



“TPP”) appear to be just and reasonable because they better align transmission planning with California procurement goals, while protecting ratepayers from excessive costs.

However, the provisions limiting reimbursement of Reliability Network Upgrades (“RNUs”) to \$60,000 per megawatt (“MW”) for all projects, without any corresponding “first-comer, late-mover” provisions (“RNU Limited Reimbursement Provisions”),<sup>3</sup> are not just and reasonable, even under the independent entity variation standard. As described in detail below, the CAISO’s last-minute addition of these provisions severely restricted stakeholders’ ability to offer alternative solutions that would better accomplish the CAISO’s goal of limiting ratepayer exposure to unreasonable RNU costs. As a result, the CAISO’s RNU Limited Reimbursement Provisions proposal contains both procedural and substantive flaws, and provides opportunities for undue discrimination, in contravention of the Commission’s Order No. 2003.<sup>4</sup> Moreover, the CAISO’s failure to keep its commitment to include “first-mover, late-comer” provisions to provide interconnection customers at least an opportunity to recover costs of unreimbursed RNUs is not just and reasonable.

LSA therefore respectfully requests that the Commission accept the CAISO’s TPP-GIP Integration filing, but reject the RNU Limited Reimbursement Provision proposal. The Commission’s grant of LSA’s request will not delay implementation of the TPP-GIP Integration, but it will allow the parties to work together to reach a reasonable and justifiable resolution, without the risk of undue discrimination, and to develop fair “first-mover, late-comer” provisions.

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<sup>3</sup> See CAISO Filing Letter, at pp. 49-50, 59-60; *see also* Generator Interconnection and Deliverability Allocation Procedures (“GIDAP”) Section 14.3.2.1; Large Generator Interconnection Agreement (“LGIA”) Article 11.4.1.1; and Small Generator Interconnection Agreement Article 5.3.1.1.

<sup>4</sup> *Standardization of Generator Interconnection Agreements and Procedures*, Order No. 2003, FERC Stats. & Regs. ¶ 31,146 (2003) (“Order No. 2003”), *order on reh’g*, Order No. 2003-A, FERC Stats. & Regs. ¶ 31,160 (2004) (“Order No. 2003-A”), *order on reh’g*, Order No. 2003-B, FERC Stats. & Regs. ¶ 31,171, Order No. 2003-C, FERC Stats. & Regs. ¶ 31,190 (2005).

## **I. Communications**

In addition to the undersigned counsel for LSA, the following person should be placed on the Commission's official service list in the captioned proceeding:

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## **II. Motion to Intervene**

LSA is a non-profit, non-partisan, solar advocacy association whose purpose is to support market penetration of utility-scale solar technologies. LSA companies are leaders in the utility-scale solar industry and share a common understanding of, and concern about, the issues facing development of the solar industry. Collectively, LSA's members have contracted to provide over seven gigawatts of clean, sustainable solar power to utilities in the western United States. They are actively developing technology and strengthening markets to facilitate significant penetration of renewable energy into the western United States power sector, as well as other states, and regional and federal venues, when appropriate.

LSA works with its member companies to represent the utility-scale solar industry in important policy-setting forums, furthering support for the large-scale solar development that will be necessary for California and other states to meet their aggressive renewable energy goals. LSA focuses efforts on transmission and interconnection reform and expansion to ensure that LSA's members can transmit renewable energy over a robust transmission grid at a reasonable cost.

The business interests of LSA members are significantly affected by regulatory policies that affect the cost of, and access to, transmission facilities, and the requirements for interconnecting new generating facilities to the transmission system. Moreover, many of LSA's

members have interconnection requests in the CAISO's generator interconnection queue, including requests in the CAISO Queue Cluster 5, to which the current proposal will apply, if the Commission approves it. For these reasons, LSA and its individual members participated extensively in the TPP-GIP Integration stakeholder process, and LSA members will be directly affected by the outcome of this proceeding. The interests of LSA members are not adequately represented by any other party, and so granting LSA's timely motion to intervene in this proceeding is in the public interest.

### **III. Procedural Background<sup>5</sup>**

In its filing letter, the CAISO thoroughly describes its rigorous, nearly year-long stakeholder process to implement the TPP-GIP Integration plan.<sup>6</sup> Between July 2011 and February 2012, the CAISO accepted several rounds of comments and issued at least four draft papers before settling upon even the broad outlines of the integration plan.<sup>7</sup> As a result, the TPP-GIP Integration Filing provisions regarding reimbursement of delivery network upgrades, while not perfect, generally represent a reasonable compromise and make sense in the context of aligning statewide procurement and transmission planning practices with the generator interconnections.

However, at no time prior to issuing the Draft *Final* Proposal on February 15, 2012 did the CAISO ever raise the possibility that it might limit reimbursement of RNUs for projects that receive TP Deliverability. Then, only a little over one month prior to bringing the proposal to the Board of Governors for final approval, the CAISO introduced a new proposal to limit RNU

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<sup>5</sup> In its filing, the CAISO has provided a detailed factual background describing the TPP-GPP Integration effort, and LSA will not repeat that history, except where specifically relevant to its Protest. *See* CAISO Filing Letter, with attachments.

<sup>6</sup> *See* TPP-GIP Integration Filing, Attachment J.

