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**Comments of the
California Wind Energy Association
on
Integration of Transmission Planning and Generation Interconnection Procedures
(TPP-GIP Integration)
Straw Proposal (7/21/2011)**

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The California Wind Energy Association (CalWEA) appreciates the opportunity to submit these comments on the California Independent Transmission System Operator, Inc.'s (CAISO) "Straw Proposal" on integrating the transmission planning process (TPP) with the generation interconnection procedures (GIP). We share the CAISO's goal to achieve efficient and cost-effective planning of the transmission grid to accommodate California's future energy needs in a reliable, economic and environmentally responsible fashion. While the CAISO and many of its stakeholders have already given considerable thought to TPP-GIP Integration, this effort remains very much a work in progress with numerous complex issues yet to be resolved before the ultimate goals envisioned by the Straw Proposal can be achieved. We welcome the opportunity to help the CAISO think through these issues so that the end-state model will improve the transmission planning process in a way that is just and reasonable and consistent with California's renewable energy goals.

The Straw Proposal acknowledges that the transmission planning and cost allocation reforms envisioned by the CAISO are "not worked out in all details" (p. 1), as they clearly will need to be before any tariff amendment can be filed with the Federal Energy Regulatory Commission (FERC). The core goal of the Straw Proposal is to develop a method for allocating cost responsibility for network upgrades between interconnecting generators and ratepayers. The principle concern is that ratepayers not be required to fund limited use, or sole use, network upgrades on the theory that these do not provide sufficient regional benefits. Instead, the Straw Proposal envisions that the costs for such upgrades will be directly assigned to the interconnecting generators that cause the need for the upgrades.

Given that the transmission network is a cohesive whole that is not easily subdivided for cost allocation purposes, the Straw Proposal must successfully define regionally beneficial "multi-value" grid projects to establish the dividing line between ratepayer-funded and direct assignment facilities. The Straw Proposal implies that the CAISO will use a "least regrets"

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analysis to make these determinations, but the least regrets approach is the starting point, not the final dividing line for cost allocation purposes, and the least regrets method provides the appropriate starting point only if the analysis is correctly applied. The Straw Proposal does not propose any objective criteria to determine whether GIP upgrades should be added to the least regrets base case. These criteria will need to be developed and justified as the stakeholder process evolves.

The Straw Proposal points to the transmission planning and cost allocation model adopted by the Midwest Independent Transmission System Operator, Inc. (MISO), but does not explain why the MISO model is appropriate, or how the CAISO proposes to implement it. The Straw Proposal also does not acknowledge the special circumstances that gave rise to the MISO tariff in the first place. Indeed, as a single-state RTO, CAISO does not face the same concerns as MISO where its transmission-owning members objected to financing grid upgrades to meet the renewable energy policy goals of other states. Facing the potential defection of several members, MISO developed temporary cost allocation changes, which FERC accepted while MISO considered other cost allocation models, such as CAISO's model. MISO's tariff is, in any event, being vigorously contested and the FERC order accepting it has been challenged on rehearing because it did not address any of the many objections to the filing. Thus, while the MISO's multi-value analysis of transmission upgrades has merit, its direct assignment of the bulk of non-multi-value network upgrades to generators could be harmful if applied without modification to California's aggressive renewable energy portfolio standard, which exceeds the requirements of any of the MISO states.

Rather than pursue a path to transmission planning reform that may lead into a thicket, we suggest that the CAISO concentrate its efforts on developing clear criteria to differentiate between policy upgrades identified through the TPP that are to be paid for by ratepayers, and limited or sole use network upgrades whose costs are more properly assigned directly to generators under the GIP. Below, we provide our comments on the Straw Proposal. We begin with a review of the basic framework for FERC's analysis, then discuss the reasons why the MISO model may not be the right alternative for the CAISO to focus on. Finally, we offer our recommendations on how the CAISO should use a multi-value project approach to harmonize least regrets planning with the GIP so that generators bear cost responsibility for sole use or limited use network upgrades when appropriate, without inappropriately shifting cost responsibility for major network upgrades to generators, which would ultimately undermine California's efforts to promote renewable energy development.

