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BEFORE THE CALIFORNIA ENERGY COMMISSION

In the Matter of the 2012 Integrated Energy
Policy Report Update

Workshop on Interconnection of Renewable
Development in California

Docket No. 12-IEP-1D

COMMENTS OF THE LARGE-SCALE SOLAR ASSOCIATION ON THE INTERCONNECTION OF RENEWABLE DEVELOPMENT IN CALIFORNIA

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**COMMENTS OF THE LARGE-SCALE SOLAR ASSOCIATION ON THE
INTERCONNECTION OF RENEWABLE DEVELOPMENT IN CALIFORNIA**

The Large-scale Solar Association (LSA) submits these comments on the California Energy Commission's (CEC's) May 14th Workshop on Interconnection of Renewable Development in California. These comments focus on the development of renewable scenarios by the CEC and California Public Utilities Commission (CPUC) for study in the California Independent System Operator Corporation's (CAISO's) Transmission Planning Process (TPP).¹ In particular, these comments highlight key principles that should help inform the development of these scenarios going forward.

I. In Coordinating Their Efforts, the CEC, CAISO, and CPUC Need to Consider the Planning Horizons and What Changes Can be Accomplished in Those Timeframes.

In planning for California's energy future, the CEC, CAISO, and CPUC are undertaking a number of efforts around siting, transmission, and procurement issues. LSA applauds the increased coordination between the agencies, but does see some issues that will need to be reconciled as these coordination efforts move

¹ LSA has provided as an attachment our comments on the draft renewable scenarios prepared by the CEC and CPUC and recommended to the CAISO for use in the 2012-13 Transmission Planning Process. While these comments are specific to the details of the originally recommended scenarios, they touch on many of the larger themes addressed by workshop panelists and in these comments.

forward. An overarching goal should be to ensure that planning efforts build on one another, so that the planning efforts send clear and consistent signals to the renewables market.

Planning efforts can be crafted to implement policy, inform policy, or do both. In some cases, the planning horizon may limit or restrict the ability to achieve these different goals. In particular, a shorter planning horizon may not provide sufficient time to inform policy and effect change on the ground. As the CEC, CAISO, and CPUC move forward with their effort to coordinate their planning processes, LSA recommends that the following planning-process-specific considerations be discussed and used to inform the design of inputs into the planning effort:

- What are the previous planning efforts and decisions that comprise the work done to date on these issues? How are the outcomes from those efforts being used here?
- How much uncertainty exists over the planning horizon? What decisions should be considered “sunk”?
- What is the intended outcome of this planning process? How do the agencies hope to use the results from that planning process?
- What are the timeframes of the implementation related to the planning effort (i.e., transmission permitting and development timelines for the TPP)?
- Does the planning horizon offer adequate time to send signals to the market and allow the market to respond to those signals? If not, does the planning horizon need to be adjusted or a planning effort need to be undertaken?
- Do the planning efforts inputs and methodologies pose any limitations for the future use of the results for the planning effort?

Generally, the timeframe for planning should inform the outcomes and possible goals for the planning effort. Both the general (e.g., policy implementation, policy driving) and specific goals of the individual planning effort should be taken into account when determining how to craft the planning input assumptions (e.g., scenarios).

LSA supports looking out over a longer time horizon and considering different policy or market drivers that will change the energy system over that timeframe. This longer horizon will provide more flexibility to consider the pros and cons of a diverse set of alternative scenarios and will provide agencies with information to guide policy development moving forward. The planning efforts over this longer time horizon, while still considering key variables that will affect energy development in the state, can be less detailed and granular than the current, more near-term studies.

II. The Scenarios Should Appropriately Reflect Commercial Interest And Existing Contractual Commitments.

Initially, LSA wants to acknowledge that the revised recommendations from the CEC and CPUC place additional emphasis on commercial interest by identifying the commercial interest scenario as the base case for study. LSA strongly supports this change. However, LSA believes that additional changes are needed to ensure that commercial interest is appropriately represented in the state's planning efforts.

Given the ten-year timeframe for the TPP and the continued focus on 33% Renewables Portfolio Standard (RPS) as the planning goal, LSA believes that commercial interest should form the basis of scenario development process. In this timeframe, much of the generation to meet the RPS goal has been contracted. The power purchase agreements are one of the key indicators of the likelihood of an individual project proceeding. Thus, the scenarios must include an appropriate base of commercial projects and should incorporate commercial information in assessing the likelihood of alternative, future renewables build-outs.