<sup>7</sup> *Id.*

reimbursement.<sup>8</sup>

The CAISO provided only one opportunity<sup>9</sup> for stakeholders to comment on the Draft Final Proposal. Although the CAISO did raise the reimbursement cap amount pursuant to comments, the underlying structure of the RNU Limited Reimbursement Provisions was a *fait accompli* before stakeholders ever had any opportunity to weigh in or present alternative ideas. Three weeks after comments on this new proposal were due, the CAISO presented the Final Proposal to the CAISO Board of Governors, even though there were numerous implementation details missing from the RNU reimbursement provisions. As it notes in its Filing Letter, the CAISO committed to include “first-comer, late-mover” provisions after it received Board approval (and prior to making its filing), but it has failed to do so.<sup>10</sup>

#### **IV. Limited Protest**

##### **A. Summary of Argument**

As detailed herein, the CAISO has not met its burden of demonstrating that its last-minute addition of the RNU Limited Reimbursement Provisions, without corresponding “first-mover, late-comer” provisions, are just and reasonable, even under the more lax “independent entity variation” standard of review. The CAISO’s condensed stakeholder process on this issue has led the CAISO to seek approval of RNU Limited Reimbursement Provisions that: (1) provide an unwarranted opportunity for undue discrimination by non-independent participating

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<sup>8</sup> See Draft Final Proposal, Transmission Planning-Generator Interconnection Procedures Integration, issued on February 15, 2012, at pp. 3, 10-12 ([http://www.caiso.com/Documents/Draft\\_FinalProposal\\_TransmissionPlanning\\_GeneratorInterconnectionProceduresIntegration.pdf](http://www.caiso.com/Documents/Draft_FinalProposal_TransmissionPlanning_GeneratorInterconnectionProceduresIntegration.pdf)).

<sup>9</sup> The CAISO provided stakeholders only two weeks from the date that the Draft Final Proposal was issued, and only one week from the date of the stakeholder meeting explaining the changes, to provide comments on the brand new provisions, as well as the rest of a lengthy proposal revamping transmission planning and cost allocation for the entire CAISO grid.

<sup>10</sup> CAISO Filing Letter, at p. 59.

transmission owners (“Participating TOs”), with no commensurate cost protections or oversight by the CAISO; (2) do not achieve the CAISO’s stated goal of “covering all reasonable RNU costs for interconnection customers,”<sup>11</sup> but rather sets an arbitrary reimbursement limit based on non-transparent, historical calculations; (3) do not provide *any* valuable compensatory transmission rights, at least for certain upgrades; and (4) do not include “first-mover, late-comer” provisions to prevent improper and unfair subsidies by earlier-queued generation customers to other future grid users.

The current Tariff framework provides ample opportunity for discrimination, and the CAISO has not even attempted to demonstrate how it will ensure that the RNU Limited Reimbursement Provisions will not be implemented in a discriminatory fashion.<sup>12</sup> The Participating TOs are responsible for providing all of the cost estimates for RNUs, with little to no oversight by the CAISO. At the same time, the Participating TOs currently have an exclusive right to construct RNUs,<sup>13</sup> and the Participating TOs collect directly from interconnection customers the funds to finance and construct the RNUs, whose excess capacity may then be used to provide transmission and interconnection service to other grid users at no cost. The Commission has previously held that providing non-independent transmission owners with too much discretion in implementing a tariff provision filed by an independent entity, as in this case, permits ample

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<sup>11</sup> TPP-GIP Integration Filing, Prepared Direct Testimony of Songzhe Zhu (“Dr. Zhu’s Testimony”), Attachment B, at p. 4.

<sup>12</sup> As described herein, LSA is not confident that the CAISO could implement the RNU Limited Reimbursement Provisions in a non-discriminatory manner under the current Tariff framework under which non-independent Participating TOs have control over cost estimations, construction and refunds, with little to no oversight. In any case, the CAISO has not even attempted to make such a showing in the TPP-GIP Integration Filing.

<sup>13</sup> At present, the RNUs identified in the generation interconnection process are not considered Stand Alone Network Upgrades, and therefore are not eligible for third party construction; thus the Participating TOs have a monopoly on construction and ownership of these facilities.

opportunity for discrimination and therefore could lead to an unjust and unreasonable interconnection process.

Moreover, despite the CAISO's contention that a majority of the RNU costs will be reimbursed, the Participating TOs' own publicly-available cost estimates demonstrate that the proposed cost reimbursement cap will not cover the cost of common RNUs, such as switching stations and reactive support devices. The CAISO also has not provided any evidence to support its contention that the RNU cost cap will have an effect on developers' siting decisions, and experience shows that often a developer cannot predict with any accuracy what its RNU costs will be, even if it locates along an existing line. Thus, the provision does not accomplish the CAISO's stated goals of reimbursing all reasonable RNU costs, while avoiding excessive ratepayer exposure.

The RNU Limited Reimbursement Provisions are also deficient for two additional reasons, which establish that the proposal does not provide interconnection customers with even the *opportunity* to receive valuable consideration for the unreimbursed portion of the RNU payments. As detailed below, the congestion revenue rights ("CRRs") offered under the CAISO's Tariff likely do not provide the potential for any valuable compensation in this context. Moreover, the CAISO has reneged on its commitment to include important "first-mover, late comer" protections,<sup>14</sup> which, while not sufficient, would provide at least some opportunity for an interconnection customer to be compensated for unreimbursed RNU payments.