1. FERC Generally Prohibits the Direct Assignment of Network Upgrade Costs, But Gives RTOs Limited Pricing Flexibility Under the “Independent Entity” Standard

a. FERC Generally Prohibits the Direct Assignment of Grid Costs

Although FERC grants regional transmission organizations limited flexibility to depart from its ratemaking policies, it is important to begin our discussion by recalling that FERC’s general policy prohibits the direct assignment of network costs.¹ The reason is that the transmission network is a cohesive whole that cannot be readily subdivided. Even the cost of remote network upgrades cannot be directly assigned.² For this reason, Order 2003 announced a general rule that required generators to finance network upgrades (*i.e.*, those facilities constructed at or beyond the point of the generator’s interconnection to the transmission network), but also required transmission providers to refund those payments, with interest, after the generator achieves commercial operation.³

b. The “independent entity” standard for deviating from FERC’s ratemaking policies provides limited flexibility.

Order 2003 recognized that independent entities such as RTOs lack the incentive to discriminate unduly against generators seeking to interconnect to their regions, and so announced that such entities can request permission to deviate from FERC ratemaking policy under the “independent entity” standard.

The independent entity standard is not a blank check.⁴ FERC “review[s] the proposed variations to ensure that they do not provide an unwarranted opportunity for undue discrimination or produce an interconnection process that is unjust and unreasonable.”⁵ To make this determination, FERC requires RTOs to provide evidentiary support to show that

¹ *Public Service Company of Colorado*, 62 FERC ¶ 61,013, at p. 61,061 (1993).

² *Id.* (“Recognizing that the grid is a cohesive network in a dynamic state of development, the Commission has even included remote facilities in the grid on the ground that they were merely the first segment of what would eventually be a network loop. The Commission has reserved direct assignments for only those transmission facilities which fall into what we have referred to as an ‘exceptional category’ consisting of radials which are so isolated from the grid that they are and will remain non-integrated.”).

³ *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, FERC Stats. & Regs. ¶ 31,146, at P 827 (2003), *order on reh’g*, Order No. 2003-A, FERC Stats. & Regs. ¶ 31,160 (2004).

⁴ *Midwest Independent Transmission System Operator, Inc.*, 135 FERC ¶ 61,065 (2011) (“Midwest ISO suggests in its rehearing request that under this [independent entity] standard the Commission must ‘defer to the judgment and local experience of the Midwest ISO.’ While the Commission may well deem it appropriate and just and reasonable to defer to the judgment and local experience of an RTO or ISO, that is not the standard for reviewing modifications under the ‘independent entity variation’ standard.”).

⁵ *Id.*

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proposals to deviate from the pro forma tariff are just and reasonable and not unduly discriminatory.⁶

FERC applied these standards to reject CAISO's last attempt to revise the GIP to require generators to forego refunds for grid upgrades that failed an "economic benefits" test because the plan lacked specifics to guard against undue discrimination.⁷ FERC said that assumptions about future system conditions, and modeling and simulation inputs, can significantly affect the results of a cost-benefit assessment. FERC found that CAISO did not provide sufficient information about how it would conduct its test or how it would measure benefits. These omissions raised the risk that the test could be applied in an unduly discriminatory manner or violate the Commission's transmission pricing policies.

2. CAISO Will Need to Answer Numerous Questions to Pass Muster Under FERC's Independent Entity Precedent

FERC's order rejecting CAISO's economic benefits test raised numerous questions that are equally applicable to the cost allocation concepts outlined in the Straw Proposal, as the CAISO acknowledges (p. 6). Indeed, many quickly come to mind in view of the concerns expressed in the Straw Proposal, and the end-state envisioned for addressing them.

For example, the CAISO's new plan rests on the claim that the GIP produces a significant amount of inefficient or under-utilized network upgrades (p. 6). It also depends on the claim that the least regrets analysis will "obviate the need for many GIP-driven upgrades" (p. 4). GIP-driven upgrades not covered by the least regrets analysis in the TPP will be funded in part (and "potentially" fully) by the interconnecting generator, and the generator will be reimbursed solely through congestion revenue rights (CRRs) akin to the treatment of merchant transmission upgrades (p. 8). The CAISO implies that this approach will not discourage investment in renewable generation, but does not reconcile this assertion with the apparent goal of encouraging generators to make more efficient siting decisions. Being location constrained, renewable generators have less flexibility than fossil-fueled generators to select interconnection sites based on transmission costs. The Straw Proposal recognizes that the need for network upgrades is driven largely by California's 33% renewable portfolio standard, but fails to reconcile this observation with the objective of shifting transmission cost responsibility to the generators that California seeks to attract to provide a state-wide benefit.