III. In Constructing Appropriate Inputs Used for Scenario Development, the Agencies Should Identify Known Data, Build on Prior Planning Efforts, and Construct Reasonable Assumptions for Unknown Data.

As the agencies move forward with this coordination effort, minimizing redundant activities should be a goal. The agencies develop data in a number of different proceedings that could serve as inputs into this scenario development process. It is important that stakeholders are informed initially where these different assumptions will be developed, so that stakeholders can ensure they are participating in the appropriate forums to provide input as key data is developed.

LSA believes that the state's future planning efforts should build on the previous planning results. In our attached letter on the CEC/CPUC original scenario recommendations for the CAISO's TPP, LSA raised concerns about the assumptions regarding transmission needs for resources located outside of Competitive Renewable Energy Zones ("non-CREZ resources"). These non-CREZ resources were assumed to fit on existing transmission and thus, were generally assigned zero transmission costs. This resulting in significant numbers of non-CREZ resources showing up in the cost-constrained scenario; these non-CREZ resources comprised over 40% of the megawatts in the cost-constrained scenario. However, given the resulting scenario composition and the large number of non-CREZ resources, the transmission assumptions led to a portfolio of resources that would likely require new transmission to accommodate non-CREZ resources.

Going forward, LSA urges the CPUC and CEC to avoid constructing assumptions that disadvantage projects with known information (e.g., costs, needs)

for projects with unknown information. Simply assuming that the unknowns will prove to be less expensive or better than the knowns is a destabilizing strategy for both planning and the renewables market. Essentially, by constantly striving for an ideal solution (which may not even be achievable in practice), the planning efforts will constantly revisit the same questions, sacrificing progress for paralysis. The agencies must ensure that the planning efforts use appropriate assumptions and will lead to results that can guide thoughtful progress towards achieving California's energy and climate goals.

CONCLUSION

LSA appreciates the opportunity to participate in the workshop and comment on Interconnection of Renewable Development in California. This is a critical issue in ensuring that California moves expeditiously towards achieving the 33% RPS goal and sends clear and consistent signals to guide future renewables development to meet the state's climate and energy goals.

Respectfully submitted,

____/s/_____
Kristin Burford
Policy Director, Large-scale Solar Association

May 25, 2012

ATTACHMENT



April 16, 2012

Submitted by email to regionaltransmission@caiso.com

RE: Comments of the Large-scale Solar Association on the 2012/2013 Transmission Planning Process – Renewable Portfolios

The Large-scale Solar Association (LSA)² submits these comments in response to the California Public Utilities Commission (CPUC) and California Energy Commission (CEC) joint March 12th letter (updated on March 23rd) to the California Independent System Operator Corporation (CAISO) transmitting the proposed renewable resource portfolios for the 2012/2013 Transmission Planning Process (TPP) and the April 2nd workshop discussing those portfolios and the assumptions used in their development. In last year's TPP, the CAISO used portfolios provided by the CPUC staff, originally developed for use in the CPUC's Long-Term Procurement Plan (LTPP) proceeding. This year, the CPUC and CEC worked together to revise the assumptions and prepare new portfolios for use in this year's TPP. In the March 12th letter, the CPUC and CEC recommend the use of the cost-constrained portfolio as the base case for the TPP and recommend three alternative portfolios - "commercial interest," "environmentally constrained," and "high-distributed generation (DG)."

Introduction

LSA's concerns about the portfolios fall into three areas - process, substance, and appropriateness of recommendations for the CAISO's TPP. After a brief summary of our concerns, these comments address each of the three issues in detail.

Problems with the Process:

After raising serious process concerns last year about the lack of transparency of the portfolio development process and the abbreviated stakeholder input opportunity, and after the CAISO and the CPUC both acknowledged those concerns and pledged an improved process, LSA and other stakeholders find themselves in a similar, but even

² LSA represents 13 of the nation's largest providers of utility-scale solar generating resources. Collectively, LSA's members have contracted to provide over 7 GW of clean, sustainable solar power to California's load-serving entities. Its members develop, own and operate various utility-scale solar technologies, including photovoltaic and solar thermal system designs. LSA, and its individual member companies, are renewable energy industry leaders, advancing solar generation technologies and advocating competitive markets.