On their own, each of the identified deficiencies is grounds for the Commission to reject the RNU Limited Reimbursement Provisions. Taken together, however, these defects

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<sup>14</sup> CAISO Filing Letter, at p. 59, ("In the stakeholder process to develop the GIDAP proposal, the ISO agreed to include 'first-mover, late-comer' provisions, based on the same principles on which the Midwest ISO adopted comparable provisions accepted by the Commission.") (citation omitted)

clearly render the RNU reimbursement caps unjust and unreasonable, and therefore the Commission should reject those provisions of the TPP-GIP Integration Filing.

## **B. Standard of Review**

Under the “independent entity variation,” the CAISO must demonstrate that its proposed variation does not “provide an unwarranted opportunity for undue discrimination or produce an interconnection process that is unjust and unreasonable.”<sup>15</sup> The CAISO also has the burden to for providing “sound justification” for its proposal, and the Commission will not merely “defer to its conclusions.”<sup>16</sup>

The Commission has held that where a transmission provider is an independent entity, there is less concern that generators will be treated in a discriminatory fashion.<sup>17</sup> The Commission recognizes, however, that the opportunity for undue discrimination continues to exist even where a proposal is implemented by an independent entity, and therefore the Commission carefully reviews proposals to ensure that there is no opportunity for undue discrimination.<sup>18</sup>

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<sup>15</sup> *PJM Interconnection*, 139 FERC ¶ 61,079, at P 65 (2012) (citing Order No. 2003, at P 827); *see also PJM Interconnection, LLC*, 108 FERC ¶ 61,025, at P 7 (2004) (“[W]hen an RTO is the filing entity, the Commission will review 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.”), *order denying reh'g*, 110 FERC P 61,099 (2005).

<sup>16</sup> *Midwest Indep. Transmission Sys. Operator, Inc.*, 114 FERC ¶ 61,106, *reh'g denied*, 117 FERC ¶ 61,241 (2006), *order on reh'g*, 118 FERC ¶ 61,208, at P 21 (2007) (“The Midwest ISO is ultimately responsible for making the filing and must provide sound justification for its proposal to demonstrate that its proposed cost allocation methodology is just and reasonable.”) (quotation marks and citation omitted).

<sup>17</sup> *See E.ON Climate and Renewables North America, LLC v. MISO, Inc.*, 137 FERC ¶ 61,076, at P 2 (2011) (“*E.ON*”) (“[W]hen the Transmission Provider is an independent entity, the Commission is much less concerned that all generation owners will not be treated comparably because independence ensures that the Transmission Provider has no incentive to treat interconnection customers differently.”) (citing Order No. 2003, *et al.*) (quotation marks omitted).

<sup>18</sup> *See, e.g., Cal. Indep. Sys. Operator Corp.*, 121 FERC ¶ 61,177, at P 13 (2007) (explaining that FERC will independently review proposed variations and that it is “not a sufficient justification to say that a variation conforms to current ISO practices or to the ISO’s OATT definition and terminology”).

Thus, where certain tariff provisions are primarily implemented by a non-independent entity, the Commission should scrutinize those provisions more closely and must independently review the proposed variations on their own merits to ensure that they meet the “independent variation standard.”<sup>19</sup>

### **C. Argument**

#### **1. The RNU Limited Reimbursement Provisions Provide an Unwarranted Opportunity for Undue Discrimination by Participating TOs.**

The CAISO’s Limited RNU Reimbursement Provisions proposal introduces a significant opportunity for undue discrimination, and therefore the provisions are not just and reasonable under the “independent entity variation” standard of review. In *E.ON*, the Commission ordered an independent system operator to remove a tariff provision because it provided too much discretion to non-independent transmission owners who were responsible for implementing the tariff provision. Thus, even though the tariff filing was made by the independent entity, the Commission held that where the “election [] is not left to the independent transmission provider [], but instead rests within the sole discretion of each transmission owner,” there are “unacceptable opportunities for undue discrimination.”<sup>20</sup>

Similarly, in this case, it is undisputed that the Participating TOs, who are not independent entities, produce all RNU facility cost estimates,<sup>21</sup> control actual construction costs

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<sup>19</sup> See, e.g., *Midwest Indep. Transmission Sys. Operator, Inc.*, 114 FERC ¶ 61,270 (2006), *order on reh’g*, 135, FERC ¶ 61,065, at P 27 (2011) (rejecting various proposed variations to Order No. 2003 under the “independent entity variation” standard).

<sup>20</sup> *E.ON*, 137 FERC ¶ 61,076, at P 39.

<sup>21</sup> Cost estimates are often equally, if not more, important than final costs, both because they set the overall transmission cap and they greatly influence power purchase agreement negotiations and a developer’s ability to finance a project.

and timing of RNUs, collect security and payments for RNUs, and administer refunds for RNUs.<sup>22</sup> If the RNU Limited Reimbursement Provisions are adopted, the Participating TOs would have an incentive (or at least no disincentive), and the opportunity, to treat generation interconnection customers in a discriminatory manner by overestimating cost responsibility for RNUs, assigning higher RNU costs to earlier interconnection customers for the benefit of other generation or its own retail load, and inadequately controlling RNU construction costs.