Given these issues, the CAISO will need to demonstrate that its final plan is just and reasonable and not unduly discriminatory by, at a minimum:

⁶ *PJM Interconnection, L.L.C.*, 108 FERC ¶ 61,025, at P 7 (2004).

⁷ *California Independent System Operator*, 112 FERC ¶ 61,009, at PP 112-114 (2005), *reh'g denied*, 117 FERC ¶ 61,148 (2006).

- documenting how the least regrets analysis will “obviate the need for many GIP-driven upgrades” by quantifying, for example, the grid upgrades in the last annual transmission plan that would have been attributed to interconnecting generators under the GIP;
- explaining the alternatives that CAISO considered and why they do not satisfactorily meet the CAISO’s ratepayer protection goal (for example, reforming the criteria for PTO ratebase funding for GIP upgrades instead of eliminating credits for generator financed upgrades);
- explaining how CAISO will apply “least regrets” planning to ensure that renewable generators are not disproportionately impacted and subjected to undue discrimination because of their need to locate in areas with high quality wind and adequate available land;
- reconciling the CAISO’s goal to provide “some bounds to ratepayer exposure for large network upgrades driven by interconnection requests” (p. 5) that are “inefficient or under-utilized” (p. 6), with the Straw Proposal’s assumption that least regrets planning identifies large network upgrades that serve policy-driven needs (p. 6);⁸
- providing specific objective criteria and parameters that CAISO will use to define “benefits” that result from grid upgrades under both the TPP and the GIP and how it will use these benefits assessments for cost allocation purposes;
- documenting examples of merchant transmission projects (*i.e.*, non-rate based transmission facilities) that have been financed and built under the CAISO’s proposed method;⁹
- showing how the CAISO’s proposal is consistent with the cost allocation principles established in FERC Order No. 1000;
- establishing a mechanism to address changing circumstances that impact the benefits assessment over time (*e.g.*, to shift the cost of direct assignment facilities to ratepayers if those facilities meet objective criteria for regional benefits in the future); and
- estimating the impact that the CAISO’s proposal will have on renewable generation development and California’s ability to reach its 33% RPS targets.

⁸ In other words, what does the CAISO mean by “large network upgrades” that are “inefficient or under-utilized” and what examples does the CAISO have of such projects that would not otherwise have been identified as grid upgrades through the TPP?

⁹ Since the CAISO points to the merchant transmission model as a guidepost for the treatment of GIP upgrades (p. 8), it is appropriate to explore the success of the merchant model in encouraging new transmission investment.

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3. MISO May Not Be the Right Model

The Straw Proposal points to MISO's GIP cost allocation plan as a potential model for its reform efforts, but does not give any reasons why the MISO approach is suitable for California, or explain how it proposes to apply MISO's approach. MISO's multi-value project concept may have some merit insofar as defining up-front generator financing obligations, but the policy underpinnings for directly assigning grid upgrade costs to generators in MISO are missing in California.

MISO is of course a multi-state RTO with widely differing state policies on renewable energy development, different load profiles, and renewable resource areas of differing quality. In 2006, MISO reformed its transmission planning and generator interconnection tariffs to provide for different cost sharing arrangements, depending on voltage and regional benefits. Generators were required to pay the full cost of network upgrades triggered by their interconnection requests in advance, and could receive a refund for 50% of the cost of the upgrades if it was designated as a network resource or had a contract to supply capacity or energy to a network customer for at least one year.¹⁰ Transmission upgrade costs refunded to generators were allocated to sub-regional transmission pricing zones using a line outage distribution factor analysis if the associated transmission facilities were rated at 100 kV to 344 kV. For facilities rated above 344 kV, the costs were allocated across MISO, with the remaining 80% of the costs allocated sub-regionally using the line outage distribution factor analysis.