worse, position this year. When the updated portfolios were presented at the CAISO's April 2nd workshop, there had been no previous opportunity to comment on either the revised portfolios or the assumptions used to develop those portfolios. Indeed, the recommended portfolios were developed and released in the absence of any formal stakeholder process. Thus, this set of comments is the ONLY opportunity for stakeholder input on these revised portfolios for the TPP. Moreover, at the April 2nd stakeholder meeting, the ability and willingness to adjust the portfolios based on stakeholder input was not clear. During the presentation, stakeholders were told that significant changes to the portfolios were unlikely because the CPUC and CEC Commissioners had signed and approved the document transmitting the portfolios. Given this statement, it is unclear whether the revisions will be limited to corrections and minor changes, as they were in last year's TPP, or whether there is a broader opportunity to adjust the portfolios.

Furthermore, parties learned that the majority of the concerns³ raised last year have still not been addressed. Last year, the CPUC and CAISO recognized that the stakeholder process was problematic, but noted that this was a new process and assured stakeholders this year's process would show marked improvement. This year, stakeholders were also given only a limited opportunity to provide input and again have been told that problems can be corrected "next year." It is simply unacceptable for critical statewide planning efforts to be based on faulty or inappropriate assumptions because of a failure to invest sufficient time up-front to get these assumptions correct. Moreover, because of changes to the CAISO's study methodology (Clusters 1-4) and the TPP-GIP integration, the TPP and the portfolios have become even more important than they were in previous years: the results of these studies will have material impacts on the timing and availability of transmission for projects, thus threatening significant timing and financial impacts on those projects. Thus, it is imperative for the CAISO to develop a robust and fair transmission plan.

Problems with the Portfolios:

LSA is deeply troubled by the disconnect between the proposed portfolios (the base case, in particular) and the renewables portfolio standard (RPS) procurement process. The portfolios largely disregard the RPS project-specific information in hand (i.e., procurement commitments) in favor of general assumptions (i.e., cost projections). The heavily-weighted focus on cost and lack of focus regarding commercial interest raises a significant policy question about the consistency of the CPUC's proposed portfolios with its prior decisions approving RPS contracts for those resources. While LSA had previously commented on the need to be more inclusive of commercial projects, the portfolios have moved in the opposite direction, becoming instead more restrictive and excluding a number of projects with PPAs and therefore more certainty of development from the discounted core. Thus, rather than selecting a base case portfolio

³ LSA participated in both the LTPP and TPP last year - raising a number of concerns about the process, substance, and use of the scenarios. See Comments of the Large-scale Solar Association on the 2011/2012 Transmission Planning Process – Renewable Portfolio Assumptions (July 15, 2011); CPUC Proceeding R. 10-05-006, Opening Brief of the Large-scale Solar Association ("LSA") on Track I and III Issues (September 16, 2011); Ex. 1800, the Prepared Direct Testimony of Timothy M. Mason on Behalf of the Large-scale Solar Association.

that reflects existing contractual commitments, the CPUC and CEC instead have selected a portfolio that largely disregards existing contractual commitments and could, in fact, undermine those commitments by impeding the timely development of needed transmission.

The assumptions regarding transmission costs significantly disadvantage well-defined projects with advanced or completed transmission studies in favor of hypothetical projects with unknown transmission requirements. Specifically:

- For projects with approved PPAs, those projects must have both completed permits⁴ and not require new transmission to be guaranteed inclusion in the discounted core and the portfolios.
- For projects in preferred development areas (competitive renewable energy zones or CREZs), the calculator includes proxy transmission costs based on available information. However, all projects in non-CREZ areas are assumed to have no transmission need and, thus, no transmission cost. The result is a perverse likelihood that projects in non-preferred areas would be more likely to be selected in the portfolios. Indeed, non-CREZ projects comprise over 40% of the total MWs in the proposed base case.
- Distributed generation (DG) was both assigned a zero transmission cost and granted an “avoided” transmission and distribution cost adder. This assumption is contrary to recent study results that suggest that DG will impose distribution and transmission costs on the system, particularly if installed at the levels assumed in the portfolios.⁵ This assumption appears to inaccurately attribute artificially low costs to DG projects.

Problems with the Recommendations:

The CAISO has an independent duty to ensure that the TPP process is transparent, provides for open access, and that the portfolios meet the CAISO’s planning needs generally and as required by the Tariff. If the CPUC’s effort does not meet these criteria, the CAISO may not simply accept them as valid for use in the TPP. Critical questions remain from last year about the appropriateness of the CPUC’s (and now CEC’s) recommendations for the CAISO’s TPP. Specifically, the assumptions upon which the portfolios are based are simply are not supportable, have not been discussed or verified, and thus, the results obtained from those assumptions are invalid.