In fact, limiting reimbursement for RNUs may reduce the Participating TOs' incentive to control costs. As the independent entity, the CAISO must ensure the validity, comprehensiveness, and consistency of cost-estimation methodologies, as well as the overall reasonableness and accuracy of the resulting cost estimates and actual costs. Under the current Tariff, the CAISO does not engage in any meaningful oversight, and the CAISO has not explained in the TPP-GIP Integration Filing how it will protect interconnection customers from undue discrimination in this regard. By abdicating its responsibilities in these areas, and leaving these important matters to the interpretation of individual Participating TOs, the CAISO has introduced a real potential for discriminatory cost estimates and actual costs. Although the Participating TOs are not the filing parties, they are the entities that will be implementing the provisions, with little to no oversight by the CAISO.<sup>23</sup>

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<sup>22</sup> See, e.g., TPP-GIP Integration Filing, Attachment D, at Sections 11.1 (financial security posted in favor of the Participating TO), 14.1 (Participating TO, not CAISO, negotiates construction schedule), 14.3.2.1 (repayments for Network Upgrades provided by the Participating TO, not the CAISO); see also Roles and Responsibilities Agreement among the CAISO and Participating TOs (<http://www.aiso.com/Documents/DraftAppendix-GIPRRolesandResponsibilitiesAgreement.pdf>) (granting responsibility for preparing cost estimates for network upgrades to the Participating TOs).

<sup>23</sup> See *Southern Cal. Edison, Co.*, 125 FERC ¶ 61,009, at PP 19-20 (2008) (noting that a Participating TO in the CAISO is not an independent entity or entitled to an independent entity variation standard of review); see also *E.ON*, 137 FERC ¶ 61,076, at PP 36-40 (rejecting a proposed “independent entity variation” because the transmission owners, rather than the ISO, had discretion which provided “unacceptable opportunities for undue discrimination”).

This problem is not theoretical. The published Participating TO per unit costs<sup>24</sup> demonstrate that the three investor-owned Participating TOs estimate the cost of various facilities, including loop-in substations, to be vastly different. For example, Southern California Edison Company (“SCE”) estimates that a 66 kV loop-in substation will cost \$3.6 million, excluding land and permitting costs, while Pacific Gas and Electric Company (“PG&E”) estimates \$10.8 million – or three times as much – for the same facility.<sup>25</sup> Also, San Diego Gas & Electric Company (“SDG&E”) estimates a 230 kV loop-in substation, also excluding land and permitting costs, will cost \$13.4 million, while SCE estimates \$17.9 million – or 34% more – for the same facility.<sup>26</sup> The three investor-owned utilities also publish considerable variations in their cost estimates for 115 kV Shunt Capacitors, with PG&E’s cost estimates more than one and a half times SCE’s estimates, and nearly *three* times higher than SDG&E’s estimate for the same facilities.<sup>27</sup>

As part of its recent “GIP-2” initiative, the CAISO agreed to initiate a process to work with Participating TOs to make their cost-estimation methodologies more consistent and transparent, but the CAISO has since abandoned any attempt to fulfill that commitment.<sup>28</sup> Even

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<sup>24</sup> The “per unit” cost guides for each of the investor-owned utilities in the CAISO can be found at <http://www.caiso.com/informed/Pages/StakeholderProcesses/ParticipatingTransmissionOwnerPerUnitCosts.aspx>.

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

<sup>27</sup> *Id.* PG&E’s estimate for the facility is \$2.5 million, while SCE and SDG&E’s estimates are \$1.6 million and \$0.88 million, respectively.

<sup>28</sup> See CAISO’s Generator Interconnection Process Reform Phase 2 (“GIP-2”) Filing, filed December 21, 2011, Docket No. ER12-502-000, Exhibit D, Draft Final Proposal, at pp. 18-1 (committing to work with the Participating TOs to implement refinements of the annual per-unit cost process, such as use of common methodologies and refinements and requirements to explain costs.). No such refinements have been implemented, and the CAISO indicated in a stakeholder conference call that they would not pursue the matter further.

though developers have questioned Participating TO cost estimations and actual costs, the CAISO has done nothing to independently verify or justify the vastly divergent per unit costs. As the entities paying for these facilities, now potentially without full reimbursement, interconnection customers have a right to know that actual and estimated costs are reasonable, non-discriminatory, and verified by an independent entity. Without that, the CAISO has not demonstrated that the divergence from Order No. 2003 is just and reasonable.<sup>29</sup>

While this is not a new problem – and LSA is not seeking resolution to the underlying issue in this proceeding – these concerns merely expose the extensive opportunity for undue discrimination that makes the RNU Limited Reimbursement Provisions unjust and unreasonable under the relevant standard of review.<sup>30</sup> Moreover, the CAISO’s current proposal exacerbates the existing problem. If a portion of the RNU costs are not ultimately reimbursed, higher costs due to overestimation, inefficiency, and/or lack of oversight will have more potential to result in an unfair interconnection process, and may affect project developers’ ability to obtain financing or power purchase agreements. Because the RNU Limited Reimbursement Provisions create an opportunity for undue discrimination by the Participating TOs and will therefore result in an unjust and unreasonable interconnection process, the Commission should reject the provisions.