MISO's line outage distribution factor method produced unintended consequences because transmission pricing zones with high wind power development and low native load bore a disproportionate share of GIP-related transmission development costs. Wind generators were siting facilities in areas with good wind resources, but entering into contracts to sell their electric output to load serving entities in other states. In effect, the renewable portfolio policies of some states were being subsidized by ratepayers in other states.

MISO convened a stakeholder process to stem the growing revolt that led several of its members to threaten to withdraw from the RTO. It crafted an "interim" proposal to require the interconnecting generators to bear 90% of the cost of network upgrades rated at 345 kV or higher (with the remaining 10% allocated on a MISO-wide basis), and 100% of the cost of lower voltage lines. FERC conditionally accepted this plan because it was "interim," with no discussion of the merits, and without an express finding that it was "just and reasonable." Indeed, FERC directed MISO to study CAISO's plan as it worked with its stakeholders towards a more permanent solution. MISO completed its stakeholder process in early 2010, and filed a revised transmission planning tariff that made the interim GIP cost allocation method

¹⁰ *Midwest Independent Transmission System Operator, Inc.*, 118 FERC ¶ 61,106, *order on reh'g*, 117 FERC ¶ 61,241 (2006).

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“permanent.” FERC said little about the merits of the allocation plan, and accepted it simply because it continued the “interim” plan.¹¹

The circumstances that gave rise to MISO’s GIP reform are significantly different from those confronting the CAISO. CAISO is a single state RTO, and the renewable portfolio standard policies that are driving renewable generation investment are those of California, not another state. GIP-driven transmission upgrades are socialized across California through the transmission access charge, and not allocated disproportionately to the transmission pricing zone where the generator is located. Thus, the equitable considerations that drove MISO to reform its GIP cost allocation process are not present in California.¹²

Moreover, California does not differentiate transmission cost allocation by voltage level. Lower voltage lines are not allocated to local pricing zones using a line outage distribution factor analysis or any other basis. Thus, California’s transmission planning and cost allocation tariff does not disproportionately impact subsets of transmission customers as was the case in MISO. In short, California’s differing circumstances indicate that the MISO approach is not directly applicable.

4. If the CAISO Does Not Get the Details Right, the “End State” May Unduly Discriminate Against Renewable Generators and Run Counter to FERC’s Policy to Encourage Pricing Flexibility to Support Renewable Generation Development

A number of cases highlight FERC’s policy to promote renewable energy development.¹³ FERC’s policy encourages flexibility in applying the interconnection rules to accommodate renewable resources.¹⁴ FERC’s recent Order No. 1000 specifically encourages transmission planning to accommodate policy upgrades intended to support renewable energy development, and finds that transmission planning that does not adequately consider the needs of renewable generation is unduly discriminatory.¹⁵ Indeed, FERC worries that the failure to give proper consideration to the beneficiaries of new transmission lines could lead to needed

¹¹ *Midwest Independent Transmission System Operator, Inc.*, 133 FERC ¶ 61,221, at P 333 (2010).

¹² FERC acknowledged the differing cost allocation issues confronted by single state and multi-state RTOs in its recent rulemaking, *Transmission Planning and Cost Allocation by Transmission Owning Public Utilities*, 136 FERC ¶ 61,051, at P 485 (2011) (“With regard to cost allocation within RTO or ISO regions, . . . cost allocation issues are often contentious and prone to litigation because it is difficult to reach an allocation of costs that is perceived to be fair, particularly for RTOs and ISOs that encompass several states.”).

¹³ *See, e.g., Southern California Edison Co.*, 112 FERC ¶ 61,014, *reh’g denied*, 113 FERC ¶ 61,143 (wind projects); *PG&E*, 123 FERC ¶ 61,067; *Southern California Edison Co.*, 123 FERC ¶ 61,293 (integration of Canadian and Pacific Northwest renewable power); *see also PacifiCorp*, 125 FERC ¶ 61,076, at P 45 (2008) (location-constrained renewable resources); *Green Power Express*, 127 FERC ¶ 61,031, at P 46 (2009); (same); *Green Energy Express*, 129 FERC ¶ 61,165, at P 62 (2009) (remote, location-constrained solar resources).

