities that are under the CAISO Operational Control or Transmission Facilities not yet in operation, but approved under Section 24 and assigned to the Approved Project Sponsor, that will be Regional Transmission Facilities or, in the case of an Approved Project Sponsor that is not a Participating Transmission Owner, Local Transmission Facilities when placed under the CAISO's Operational Control; and 4) for Certified Small Participating TOs, qualifying Local Transmission Facility costs under Section 26.

* * * * *

Appendix F

Schedule 3

Regional Access Charge and Wheeling Access Charge

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* * * * *

Attachment C – Draft Final Proposal

Generator Interconnection Driven Network Upgrade Cost Allocation Recovery Amendment

California Independent System Operator Corporation

Generator Interconnection Driven Network Upgrade Cost Recovery

Draft Final Proposal

February 6, 2017

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Generator Interconnection Driven Network Upgrade Cost Recovery

Draft Final Proposal

1. Summary

Current rules on interconnection driven upgrades assign a participating transmission owner's (PTO's) costs responsibility of low-voltage upgrades to customers of that specific PTO. This will have a large impact on the Valley Electric Association's and similarly situated small PTO's low-voltage or "local" transmission access charge (TAC).

The ISO has issued several proposals for stakeholder discussion, ranging from changes that would affect small PTOs only to ones that would affect all PTOs – the latter being in particular, shifting the cost of all generation interconnection driven low voltage network costs into the high-voltage (regional) TAC.

The ISO's preferred and final proposed solution is one that narrowly addresses small PTOs facing large local TAC increases that do not need to procure the generators interconnecting in their area. While this solution gained stronger consensus than earlier proposed options, a few stakeholders remain opposed.

2. Background

The ISO tariff requires PTOs to reimburse interconnection customers (ICs) whose generators are interconnecting to their systems for the costs of reliability¹ and local deliverability network upgrades necessary for the interconnection. The PTOs then include those network upgrade reimbursement costs in their FERC-approved rate bases, requiring ratepayers to pay those costs through either low- or high-voltage transmission access charges (TAC). Network upgrades 200 kV and above are considered high-voltage; their costs are recovered through the high-voltage TAC, an ISO system-wide "postage stamp" rate based on the aggregated transmission revenue requirements ("TRR") of all PTOs for all high-voltage facilities on the ISO system. In contrast, upgrades below 200 kV are considered low-voltage; their costs are recovered through PTO-specific low-voltage TAC rates charged only to customers within the service area of the PTO to whose system the generator interconnects.

The ISO opened this initiative due to a concern that the current practice for low-voltage upgrades could soon negatively impact ratepayers who are not the beneficiaries of the

¹ Reimbursement for reliability network upgrades (RNU) is limited to \$60,000 per installed MW of capacity; there is no limit on reimbursement for costs of local delivery network upgrades (LDNU).

upgrades, but who solely bear their costs. For example, if a large generator or a large number of generators with significant low-voltage network upgrade costs interconnect to a PTO with a relatively small rate base, that PTO's low-voltage revenue requirement and its low-voltage TAC rates may increase significantly under the current cost allocation framework, even though the upgrades and the associated generation capacity may not materially benefit or be needed by that PTO's ratepayers. This issue is currently facing the Valley Electric Association (VEA) where larger scale renewable generation is seeking to connect to the VEA low-voltage transmission system driving low-voltage network upgrades that will have a direct impact on VEA ratepayers, yet the generation is not needed by VEA's ratepayers and is wholly contracting to entities outside of the VEA service territory.

The ISO has issued three papers thus far: an 'Issue Paper/Draft Straw Proposal' on 8/1/2016, a 'Revised Straw Proposal' on 9/6/2016, and a 'Second Revised Straw Proposal' on 11/21/2016.

The 'Issue Paper/Draft Straw Proposal' set out a broad range of alternatives. Based on stakeholder input that tended to be polarized advocating one extreme or another, the 'Revised Straw Proposal' focused on a single option from the original issue paper, referred to as Option 1. Option 1 proposed to include the cost of generator-driven low-voltage facilities of all PTOs in the aggregated high-voltage TRR for recovery through the system-wide "postage stamp" high-voltage TAC. Stakeholder comments received on the 'Revised Straw Proposal' were again mixed with no clear consensus, with SCE and the Municipal utilities opposed and PG&E, VEA, SDGE and the Generator community in favor.