**2. The CAISO Has Not Demonstrated that the RNU Limited Reimbursement Provisions Accomplish Their Stated Goals or the Goals of Order No. 2003.**

In addition to the real risk of undue discrimination, the CAISO has not shown that the RNU Limited Reimbursement Provisions accomplish the CAISO’s stated goals or the goals of

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<sup>29</sup> See *New York Indep. Sys. Operator, Inc.*, 124 FERC ¶ 61,238, at P 17 (2008) (finding that it “remains incumbent on NYISO to justify its proposed changes [to Order No 2003] . . .”).

<sup>30</sup> Importantly, LSA is **not** seeking resolution to faulty and inconsistent cost estimation methodology used in the CAISO; rather, it is using this undisputed evidence to demonstrate that the CAISO’s current proposal is not just and reasonable because it provides an opportunity for undue discrimination.

Order No. 2003, which provides another independent rationale for the Commission to reject the RNU Limited Reimbursement Provisions.<sup>31</sup>

**a. The RNU Cost Cap is Too Low to Reimburse All Reasonable RNU Costs.**

In Dr. Zhu's affidavit, she states that the CAISO's goal in adopting the RNU Limited Reimbursement Provisions is to limit ratepayer exposure to excessive RNU costs "while covering *all* reasonable RNU costs for interconnection customers."<sup>32</sup> Despite the CAISO's contention that a majority of the RNU costs will be reimbursed, using the Participating TOs' published per unit costs<sup>33</sup> demonstrates that the proposed reimbursement cap does not nearly cover the cost of common and reasonable RNUs, such as a typical switching station<sup>34</sup> and reactive support devices.<sup>35</sup> Moreover, due to the divergent and unexplained costing-methodology differences described above, the proposed RNU cost limit might cover many more facilities for generation projects located in one Participating TO's geographic area than those located in another, which is clearly an unduly discriminatory result based on nothing more than project

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<sup>31</sup> See *Midwest Indep. Transmission Sys. Operator*, 117 FERC ¶ 61,128, *order on reh'g*, 119, FERC ¶ 61,097, at P 7 (2007) (rejecting a proposed pricing variation because the ISO "had not shown that the proposal would accomplish the purposes Order No. 2003 set forth as possible justification for this type of pricing").

<sup>32</sup> TPP-GIP Integration Filing, TPP-GIP Integration Filing, Dr. Zhu's Testimony, Attachment B, at p. 4 (emphasis added).

<sup>33</sup> See Participating Transmission Owner Per Unit Costs (<http://www.caiso.com/informed/Pages/StakeholderProcesses/ParticipatingTransmissionOwnerPerUnitCosts.aspx>).

<sup>34</sup> The Commission has consistently held that switchyard facilities located at the Point of Interconnection are Network Upgrades, and the Participating TOs and CAISO categorize these facilities as Network Upgrades. See, e.g., *Southwest Power Pool, Inc.*, 124 FERC ¶ 61,014, at PP 7-11 (2008).

<sup>35</sup> While the CAISO briefly described its methodology for determining that 70 percent of RNUs will be reimbursed, the stakeholders are unable to verify the information. Moreover, based on publicly available information, as well as LSA members' experience of receiving RNU estimates much higher than the caps, it is clear that many projects will not be fully reimbursed even for reasonable RNU costs that benefit the entire grid.

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LSA examined the published Participating TO per unit costs of new switching stations to interconnect a generator to an existing transmission circuit at various voltages. Notably, these per unit costs do not include potentially significant cost elements, such as land acquisition, land rights, licensing, permits, environmental mitigation or access roads. Comparing these per unit costs against the proposed RNU cap demonstrates that the proposed cap will **not** cover reasonable and common RNU costs for interconnection customers required to fund a typical switching station. In fact, there is no scenario at any voltage level under which the “per unit” costs of the all of the Participating TOs are at or below the RNU reimbursement cap.

To illustrate by example, LSA assumes that the capacity of a typical transmission circuit with a single conductor per phase is approximately equal to the voltage level (expressed in kV). Thus, a generation project that has a capacity of 50 or 75 percent of the assumed capacity of a typical transmission circuit and triggers a switching station will be responsible for an average cost, across all voltage levels, of \$146,000/MW and \$98,000/MW, respectively, which are well above the reimbursement cost cap. And, as noted, these per unit costs do not include related land, permitting, environmental mitigation or line connection costs. As another example, again using the posted Participating TO per unit cost estimates, a 115 MW generation project connecting to an existing 230 kV line in SCE’s system via a new substation will be responsible for a cost of \$156,000/MW,<sup>36</sup> or over 2.6 times the proposed \$60,000/MW cap, for just the substation equipment - with no possibility of reimbursement from later generation projects that are likely to connect to the same switching station.<sup>37</sup> A 33 MW generation project connecting to an existing 60

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<sup>36</sup> This calculation represents SCE’s per unit cost of a new 230 kV loop-in substation, \$17,940,000, divided by 115 MW.