¹⁴ *California Independent System Operator, Inc.*, 119 FERC ¶ 61,061, at P 66 & n.19 (2007).

¹⁵ *Transmission Planning and Cost Allocation by Transmission Owning Public Utilities*, 136 FERC ¶ 61,051, at PP 45, 82-83, 497 (2011).

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transmission facilities not being built.¹⁶ Shifting greater transmission costs onto renewable generation due to a misapprehension of the benefits associated with those lines is out of step with these policies because it may both discourage the development of the renewable generation that both FERC and California are seeking to encourage, and discourage the construction of new transmission lines to the detriment of ratepayers.

Against the backdrop of these policies, the Straw Proposal's objective to shift greater transmission cost responsibility onto generators could unduly discriminate against renewable energy projects if the "end state" does not properly recognize the grid benefits of GIP-driven transmission upgrades.

5. If the CAISO Moves in the Direction of Directly Assigning Network Upgrade Costs to Generators, It Needs to Build in Safeguards to Ensure that Direct Assignment Facilities Are Those With Few Beneficiaries, and It Needs to Have a Process to Reevaluate Those Determinations Periodically.

There are several safeguards that the CAISO should adopt to guard against unduly discriminatory cost allocation of GIP-related upgrades.

a. Properly using a least-regrets approach to transmission planning. If generators are to pay for the network upgrades they trigger, it is even more important to properly identify ratepayer-funded "policy upgrades", such that renewable generators are not unfairly burdened with the cost of strengthening California's backbone transmission system.

Correctly-applied least regrets planning is critical to make sure that "but for" local grid upgrades to be paid for by generators are properly segregated from those with broader regional benefits, and that there is complete harmony between the policy upgrades identified through the TPP and but for network upgrades identified through the GIP. If generators are assigned cost responsibility for significant amounts of non-but for grid upgrades (and compensated for these through allocations of CRRs), it will be a powerful sign that the system is flawed and must be corrected. The CAISO must build in safeguards to revisit and revise its study methodologies if this occurs, and identify what the triggers will be and include them in the tariff. Strengthening the foundation of the transmission system through least regrets transmission planning will also create a foundation for generation development competition, as opposed to the CAISO's contemplated approach that could result in building out the system only in certain areas (in a way that seems to disfavor generation development competition) and raising overall consumer costs. (See our recent critical comments on the "policy upgrade" process, attached.) The type of backbone lines that are likely to result from such an approach were identified in the RETI process, and initially by the California Transmission Planning Group (CTPG) – see attached. In this respect, we think that the CAISO is on the right track when it states that the TPP reassessment of GIP-driven upgrades should not be limited to just the most

¹⁶ *Id.* at PP 499, 501.

significant ones, “but should be able to reassess all network upgrades that are identified in completed GIP Phase 2 cluster studies and not yet committed to in an executed LGIA.” (p. 13)

b. Put conditions on the type of generator-interconnection upgrades whose costs can be refunded to generators (and be upfront funded). Currently, the bar for “network” classification and upfront funding seems to have been set relatively low.¹⁷ If this is the true cause of the problem the CAISO is trying to fix (see questions posed in Point 2 above), then the CAISO should focus its efforts on limited reforms to the GIP to modify the circumstances when transmission owners can up-front fund transmission lines such that only lines that meet a regional benefits test are eligible for up-front ratepayer funding. There is an important distinction between this approach and the one the CAISO is considering in the Straw Proposal because it eliminates the financial detriment to generators who would lose cost reimbursement for grid upgrades. As we note in the list of questions that CAISO must answer under Point 2, above, the Straw Proposal seems most concerned with “large network upgrades” that are inefficient or under-utilized. (pp. 4-5) Presumably, GIP-driven upgrades meeting these criteria are limited. Thus, CAISO should consider a more focused approach that limits up-front ratepayer funding for these limited facilities, instead of a wholesale revision to the analytic approach.