In an attempt to gain stronger consensus, and as suggested by a few stakeholders, the 'Second Revised Straw Proposal' offered more narrowly focused solutions that are consistent with cost allocation principles and address the issue currently facing VEA and potentially future similarly-situated PTOs. These options were identified as Option A and Option B so not to cause confusion with the prior proposals. Rather than allocating costs differently for the low-voltage related costs of all PTOs, these options would identify which smaller PTOs are sufficiently dissimilar from other PTOs and as a result are experiencing an inequitable outcome of the existing cost allocation approach. Once selected, those specific PTOs would qualify for different treatment in that their generator interconnection driven network upgrade costs would go the CAISO-wide, high-voltage transmission revenue requirement.

3. Stakeholder process

The ISO plans to take this issue to the ISO Board in March of 2017. Timely resolution of this issue remains critical because there are generation interconnection customers, currently in the study process or generation interconnection agreement (GIA) negotiation phase, that require low-voltage network upgrades and therefore may significantly impact VEA ratepayers. The ISO thanks stakeholders for their continued participation in this effort.

Stakeholder process schedule		
Step	Date	Activity
Draft Issue Paper/Straw Proposal	August 1, 2016	Post Issue Paper/Straw Proposal
	August 8, 2016	Stakeholder web conference
	August 19, 2016	Stakeholder comments due
Revised Straw Proposal	September 6, 2016	Post Revised Straw Proposal
	September 13, 2016	Stakeholder web conference
	September 20, 2016	Stakeholder comments due
Second Revised Straw Proposal	November 21, 2016	Post Revised Straw Proposal
	December 5, 2016	Stakeholder web conference
	December 16, 2016	Stakeholder comments due
Draft Final Proposal	February 6, 2017	Post Draft Final Proposal
	February 13, 2017	Stakeholder web conference
	February 22, 2017	Stakeholder comments due
Seek Board approval	March, 2017	ISO Board of Governors meeting

4. Stakeholder Positions

As mentioned above, stakeholder comments revealed greater consensus support for a more narrowly focused solution that addresses the issue currently facing VEA that also could apply to a similarly-situated PTO in the future, consistent with principles of cost allocation. In the 'Second Draft Straw Proposal', the ISO proposed two new low-voltage generator-driven network upgrade cost allocation approaches for qualified small load serving PTOs, as defined below. These options were identified as Option A and Option B so not to cause confusion with the prior proposals. Rather than allocating costs differently

for the low-voltage related costs of all PTOs, these options identified which smaller PTOs are sufficiently dissimilar from other PTOs and as a result are experiencing an inequitable outcome of the existing cost allocation approach. Once selected, those specific PTOs would qualify for different treatment.

Moreover, the cost allocation treatment under options A and B were the same – i.e., to include the low-voltage upgrade costs in the PTO's high-voltage transmission revenue requirements. The options merely differed in the procedure for determining whether a given PTO should receive this treatment. Option A would entail a case-by-case decision for each such candidate PTO, based on principles specified in the tariff but ultimately subject to an ISO management determination for approval by the Board of Governors and FERC. Option B would incorporate a formulaic approach into the ISO tariff that would be aligned with the same principles as Option A, but would be sufficiently specific that the ISO could make a definitive determination under the tariff without requiring Board or FERC approval for each PTO. Once the determination is made for a given small PTO under either approach, the PTO would retain this classification for all future low-voltage generator-driven network upgrades unless the PTO no longer meets the specified principles.

Stakeholders supporting a more narrowly focused solution were equally divided between Option A and B. Those preferring Option A asserted that each PTO requires a case-by-case review and ultimate ISO Board and FERC approval. Those preferring Option B were concerned that a case-by-case review may unnecessarily delay progress in the generation interconnection process. The ISO does not agree with the argument that Option A would cause delays since any ISO decision and subsequent FERC approval could be combined with the PTO application process when a new PTO joins the ISO.

A couple of stakeholders oppose both Options A and B and prefer the original Option 1 from the 'Draft Straw Proposal' (to include the cost of generator-driven low-voltage facilities of all PTOs in the aggregated high-voltage TRR for recovery through the "postage stamp" high-voltage TAC). One stakeholder does not agree that the "current cost allocation rules have been appropriate and continue to work for generator interconnections to the larger load serving entities['] low voltage transmission systems. The ISO's views remain as stated in section 5 of the 'Second Revised Straw Proposal' that the current cost allocation rules have been appropriate and continue to work for generator interconnections to the larger load serving PTOs' low voltage transmission systems.

5. Draft Final Proposal

Based on stakeholder input, the ISO proposes to move forward with slight modifications to Option A.