<sup>37</sup> Although its filing is not clear on this point, the CAISO seems to assume that RNUs are generally

kV line in PG&E's system via a new substation will be responsible for an average cost of \$327,000/MW, or over 5 times the proposed \$60,000/MW cap — again, for just the substation equipment.<sup>38</sup>

In addition to new substations, previous cluster studies have identified, on multiple occasions, the need for reactive support devices, which are also classified as RNUs. In a “real world” example, the Queue Cluster 3, Phase I report for SCE's Eastern Bulk System identified reactive support devices (Shunt Capacitors and Static VAR Compensators [SVC]) as *one of many* RNUs that were proposed. The costs of just these reactive support devices are estimated to be approximately \$87,000 per MW. When combining this cost with other RNUs for the same group, the average RNUs cost per MW for SCE's system *alone* amount to \$127,000 per MW, or more than double the proposed RNU cap. In sum, it is clear that the proposed RNU cap does not accomplish the CAISO's own stated goal and that the CAISO has not presented sufficient factual evidence that “*all* reasonable RNU costs for interconnection customers” will be reimbursed under this proposal. Therefore, the Commission should not accept this aspect of the proposal as filed.

**b. The CAISO Has Not Offered Any Support or Evidence that its Limited RNU Reimbursement Provisions Will Lead to More Efficient Siting Decisions**

In its Filing Letter, the CAISO asserts, without support, that the proposed RNU reimbursement cap was chosen to “provide an incentive for interconnection customers to avoid siting their projects in locations where the costs of RNUs needed to support the interconnections

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sized exactly to the capacity of a generation project; however, the opposite is true. Experience shows that switching stations are generally sized to accommodate more than one generation project. In fact, it is unlikely that the Participating TOs would identify – or that the state regulators would approve – a switching station with no capability for expansion.

<sup>38</sup> This calculation represents PG&E's per unit cost of a new 60 kV loop-in substation, \$10,800,000, divided by 33 MW.

will be inappropriately high.”<sup>39</sup> This rationale is erroneous for at least two reasons. First, the CAISO has not demonstrated that interconnection customers could even reasonably ascertain what the cost of RNUs would be prior to making their siting decisions. The Commission has held that a proposal does not meet the goals of Order No. 2003 where the filing entity has not shown that its pricing policy would affect siting decisions.<sup>40</sup> Once the cost figure are available, the CAISO does not allow interconnection customers to change project Points of Interconnection (even where those changes would not be material) in response to that information; therefore, the CAISO has not adequately explained how the reimbursement caps could affect developers siting decisions. The CAISO cannot make this required showing by simply stating the proposition as though it were fact, without providing evidence or explanation.<sup>41</sup>

Second, and more importantly, while the CAISO’s position makes sense for large, high-cost delivery area network upgrades identified in the transmission planning process, such as the Area Delivery Network Upgrades (“ADNUs”) described in the filing, it does not make sense for localized RNUs that are generally far less expensive than ADNUs and require far more specific information about other generating projects locating in the same area to ascertain costs. Interconnection customers, with knowledge of the prior years’ transmission plan, may be able to more efficiently site near existing or planned ADNUs that have available capacity. But interconnection customers would not know which or how many other generating projects may

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<sup>39</sup> CAISO Filing Letter, at p. 50.

<sup>40</sup> See *Midwest Indep. Transmission Sys. Operator, Inc.*, 117 FERC ¶ 61,128, at PP 25-26 (2006) (rejecting, under the independent entity variation standard, an ISO’s proposal to deviate from Order No. 2003, where the ISO had not demonstrated that the proposal would encourage more efficient siting of generation).

<sup>41</sup> *Midwest Indep. Transmission Sys. Operator, Inc.*, 118 FERC ¶ 61,208, at P 2; see also *Cal. Indep. Sys. Operator Corp.*, 132 FERC ¶ 61,196 at P 46 (2010), *reh’g denied*, 137 FERC ¶ 61,143 (2011) (rejecting a proposed “independent entity variation” where “the supporting documents do not explain adequately” the justification for the variation).

request for interconnection at each potential substation before the interconnection request window is closed, let alone the cost of the required RNUs, which are determined based on the interconnection requests.

In any case, requiring customers, even if they could, to choose a site based on RNU costs, regardless of the ADNU costs, misaligns incentives by focusing on the costs of RNUs, rather than encouraging TP Deliverability-eligible projects to site near ADNUs included in the transmission plan. Finally, RNUs are more akin to local delivery network upgrades (“LDNUs”), which, for projects that obtain TP Deliverability, are not paid for by the interconnection customer. The CAISO has not explained its justification for the disparate treatment of RNUs versus LDNUs, and has not provided *any* evidence that its RNU limited reimbursement proposal would lead to more efficient siting decisions.

**c. Provision of Congestion Revenue Rights (“CRRs”) for RNUs Does Not Meet the Standard of “Valuable Transmission Rights”**

The CAISO asserts that its proposal comports with Commission precedent allowing participant funding of some or all network upgrades, because it offers the potential for “compensation in the form of merchant transmission CRRs” for unreimbursed portions of the RNUs.<sup>42</sup> While it is true that the Commission allows independent entities to propose interconnection pricing policies under which an interconnection customer bears the cost of some or all of the facilities “that would not be needed but for the interconnection of the new Generating Facility [],” the customer must also receive some “*valuable* transmission rights in return . . .” for the proposal to pass muster.<sup>43</sup> While the CAISO does not have to prove that the transmission

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<sup>42</sup> CAISO Filing Letter, at pp. 48-49.