The CAISO’s tariff requires CAISO to create “a baseline scenario reflecting the **assumptions about resource locations that are most likely to occur** and one or more

⁴ This new criterion establishes an infeasible and commercially unreasonable hurdle for projects with commercial operation dates beyond 2015. This criterion requires completion of permitting processes years before the projects could come online, leaving developers with the untenable and unfinanceable choice of constructing projects years before they could come online or obtaining permits that would expire well before construction should start to ensure the project is studied in the TPP.

⁵ For instance, a recent NREL study prepared by the DOE, Sandia Lab, and EPRI recommends infrastructure upgrade as a solution to accommodate higher DG penetration or the increase of 15% screening criterion to a higher number. See, e.g., NREL Technical Paper, Updating Interconnection Screens for PV System Integration, NREL/RP-5500-54063 (Feb. 2012).

reasonable stress scenarios that will be compared to the baseline scenario” for the TPP. (emphasis added). The recommended base case (cost-constrained) and two of the three alternatives (environmentally constrained, high-DG) place significant value on assumed or constructed values for cost or environmental scores. While the cost and environmental assumptions have changed, the fundamental fact remains that these three portfolios place very little value on commercial interest, which is the one factor for which concrete, project-specific information exists. The CAISO cannot simply rely on the proposal of the CPUC and CEC without critically evaluating whether the portfolios are consistent with the CAISO’s obligations in the TPP. In particular, the CAISO must explain and justify why the recommended base case “cost constrained” scenario is more likely to occur than the commercial interest scenario, even though the “cost constrained” portfolio is comprised of approximately 40% generic projects, which lack project sponsors and PPAs.

Needed Updates:

At a minimum, the portfolios used for this year’s TPP should be constructed using the prior definition of discounted core (this definition should be applied to the updated project status information) and removing all transmission and distribution cost assumptions since these should be determined in the TPP. In addition, the commercial interest portfolio should be used as the base case for the TPP.

I. The development of fundamental planning assumptions - like the renewable portfolios - requires transparency and an opportunity for robust stakeholder input, neither of which has been included in the portfolio development or revision process.

Generally, LSA supports the intent of the CAISO, CPUC, and CEC to coordinate their planning efforts to match transmission planning with procurement efforts. However, LSA does not support the current rushed, haphazard, and non-transparent process, which attempts to achieve agency coordination at the expense of meaningful stakeholder input. In the effort to coordinate, the CPUC, CEC, and the CAISO have actually increased uncertainty by sending conflicting signals to the renewables market through the different planning, procurement, and other RPS-related proceedings or initiatives. LSA has specific concerns about the disconnects between the proposed portfolios and the CPUC’s renewable procurement process,⁶ the CAISO’s DG

⁶ LSA notes that the CPUC criteria, in the cost-constrained portfolio, for renewable technology costs are not consistent with the proposed 2012 RPS procurement methodology, which would adopt a “net market value” valuation. See CPUC Proceeding R.11-05-005, Assigned Commissioner’s Ruling Identifying Issues and Schedule of Review for 2012 Renewables Portfolio Standard Procurement Plans Pursuant to Public Utilities Code Sections 399.11 et seq. and Requesting Comments on New Proposals (April 5, 2012), p. 16-18. The latter includes quantification of the capability of renewable technologies to provide dispatchable energy and ancillary services, as well as to avoid integration costs. Such valuation is particularly suited to concentrating solar power plants with thermal storage.

deliverability initiative,⁷ the CAISO's FERC-approved Transition Agreement with Valley Electric Association (VEA),⁸ and the DRECP planning process, among others. While substantively LSA's primary concern at present is the disconnection between the procurement process and the transmission planning process, the policy changes from these different proceedings and initiatives must be taken into account in order for a planning effort to be robust and ultimately successful.

Last year, stakeholders voiced considerable concern about the non-transparency of the process used to develop the portfolios and the lack of opportunity for stakeholder input at the CAISO. Essentially, CAISO stakeholders were presented with the portfolios and told that there was not time to make significant changes. A few errors identified by stakeholders were addressed, but otherwise the portfolios were effectively unchanged. Stakeholders were assured that these process issues were primarily due to the challenges of transitioning to the new coordinated process and that the process would flow more smoothly in the future with more opportunity for stakeholder input.