Selection on a case-by-case basis, subject to ISO Board and FERC approval for each selected PTO

The draft final proposal is based on principles that by design apply to VEA and other potential similarly situated entities. Rather than trying to develop tariff provisions that could address every potential unique circumstance, this proposal specifies guiding principles the ISO would apply on a case-by-case basis to alleviate unintended adverse impacts for each unique PTO. Upon applying the principles and determining the appropriate treatment of the PTO in question, ISO management would present its recommendation for approval to the ISO Board and, if approved by the Board, to FERC.

The three principles below provide the framework for justifying an alternative TAC rate methodology for VEA and any similarly situated small load serving PTOs that would align with FERC cost allocation principles. The proposed alternative methodology is that the cost of network upgrades to serve generation on the PTO's low-voltage system, where the generation is not being built to serve load within that PTO's service area in some manner, would be put into the PTO's high-voltage transmission revenue requirements. If the generation connecting to the PTO's low voltage transmission is being built to serve load within the PTO's service area, for example if a load-serving entity in the PTO's service area has entered into a power purchase agreement with the generator, the cost of any low-voltage network upgrades driven by this generation would be put into the PTO's low-voltage TAC rates.

In addition, if VEA's or a similar PTO's situation changes such that it fails to meet any one of the three principles below, it would no longer qualify for this TAC rate treatment. At that time, any low-voltage network costs stemming from new generator interconnections, as well as any as-yet unrecovered low-voltage costs, e.g. undepreciated value, associated with previously-approved interconnections would be applied to the PTO's low-voltage TAC rates. VEA or a similar situated PTO would be required to certify to the ISO annually (for example at the close of each annual generation interconnection cluster window) that they still meet the three principles below to continue to receive this TAC rate treatment.

1. Relatively very small PTO in relation to other load-serving PTOs with load service territories where the PTO's filed annual gross load² is 2,000,000 MWh or less, which currently is approximately 2.2% of the largest PTO's filed annual gross load.

² http://www.caiso.com/Documents/HighVoltageAccessChargeRatesEffectiveJan1_2017_RevisedJan25_2017.pdf

VEA's filed annual gross load is only 0.3% of the ISO annual gross energy load, and only 0.6% of the largest PTO's with load service territory filed annual gross load. The next smallest load serving PTO with low-voltage transmission facilities under ISO Operational Control is 10% of the ISO annual gross load and 23% of the largest PTO's annual gross load. Clearly, VEA is in a category of its own related to the amount of its load. The ISO proposes that a threshold value of 2,000,000 MWh be applied such that if the PTO's load increases above this threshold, it would no longer qualify for this treatment. This will ensure that this proposal is very narrowly focused on the current situation. In addition, a fixed MWh value is preferred by the ISO instead of using a fixed percentage of the largest PTO's filed annual gross load since the annual gross load of the PTOs can change over time and a fixed value provides certainty going forward.

2. The small PTO is in a resource rich area that is leading to elevated generator regional procurement interest within the area.

For example, VEA's service territory and the low voltage transmission system built to serve its load is located in southern Nevada. It is an area of valuable solar capability, ample available land suitable for siting solar projects, and competitive costs for generation interconnections. This makes projects interconnecting to VEA's transmission system attractive to solar project developers and for California LSEs seeking additional renewable generation for meeting California's RPS requirements.

3. The small PTO is not under a Renewable Portfolio Standard (RPS) requirement or, if under an RPS requirement, does not have a need for the new interconnecting generation to meet that requirement.

In the case of VEA, Nevada's RPS requires electric utilities to acquire or save with portfolio energy systems or energy efficiency measures annual amounts increasing to 25% in 2025. However, as a small electric cooperative, VEA is not a defined Provider of electric service under the statute, and is not required to meet Nevada's RPS requirements. As a small electric cooperative with no RPS requirements, VEA has only developed a relatively small amount of solar on its own system. If VEA or another similarly situated PTO that qualifies for this rate treatment were ever required to meet an RPS and needed to procure additional resources to comply with the RPS, it would no longer qualify for this treatment.

The final draft proposal supports the ISO's position that any solution needs to retain the fundamental design and features of the Generation Interconnection and Deliverability Allocation Procedures (GIDAP), Appendix DD of the ISO Tariff, specifically:

- Two-phase cluster-study approach with annual reassessments;
- Cost certainty to interconnection customers early in the study process through cost caps; and

- Reliability and local deliverability network upgrades would continue to be reimbursed to interconnection customers upon commercial operation in accordance with the GIDAP.

6. Next steps

As a next step, the ISO will conduct a conference call to discuss this draft final proposal on February 13th. The ISO then invites stakeholders to submit comments on the ISO's final draft proposal. Comments are due February 22th and should be submitted to InitiativeComments@caiso.com.