<sup>43</sup> *Southwest Power Pool, Inc.*, 122 FERC ¶ 61,060, *order on reh’g*, 124 FERC ¶ 61,014, at PP 13-14 (2008) (affirming rejection of independent entity’s pricing proposal that did not provide valuable compensation to interconnection customers for all network upgrades) (emphasis added).

rights have a specific value, it is required to demonstrate that the rights, in the context given, have at least some limited value.<sup>44</sup>

As previously noted, the proposed tariff changes would provide CRRs in lieu of cash reimbursement for any amounts above the reimbursement cap for RNUs. But, for a new switching station or reactive power devices, this makes no sense. The CAISO Tariff defines a CRR Obligation as follows:<sup>45</sup>

A financial instrument that entitles the holder to a CRR Payment when Congestion is in the direction of the CRR Source to CRR Sink specification and imposes on its holder a CRR Charge when Congestion is in the opposite direction of the CRR Source to CRR Sink specification as described in Section 11.2.4.

Most interconnection requests are for Full Capacity Deliverability Status. This means that the Delivery Network Upgrades (i.e., LDNUs or ADNUs) added in these areas to provide that level of deliverability would make the potential for congestion there highly unlikely. For an RNU, such as a new substation, because the CRR Source and CRR Sink are the same point, there is virtually no possibility of congestion.

Circuits outside the substation, on which congestion could conceivably occur, are not classified RNUs, so there does not appear to be any path over which congestion can be measured for an RNU such as a substation. The CAISO has not explained how CRRs will be measured – or how they would be valuable compensation – for this type of network upgrade. LSA has similar concern with the reactive support devices that can be costly but may not generate additional CRRs at all.

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<sup>44</sup> *Id.*

<sup>45</sup> CAISO Tariff, Appendix A, Master Definition Supplement ([http://www.caiso.com/Documents/Appendix%20A\\_2012-04-18.pdf](http://www.caiso.com/Documents/Appendix%20A_2012-04-18.pdf)).

While the Commission has allowed alternative forms of “valuable consideration” other than cash to reimburse Interconnection Customers for network upgrade payments, it has held that the consideration must provide at least the opportunity for an interconnection customer to receive compensation for network upgrades it funds.<sup>46</sup> But, CRRs for RNUs clearly have no use and, therefore, no value. Therefore, there is virtually no possibility of any valuable compensation to the interconnection customer from a CRR, and since the CAISO’s proposal does not include “first-comer, late-mover” provisions, there is no possibility of valuable compensation from a future user of the facilities.

### **3. The RNU Reimbursement Provisions are not Just and Reasonable without Corresponding “First-Mover, Late-Comer” Provisions.**

Despite its commitment to include “first-mover, late-comer” provisions that would require an interconnection customer to be compensated for a portion of RNU costs if a subsequent Interconnection Customer or other grid user benefits from the RNUs, the CAISO’s filing letter provides various rationales for omitting those provisions.<sup>47</sup> None of the CAISO’s rationales pass muster, and therefore the CAISO has not demonstrated that its proposal, with this omission, is just and reasonable.<sup>48</sup>

First, the CAISO argues that based on historical estimates, roughly 70 percent of total RNU costs will be fully reimbursed and therefore no reimbursement is necessary.<sup>49</sup> LSA

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<sup>46</sup> *Southwest Power Pool, Inc.*, 122 FERC ¶ 61,060, at P 30, *order on reh’g*, 124 FERC ¶ 61,014.

<sup>47</sup> CAISO Filing Letter, at p. 60.

<sup>48</sup> *Cf. Southwest Power Pool, Inc.*, 122 FERC ¶ 61,060, at P 30, *order on reh’g*, 124 FERC ¶ 61,014 (“We find that SPP’s proposal to provide Interconnection Customers funding Network Upgrades with financial compensation from subsequent uses of those upgrades is consistent with the Commission’s interconnection pricing policy.”)

<sup>49</sup> CAISO Filing Letter, at p. 60. The CAISO has not demonstrated that historical estimates are accurate predictors of future costs. In fact, the CAISO’s historical estimates do not use Cluster 3 & 4 costs,

notes that the CAISO has not provided any way for the Commission or stakeholders to verify its calculation, and LSA members have received RNU cost estimates well above the per MW cap reimbursement. Moreover, as previously demonstrated, the costs for common RNUs go well beyond the cost cap.<sup>50</sup> In any event, and even assuming the CAISO's calculations are accurate, the CAISO has not met its burden to show why denying reimbursement of the remaining thirty percent of RNU costs is just and reasonable.<sup>51</sup> In fact, it is likely that specific projects will suffer a larger unreimbursed percentage precisely because they are "first movers" – that is, projects that trigger RNUs that may be shared at a later date are more likely to go above the \$60,000 per MW cap than projects that can later take advantage of expansion of those facilities (i.e., once the switching station is built, it will be much less expensive for subsequent generators to connect).

Second, the CAISO asserts, in essence, that it would be administratively difficult to administer a "first-comer, late-mover" provision because if a generating facility is responsible for multiple RNU facilities, it would be arbitrary to assign any customer-funded portion of the costs to specific facilities for purposes of tracking cost shares of subsequent projects.<sup>52</sup> In a related argument, and without support, the CAISO argues that it would be extremely complicated to try to

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which, in at least some cases, have identified substantially higher RNU cost estimates. *See supra*, Section III.C.2.a.

<sup>50</sup> *See supra*, Section III.C.2.a.