This year, unfortunately, the stakeholder process seems to have gotten worse rather than better. While the CAISO has ensured that the TPP factored in time for stakeholder input and portfolio updates, the CPUC staff suggested at the CAISO's workshop that they do not envision significant changes to the portfolio methodology based on stakeholder comments. There appears to be some disconnect in how "final" these portfolios are - the CAISO appears willing to consider stakeholder input and adjust the portfolios, while the CPUC and CEC staff indicated some reluctance to revise the portfolios significantly, as CPUC and CEC Commissioners signed the original letter recommending the CAISO use these portfolios. As discussed further below, regardless of the finality of the portfolios from the CPUC and CEC perspective, the CAISO has an independent duty to subject both the assumptions and the results to a stakeholder process and to ensure that those assumptions and resulting portfolios are appropriate for the TPP.

More broadly, LSA is very concerned about an off-hand statement made at the stakeholder meeting that, if the CAISO, CPUC and CEC do not have time to make the changes this year, corrections can be made in time for next year's TPP, since this is an annual planning process. This response is problematic for several reasons. First, this was the same message to stakeholders last year; yet, with an additional year, the portfolios have become more problematic and do not account for stakeholder input provided last year. Second, planning year after year with incorrect and inappropriate assumptions is a significant waste of time and resources. Simply putting off until 2013 corrections or adjustments that could have been done in 2011 (or 2010, when the portfolios were first developed in the LTPP) means that, in the meantime, the plans and planning efforts based

⁷ CAISO is in the final stages of its Deliverability of DG initiative. LSA is concerned that discrimination could result if the shift in the allocation of resources in portfolios results in more DG projects achieving deliverability than generators in the queue far earlier than the DG projects.

⁸ The scenarios do not appear to account for additional transmission that would be needed to accommodate the integration of VEA and the generation coming from VEA. LSA notes that there are over 2,000 MW in the VEA interconnection queue that do not appear to be accounted for in the scenarios.

on this data are fundamentally flawed.⁹ Put simply, when critical assumptions are wrong, the results will be wrong. In addition, the portfolios have shifted significantly since last year.¹⁰ Assumptions that swing wildly from year to year undermine the integrity of these planning efforts, call into question the previous results, and send troubling signals to the renewables market about California's cavalier treatment of advanced commercial projects. Finally, the TPP is not a pie-in-the-sky planning effort. Rather, it results in a plan with real, on-the-ground impacts in terms of timely transmission development, which, in turn, have real commercial impacts on the ability of generators to develop renewable projects and the ability of California to meet RPS goals.

II. The substantive updates to the portfolios have introduced a number of problematic and inappropriate assumptions.

The assumptions underlying the resource portfolios contain substantive flaws that call into question the accuracy and appropriateness of the resulting portfolios. Several of these troubling assumptions also appear to be inconsistent with other decisions of the agencies (the CPUC's procurement decisions, in particular) and these inconsistent assumptions are indirectly sending conflicting policy signals with other planning efforts and processes.

A. The assumptions regarding transmission significantly disadvantage projects requiring transmission.

First, the portfolios are based on numerous unjustified assumptions that disadvantage well-defined projects with advanced transmission plans, even where those projects are otherwise more cost effective. Unsurprisingly, these assumptions have led to a set of resource portfolios that, aside from the commercial interest portfolio, the CPUC does not expect to require new transmission. Rather than the "no new transmission required"¹¹ finding being the outcome of a robust portfolio development process, it appears to be a preordained outcome resulting from numerous unjustified assumptions that make it exceedingly difficult for projects requiring transmission upgrades to be included in the portfolios. Moreover, the generic projects that replace these commercial projects in the portfolios may indeed require transmission, but there simply is not enough known about these projects to determine whether transmission will be needed. These assumptions increase uncertainty for generation projects with approved contracts and

⁹ When questioned about what would happen if this year's TPP studies identify additional transmission projects as needed, the response was that they would be included to be studied in the next TPP. However, presumably a new (or significantly revised) set of portfolios will be developed for the next planning cycle. Because of the long lead time in constructing new transmission lines, these potential delays in decisionmaking could lead to sub-optimal transmission solutions, as the window narrows between the time when a transmission line is approved and when it is needed. For this reason, this year's assumptions must be more accurate, and it is not sufficient to respond that any shortfalls will be handled in next year's TPP.