Following review and evaluation of the comments received, the ISO plans to seek ISO Board approval in March, 2017.

Attachment D – Board Memoranda

Generator Interconnection Driven Network Upgrade Cost Allocation Recovery Amendment

California Independent System Operator Corporation



Memorandum

To: ISO Board of Governors

From: Keith Casey, Vice President, Market & Infrastructure Development

Date: March 8, 2017

Re: Decision on Generator Interconnection Driven Network Upgrade Cost Recovery Proposal

This memorandum requires Board action.

EXECUTIVE SUMMARY

Current rules on recovering costs for network upgrades that are needed to interconnect new generation have become problematic for Valley Electric Association (VEA), and could become problematic for future small transmission owners. These rules require that the cost of generation interconnection-driven network upgrades on a participating transmission owner's (PTO) low-voltage (below 200kV) transmission are to be recovered by that specific PTO's low-voltage transmission access charge. This will have a large adverse impact on VEA's ratepayers where there are significant network upgrade costs spread across a small number of ratepayers who ultimately do not benefit from the generation-driven upgrades. It could be equally problematic for any future similarly situated small PTO as well.

Management's proposal narrowly addresses small PTOs that do not need to procure energy from the generators interconnecting in their area but are nevertheless facing large low-voltage TAC increases due to generator interconnections. The proposal specifies three criteria that will identify whether a PTO would qualify for separate rate treatment that would allow them to put the cost of interconnection-driven low-voltage upgrades into the ISO's high-voltage TAC:

1. Small PTOs, where the PTO's filed annual gross load is 2,000 GWh or less (which currently is approximately 2.2% of the largest PTO's filed annual gross load);
2. The small PTO is in a renewable resource-rich area that is leading to generator regional procurement interest within the area; and

3. The small PTO is not under a Renewable Portfolio Standard (RPS) requirement or, if under an RPS requirement, does not have a need for the new interconnecting generation to meet that requirement.

Consideration of a PTO for separate rate treatment would be performed on a case-by-case basis. ISO Management would propose the PTO for such rate treatment to stakeholders and for ISO Board of Governors approval, and then Federal Energy Regulatory Commission (FERC) approval. Those approved PTOs would then be allowed to put the cost of interconnection-driven low-voltage upgrades into their high-voltage TAC rates.

Management recommends the following motion:

Moved, that the ISO Board of Governors approves the proposal for generator-interconnection-driven network upgrade cost recovery, as described in the memorandum dated March 8, 2017; and

Moved, that the ISO Board of Governors approves Management's determination that Valley Electric Association meets the criteria set forth in that proposal; and

Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposed tariff change.

DISCUSSION AND ANALYSIS

The tariff requires PTOs to reimburse interconnection customers in their systems for the costs of reliability¹ and local deliverability network upgrades necessary for the interconnection. The PTOs then include those network upgrade reimbursement costs in their FERC-approved rate bases, requiring ratepayers to pay those costs through either low- or high-voltage TAC. Network upgrades 200 kV and above are considered high-voltage and their costs are recovered through the high-voltage TAC using an ISO system-wide "postage stamp" rate based on the aggregated high-voltage transmission revenue requirements of all PTOs in the ISO system. In contrast, upgrades below 200 kV are considered low-voltage and their costs are recovered through PTO-specific low-voltage TAC rates charged only to customers within the service area of the PTO.

The ISO held a stakeholder initiative to address the concern that the current practice for low-voltage upgrades could negatively impact ratepayers who are not the beneficiaries of the upgrades, but who solely bear their costs. For example, if a large generator or a large number of generators with significant low-voltage network upgrade costs interconnect to a PTO with a relatively small rate base, that PTO's low-voltage transmission revenue requirement and its low-voltage TAC rates may increase

¹ Reimbursement for reliability network upgrades is limited to \$60,000 per installed MW of capacity; there is no limit on reimbursement for costs of local delivery network upgrades.

significantly under the current cost allocation framework, even though the upgrades and the associated generation capacity may not materially benefit or be needed by that PTO's ratepayers. This issue is currently facing VEA where larger-scale renewable generation is seeking to connect to VEA's low-voltage transmission system, driving low-voltage network upgrades that will have a direct adverse impact to VEA ratepayers,² yet the generation is not needed by VEA's ratepayers and is wholly contracting to entities outside of the VEA service territory.