<sup>51</sup> *See, e.g., PJM Interconnection, LLC*, 108 FERC ¶ 61,025, *order denying reh'g*, 110 FERC ¶ 61,099 (2005); *Midwest Indep. Transmission Sys. Operator, Inc.*, 132 FERC ¶ 61,151, at P 10 (2010) (finding that the "ISO must demonstrate that its proposed variations are just and reasonable and not unduly discriminatory, and that they would accomplish the purposes of Order No. 2003").

<sup>52</sup> CAISO Filing Letter, at 60. LSA believes the CAISO's omission of the "first-comer, late-mover" provisions is an example of the effect of the abbreviated stakeholder period with respect to the limited RNU reimbursement. The CAISO rushed the implementation of the RNU Limited Reimbursement Provisions, and, even though it committed to including "first-comer, late-mover" provisions, it appears that it did not have time – or any stakeholder input – to develop those Tariff provisions. LSA also questions the CAISO's rationale for omitting "first-comer, late-mover" provisions for Option B projects, but LSA is limiting its protest to the RNU Limited Reimbursement Provisions.

track the flow impacts of all new projects on small amounts of incremental capacity created by RNUs, with “very minor” financial benefits resulting from such efforts.<sup>53</sup>

There are numerous problems with these rationales. Initially, if the CAISO really is not able to account for which RNUs are being used by which customers, then clearly the facilities have grid-wide benefits and should be socialized. The CAISO’s rationale therefore supports the conclusion that the limited RNU reimbursement is not just and reasonable.

LSA also strongly disagrees with the CAISO’s characterization that the financial benefits of a “first-comer, late-mover” provision would be “very minor.” If the RNU reimbursement cap is retained, the Participating TOs may well end up receiving hundreds of millions of dollars for RNUs from Interconnection Customers that they never have to reimburse. As discussed above, this fact may also incentivize the Participating TOs to include more expansive RNUs than would otherwise be necessary. As the entities responsible for paying these costs, LSA members do not view these potentially unreimbursed costs as minor, and believe that the CAISO should be required to track costs so that later users of the facilities can pay their fair share.

Despite CAISO’s protestations about the administrative burden, however, LSA believes that the CAISO likely could engage in a fairly simple accounting exercise to reimburse funders when RNUs are later used to accommodate new interconnection or transmission services.<sup>54</sup> Such tracking could be a routine part of the transmission planning, generator interconnection and transmission service request processes.

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<sup>53</sup> *Id.*

<sup>54</sup> The CAISO implies that any remaining capacity on an RNU would be used by subsequent interconnection customers, and this is incorrect. For example, Load Serving Entities (“LSE”) could benefit from a new switching station if a distribution transformer is installed to provide electric service to retail electric customers in that area. If that were to occur, the LSE should be required to reimburse the interconnection customer to avoid that customer subsidizing its retail customers.

When the grid is modified, whether for reliability, economics, policy, interconnection or transmission service, the transmission planning study for the modification simply would need to review the list of unreimbursed RNUs and determine whether the use driving the modification relies on any of the listed RNUs. The CAISO's power flow studies should certainly show the expected flows from each project across these facilities.

In any event, the fact that a provision might be difficult to administer does not permit the CAISO to omit it and place additional, unfair cost burdens on "first-mover" interconnection customers. It is the CAISO's burden to propose cost-allocation procedures that are just and reasonable, and it cannot abdicate that duty by claiming that its own proposal is too difficult to administer.<sup>55</sup> The current practice of completely reimbursing the RNU costs within five years of the Commercial Operation Date also would meet the "just and reasonable" standard without requiring any new accounting effort.

Third, the CAISO states, without support, that most RNUs will be specific to an individual project, or potentially a few projects on network nodes very close together, and so in most cases they would provide little or no benefit to subsequent projects.<sup>56</sup> As LSA has explained above, this is not true for RNUs such as switching stations which Participating TOs regularly design with added expansion capacity (specifically, bus positions to accommodate future generators) that becomes the responsibility to the first-mover generator. Thus, CAISO's claim that RNUs are typically only project-specific is not supported by the RNU upgrades regularly identified by the Participating TOs. Additionally, if the CAISO is correct, then it will not have to utilize the "first-comer, late-mover" provisions very often, and its administrative burden will be

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<sup>55</sup> *Midwest Indep. Transmission Sys. Operator, Inc.*, 132 FERC ¶ 61,151, at P 10.

<sup>56</sup> CAISO Filing Letter, at p. 60.

eased.

### **E. Conclusion**

LSA thanks the Commission for its careful consideration of LSA's limited protest, and respectfully requests the Commission accept the CAISO's TPP-GIP Integration tariff provisions, with the exception of the RNU Limited Reimbursement Provisions. If the Commission accepts the RNU Limited Reimbursement Provisions, then LSA respectfully requests that the Commission order the CAISO, on compliance, to (1) develop and file "first-mover, late-comer" provisions; and (2) demonstrate how it will ensure that the RNU Limited Reimbursement Provisions will not be implemented in a manner that could provide an opportunity for undue discrimination.

Respectfully submitted,

*/s/ Ellen A. Berman*

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ATTORNEY FOR THE LARGE-  
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June 15, 2012

**CERTIFICATE OF SERVICE**

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list in this proceeding in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure.

Dated at San Francisco, CA this 15th day of June 2012.

*/s/ Ellen A. Berman*

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