¹⁰ See *supra* Section II.

¹¹ LSA recognizes that the CAISO's transmission studies could come to a different conclusion about the need for new transmission as the CAISO models the different scenarios.

create significant disconnects with the signals from the procurement process. It is not reasonable to intentionally conduct transmission planning in a manner that will lead to a transmission system that may be insufficient to deliver the generation already acquired by the Load Serving Entities, as it is inconsistent with the previously approved decisions of the CPUC.

1. Discounted Core

The CPUC has changed the definition of the discounted core to be more restrictive, requiring both approved PPAs and approved major permits to qualify a project for discounted core treatment. This change is inappropriate because many of the projects that are reasonably progressing toward an on-line date in later years of the planning cycle will not have an approved major permit at this point. It is not commercially reasonable for most projects that are reasonably progressing toward an on-line in the post-2015 timeframe to have received their major construction permit by February 2012. It is well recognized that transmission development timelines exceed generation development timelines.¹² Since the transmission planning cycle is on a 10 year timeframe, and the lead time for major transmission lines can be 9 years, according to Cluster 4 Phase 1 Reports, generators would have to be permitted many years before the transmission would be available. Those permits typically have a limited time for development and are difficult to extend, leaving the generation projects with an unsolvable conundrum - the permits could not be extended to permit development late enough to match the transmission, and the projects could not likely be financed or fully utilized until the transmission was close at hand, thus they could not be built within the permissible timeframe allowed by the permits.

Moreover, even if a project qualifies under the new, stricter “discounted core” criteria, it will only be included automatically in the portfolios if it does not require new transmission, or if 67% of energy delivered on new transmission is from discounted core projects. This methodology will almost never result in projects that require new transmission being included in the discounted core, because the 67% threshold is extremely high – especially since the “approved major permit” requirement in the stricter definition for the discounted core independently reduces the number of eligible projects significantly. In reality, very few, if any lines will meet these criteria. The 67% threshold appears to be arbitrary; the CPUC has not yet explained how or why the 67% value was selected. The implications of this methodology merit further discussion and clarification to promote understanding.¹³

2. Scoring Criteria

¹² See Dep’t of Energy Rapid Response Team for Transmission Request for Information, 77 Fed. Reg. 38 (February 27, 2012).

¹³ For instance, using the latest RPS Calculator, for all but the “commercial interest” portfolio, the threshold has to be lowered to 27% before the first group of new-transmission-related generation (Kramer CREZ) would be selected. This means that even for the most favorable CREZ, the percentage of projects with both an approved PPA and a final construction permit is at the most 27% of the CREZ.

After the discounted core determination, projects are subject to the scoring criteria to determine whether they are included in the portfolios. For the cost constrained portfolio, generation and transmission costs are the primary components in determining which projects are included. The Competitive Renewable Energy Zone (CREZ) and out-of-state projects are assigned proxy transmission costs based on most recently available information. The transmission cost assumptions inappropriately favor non-CREZ and DG resources as discussed below.

For non-CREZ projects, the CPUC effectively assumed that there would be no transmission costs associated with non-CREZ projects rather than assigning any proxy transmission costs to non-CREZ projects. These transmission cost assumptions severely disadvantage CREZ resources, where estimates of transmission cost may exist, in favor of non-CREZ resources. This assumption is not reasonable because it disadvantages projects in a CREZ, which are areas identified by RETI as being of high value for renewable resources. Not surprisingly, this transmission cost assumption resulted in a significant shift in the composition of the recommended base case, where over 40% of the megawatts (6,856) in the portfolio are from non-CREZ resources. Furthermore, the resulting portfolio composition suggests that additional transmission will indeed be needed to accommodate some of the non-CREZ resources.¹⁴ Rather than minimizing costs, this approach trades cost estimates and projections for unknowns. A more reasonable approach would be to assign an average transmission cost of CREZs across all similarly situated projects in the same county, or to remove transmission costs altogether in determining the resource portfolio to be included for further investigation by the CAISO.

For DG, the transmission cost assumptions inappropriately credit these resources with an “avoided” transmission and distribution cost adder in addition to being assigned a zero transmission cost. Given the high levels of DG assumed in the portfolios, significant upgrades to the transmission and distribution system will likely be required. It is not clear what evidence these DG transmission cost assumptions rely on, as recent studies suggest that infrastructure upgrades are recommended to accommodate DG, particularly at these high levels.¹⁵

B. The unexplained forced addition of over 5,000 additional megawatts of DG into the high-DG portfolio is unreasonable and an inappropriate planning assumption.