Management's proposed solution is that PTOs, evaluated and approved on a case-by-case basis, that meet the criteria below would have the costs of generator-interconnection-driven network upgrades placed into the regional high-voltage TAC instead of that PTO's local low-voltage TAC. The proposed criteria are:

1. Small PTO, where the PTO's filed annual gross load is 2,000 GWh or less (which currently is approximately 2.2% of the largest PTO's filed annual gross load);
2. The small PTO is in a renewable resource-rich area that is leading to generator regional procurement interest within the area; and
3. The small PTO is not under a Renewable Portfolio Standard (RPS) or equivalent requirement or, if under an RPS or equivalent requirement, does not have a need for the new interconnecting generation to meet that requirement.

However, even where a small PTO meets this criterion and the Board of Governors and FERC agree that it may otherwise qualify for separate rate treatment, if the small PTO's own procurement triggers the needs for network upgrades on its low-voltage system, the cost of those network upgrades will remain in its low-voltage local TAC rate. Also, if a small PTO's situation changes such that it fails to meet any one of the three criteria above, it would cease to qualify for this TAC rate treatment. At that time, any low-voltage network costs stemming from new generator interconnections, as well as any as-yet unrecovered low-voltage costs, would be applied to the PTO's low-voltage TAC rates. VEA or a similarly situated PTO would be required to certify to the ISO annually that they still meet the three qualifying criteria to continue to receive this TAC rate treatment.

² If generation connecting to VEA's low-voltage transmission system drives \$10M in low-voltage network upgrades, VEA's low-voltage transmission revenue requirement would increase by approximately 37.5%. This requirement, combined with their high-voltage transmission revenue requirement, would result in a combined transmission revenue requirement increase of approximately 14%. Alternatively, if VEA could put these costs in their high-voltage transmission revenue requirement, and therefore enable it to be shared among all PTOs, the combined transmission revenue requirement would increase by approximately 0.02-0.06% for each PTO.

POSITIONS OF THE PARTIES

The ISO issued four papers through this initiative. The Issue Paper/Draft Straw Proposal set out a broad range of alternatives. Based on stakeholder input that tended to be polarized advocating one extreme or another, the Revised Straw Proposal focused on a single option from the original issue paper, referred to as Option 1. Option 1 proposed to include the cost of generator-driven low-voltage facilities of *all* PTOs in the aggregated high-voltage transmission revenue requirement for recovery through the system-wide “postage stamp” high-voltage TAC. The Option 1 proposal was polarizing for stakeholders, with some strongly in favor and some strongly opposed.

To gain stronger consensus, and as suggested by a few stakeholders, the Second Revised Straw Proposal and Draft Final Proposal offered the more narrowly focused solution described in this memo. While this proposal gained a majority of stakeholder support, some stakeholders oppose the proposal for various reasons that are described and responded to in the attached stakeholder matrix.

CONCLUSION

Management recommends and seeks Board approval for this proposal. Under the current rules, ratepayers of VEA and any future similarly situated PTO will see significant rate increases for generation being developed in their service territory that does not serve the needs of those ratepayers. Timely resolution is critical because there is a generation interconnection customer in the generation interconnection agreement negotiation phase that requires significant network upgrades to the VEA low-voltage system.

Attachment E – List of Key Dates in the Stakeholder Process

Generator Interconnection Driven Network Upgrade Cost Allocation Recovery Amendment

California Independent System Operator Corporation

List of Key Dates in the Stakeholder Process for this Tariff Amendment¹

Date	Event
August 1, 2016	CAISO publishes issue paper and straw proposal
August 8, 2016	CAISO hosts stakeholder conference call and web conference on issue paper and straw proposal
August 22, 2016	Stakeholders submit comments on issue paper and straw proposal
September 6, 2016	CAISO publishes revised straw proposal
September 13, 2016	CAISO hosts stakeholder conference call and web conference on revised straw proposal
September 21, 2016	Stakeholders submit comments on revised straw proposal
November 21, 2016	CAISO publishes second revised straw proposal
December 5, 2016	CAISO hosts stakeholder conference call and web conference on second revised straw final proposal
December 19, 2016	Stakeholders submit comments on second revised straw proposal
February 6, 2017	CAISO publishes draft final proposal
February 13, 2017	CAISO hosts stakeholder conference call and web conference on draft final proposal
February 23, 2017	Stakeholders submit comments on draft final proposal
March 15, 2017	Board of Governors approve proposal
March 17, 2017	CAISO publishes draft tariff language
March 24, 2017	Stakeholders submit comments on draft tariff language
March 30, 2017	CAISO hosts stakeholder conference call and web conference on draft tariff language
March 30, 2017	CAISO publishes revised draft tariff language

¹ See <http://www.aiso.com/informed/Pages/StakeholderProcesses/GeneratorInterconnectionDrivenNetworkUpgradeCostRecovery.aspx> for links to all documents.