c. For generator-triggered network upgrades that are not otherwise funded through the TPP, charge generators only for the portion of the network upgrade that they use, based on flows, with the balance to be ratepayer funded until such time as additional interconnecting generators require the lines. This approach is an alternative to the MISO “Shared Network Upgrades” approach discussed at pages 17-18 of the Straw Proposal and is more like the method the CAISO uses for radial location-constrained resource interconnection facilities. The justification for this approach is greater for remote, albeit networked, transmission lines triggered by the GIP. It will enable California to achieve its renewable energy goals at least cost by reducing barriers to generator participation in the market while cost-effectively improving the reliability of the grid and reducing congestion. Since load ultimately pays for transmission in any case (either directly or via higher generation costs) as the CAISO acknowledges in the Straw Proposal (p. 12), it makes sense to plan for an efficient transmission system which will limit the burden placed on all generators and thus foster a competitive generation market.

d. Allow generators to build network upgrades that are directly assigned to them. This is an essential safeguard to ensure that generators are able to achieve interconnection targets on schedule and at reasonable cost. It is also consistent with FERC policy announced in Order No. 1000.

¹⁷ FERC held that remote transmission lines to interconnect a single generator to the transmission grid were network facilities eligible for up-front funding by a transmission owner. *Southern California Edison Co.*, 129 FERC ¶ 61,246 (2009), *reh’g granted in part*, 133 FERC ¶ 61,108 (2010). FERC has long held the view that remote facilities that are intended to be integrated are part of the transmission network. *Public Service Company of Colorado*, 62 FERC ¶ 61,013, at p. 61,061 (1993).

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e. Only account for transmission needs of those generation resources that are ready to move into operation. Before a generator is allowed to move into the Phase 2 GIP studies to trigger transmission upgrades, it should meet certain milestones to indicate its readiness. Those generators that do not meet such milestones, should be allowed to “park” and then enter in the Phase 2 studies of the next queue cluster if they can show their readiness. The “park” feature will be allowed only for one “queue cycle” after which the project will be deemed withdrawn.

f. All GIP-related transmission upgrades that meet a “multi-value test” should be candidates for ratepayer funding. All transmission upgrades identified through the GIP that meet two of the three following criteria should be funded by the ratepayers regardless of the trigger for such upgrades:

- **Is strictly a network upgrade:** For multi-terminal upgrades, either terminal of the upgrade are connected to at least 3 transmission substations within two branch layers from the terminal station. Single terminal upgrades are connected to at least 4 transmission substations within two branch layers from the terminal station.
- **Provides some reliability value:** The upgrade partially or fully resolves known network reliability issues or assists with compliance with the NERC/WECC/CAISO transmission planning standards – including those for which other transmission upgrades are identified and approved.
- **Provides economic value:** The transmission upgrades benefit to cost ratio as determined using the CAISO TEAM methodology is at least 0.5.

g. Renewable development scenario used to determine ratepayer funded upgrades in any form or shape should not be limited to CPUC renewable portfolio scenarios. In its proposal, the CAISO relies on the CPUC developed renewable portfolio scenarios when developing its ratepayer funded “least regrets” transmission plan (pp. 11-12). We think that this is too shortsighted. In fact, CAISO has invaluable access to actual renewable development activity information which is more representative of actual development activities on the ground than the CPUC-developed scenarios. We believe that the CAISO should rely on its own renewable development scenarios (in addition to CPUC scenarios) in developing its least regrets transmission plan. At a minimum, all projects with signed LGIAs and those that have posted their Phase 2 IFS deposits should be included in the “discounted core” category. This seems to be the direction that the CAISO is headed when it states that the TPP should be modified to provide for a reassessment of all network upgrades identified in completed GIP Phase 2 cluster studies and not yet committed to executed LGIAs.

h. All Rule Changes Regarding Network Upgrade Cost Assignments Should be Applied Prospectively to New Interconnection Requests, and Not Retroactively to Requests Pending in Any Interconnection Queue. Most, if not all, generators through Queue Cluster 4 have invested significant sums of money on project development and have entered into

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contractual obligations including power purchase agreements and land deals. They have also committed their power at certain rates for various utility RFPs. They have made these significant commitments in reliance on the currently effective tariff, which provides that all network upgrades will ultimately be ratepayer funded. Changing this GIP rule for generators in Queue Clusters 3 and 4 would upset the reasonable expectations of these queue participants, and materially and detrimentally harm the developers of these generators. As such, the CAISO should apply any GIP rule change related to network upgrade cost assignments prospectively to new interconnection requests.