In the “High DG” case, the CPUC added over 5,000 MW of DG to the “discounted core.” This addition is not based on any real DG projects, but rather potential projects that might arise because of future policy decisions that have not yet been made (i.e., these 5,000 MW are in addition to already assumed DG based on current CPUC programs). These DG projects do not have PPAs, permits or CAISO queue positions. However, as discussed above, projects that have CPUC-approved PPAs are

¹⁴ Riverside County includes approximately 2,200 MW non-CREZ resources. This level of new generation would almost certainly trigger the need for new transmission.

¹⁵ See *infra* fn. 5.

not included in the discounted core unless they have also gotten a final permit. This disparate treatment is unjustified. Furthermore, these assumptions raise questions about the appropriateness of the high DG scenario as a reasonable stress scenario, since there does not appear to be an identified path to reach this goal.

As noted above, the addition of high levels of DG to the system is likely to require transmission upgrades. Thus, DG location assumptions will have significant impacts on what transmission upgrades will be identified in the TPP. Unrealistic or inappropriate DG location assumptions could result in unrealistic or inappropriate upgrades being identified.¹⁶

In addition, the portfolios appear to be based on the presumption that high levels of DG can be accommodated on the grid with very low costs, but there is not sufficient support for this assumption. In its presentation, CPUC staff cited a document “Technical Potential for Local Distributed Photovoltaics in California – Preliminary Assessment” as informing the overall DG capacity potential and appropriate locations for the portfolios. The report is a preliminary assessment and should be subject to review and stakeholder input to determining its appropriateness for use in developing the resource portfolios.

III. In order to inform procurement and policy development moving forward, the TPP should include analysis of at least one scenario that includes renewables procurement beyond the 2020 goal.

LSA notes that each of the scenarios assumes a renewable energy procurement target of 33% annually, no more and no less. While we do appreciate that the 33% RPS exists in both statute and regulation and is a clear, actionable procurement target, LSA encourages the CPUC, CEC, and the CAISO to include at least one additional scenario that includes renewable energy procurement beyond 33%. Since the planning process looks beyond 2020 (when the 33% RPS must first be achieved), the portfolios should be developed considering the policy (e.g., greenhouse gas) and economic drivers that could lead to additional renewables procurement beyond this goal.

One of the primary practical purposes of the transmission plan is to give load-serving entities (LSEs) sufficient information to make reasoned least-cost procurement decisions, based on transmission cost, irrespective of fuel type. LSA is concerned that the portfolios presented to date will not lead to results to inform cost-effective energy procurement for LSEs beyond the 33% RPS goal.

In addition, the main reasons for establishing a zonal transmission planning process in the first place, as the Renewable Energy Transmission Initiative (RETI) did in 2007, were to minimize both the transmission costs and environmental impact of transmission and generation and to maximize development of renewable energy resources

¹⁶ For example, upgrades may be proposed in an area with sufficient transmission, whereas some other areas with insufficient transmission could see NQC curtailments that might impact the overall the ability for the state to meet RPS goals.

within those constraints. LSA is concerned that limiting the scenarios to 33% annual renewable penetration does not go far enough to achieve one of these primary goals - maximizing the use of renewable energy zones.

Any additional scenario(s) could be focused on either a specific renewable energy target beyond 33% - 40% or 50% - or “maximizing” the zones themselves to show the maximum amount of renewable energy that could be acquired from each zone before triggering the next network upgrade(s). Looking beyond 33% would fulfill two goals: (1) providing information on the actual costs of renewable energy to LSEs to guide procurement decisions beyond 33% and (2) maximizing the use of renewable energy zones.

IV. The CAISO has an independent duty to ensure that the TPP process is transparent and provides open access and that the portfolio assumptions meet its tariff requirements.

Although the CPUC and CEC were responsible for developing the portfolios and assumptions presented at the April 2nd workshop, the CAISO has an obligation under the Federal Power Act and FERC Orders 888 and 890 to ensure that the inputs to the TPP (i.e., the resource portfolios) are appropriate, developed transparently, and based on substantiated and tested assumptions. The importance of a transparent process is even more critical to just and reasonable results for this year’s TPP since recent changes at the CAISO (i.e., Deliverability Technical Bulletin and TPP-GIP Integration) focus on the TPP as identifying the scope of ratepayer funded upgrades. This increased importance of the TPP makes it all the more important that the inputs and assumptions are appropriate, so that the process leads to a rational, reasonable result.

As LSA discussed in its comments last year, LSA is very concerned about the recommendation that the cost-constrained portfolio be used as the base case for the CAISO’s TPP. The cost-constrained portfolio is not consistent with the concept of the base case set forth in the CAISO’s tariff. Specifically, according to Section 24.4.6.6 (Policy-Driven Elements) of the CAISO tariff, “[t]he CAISO will create a **baseline scenario reflecting the assumptions about resource locations that are most likely to occur** and one or more reasonable stress scenarios that will be compared to the baseline scenario.” (emphasis added). Not only does the CAISO’s tariff require the use of the most likely scenario, but planning transmission around the scenario that best describes the likely course of future generation development helps minimize the risk of stranded transmission investment, while also ensuring that sufficient transmission is planned to, among other things, ensure that California can meet its aggressive RPS goals.

As yet, neither the CPUC, nor the CEC, nor the CAISO has provided any information suggesting that the cost-constrained scenario is the most likely portfolio to occur. To the contrary, the cost-constrained scenario is focused on assumptions about

technology and transmission cost and places very little weight on commercial interest,¹⁷ which is the best information available on the likely future of renewable development in the state. Commercial interest is the best indicator of what is happening on the ground, where developers are investing their resources and focusing their activities. Among the portfolios, only the commercial interest portfolio places considerable weight on actual projects that have passed viability screening criteria and are progressing through the contracting and permitting processes. Thus, this portfolio is the most reflective of the actual path of development and is the most appropriate base case of the recommended portfolios.

In addition, the alternative portfolios or stress cases studied by the CAISO should be constructed to identify transmission elements that might be more vulnerable to becoming stranded investment under future changes in regulation or technology, and as such may require additional review in later planning cycles to resolve that uncertainty before being approved. LSA is concerned that the resource portfolios do not seem to take into account contingencies (e.g., the resource portfolios or other system conditions may not materialize as assumed) that may arise, which is misguided and will likely lead to higher overall energy costs.¹⁸ The stress cases should serve to highlight uncertainty about key factors and point to the transmission elements that are potentially more vulnerable to becoming stranded investment; this risk can then be weighed by the CPUC against the risks inherent in delaying transmission, such as failure to achieve policy goals.

Conclusion

While LSA applauds the increasing levels of cooperation between the CAISO, the CPUC, and the CEC in the planning, permitting and construction of the transmission infrastructure necessary for California to realize its ambitious renewable energy and greenhouse gas reduction goals, we believe that additional effort is required to develop the fundamental assumptions to serve as the basis for these planning efforts. Consistency of assumptions between the CPUC, CEC, and the CAISO is a laudable goal, but consistency has not been achieved, nor is simple consistency sufficient. The assumptions underlying these planning efforts must be both accurate and appropriate to provide a solid foundation for energy and transmission planning.

In closing, LSA requests that the CAISO take the time needed to review these portfolios and determine whether updates or modifications are needed to the proposed scenarios to meet the CAISO's needs for the TPP and contribute to the broader goals that this planning effort is seeking to achieve. Specifically, prescribing a portfolio that does

¹⁷ The cost-constrained scenario includes a limited "discounted core" projects, discussed previously and places a 10% weighting on the commercial interest score in determining the make-up of the portfolio.

¹⁸ Without sufficient transmission capacity to support alternative portfolios to mitigate such contingencies, ratepayers could get hit with much higher costs where a large base load plant becomes inoperable (e.g., SONGS). Similarly, additional costs could result if the high level of DG assumed in the portfolios does not fully materialize, which is a very likely outcome, given historic levels of development and integration issues associated with such large quantities of DG.

not adequately account for commercial interest as a transmission planning base case creates a serious and troubling disconnect between renewables development and transmission development, and would run afoul of the CAISO's tariff requirements. This result appears to be directly contrary to what the state is trying to achieve through better coordination and consistency in assumptions, as it sends conflicting signals with RPS procurement activities and other energy or transmission-related initiatives and proceedings. The recommended base case effectively ignores the known information about the likely future of renewables development in the state, relying instead on inappropriate and inaccurate assumptions to construct a different future portfolio that disregards the importance of procurement commitments to date.

Respectfully submitted,

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