BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue Implementation and Administration of California Renewables Portfolio Standard Program.	Rulemaking 11-05-005 (Filed May 5, 2011)

REPLY COMMENTS OF THE INDEPENDENT ENERGY PRODUCERS ASSOCIATION ON THE RPS PROCUREMENT PLANS

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The Independent Energy Producers Association (IEP) offers its reply comments on the Renewables Portfolio Standard (RPS) procurement plans of Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), and Southern California Edison Company (SCE), as provided in the "Assigned Commissioner's Ruling Identifying Issues and Schedule of Review for 2014 Renewables Portfolio Standard Procurement Plans," dated March 26, 2014, as modified by the Administrative Law Judge's revised schedule attached to her email of April 16, 2014.

I. INTEGRATION COST ADDER IN RPS BID EVALUATION

A. Integration Cost Adder

The broad consensus among commenting parties is to apply integration cost adders in the context of RPS bid evaluation. Many parties concur that the Commission should develop a methodology for determining a reasonable and empirically based integration cost adder in a public process, and many parties request a workshop to consider alternatives. IEP agrees with these parties' comments.

A number of ideas, concepts, and proposals were submitted by parties in their opening comments. IEP responds to these issues in the section below.

1. Implementation Schedule

Currently, the Commission (in coordination with the California Independent System Operator (CAISO) and the California Energy Commission (CEC)) is working on detailed, analytical studies to inform policymakers and the public about the capacity value of renewable resources and the flexible capacity needs of the CAISO to maintain grid reliability. The results of these studies can and should inform the Commission in a number of critical areas, including providing an assessment of the forecasted integration costs of renewable resources, particularly intermittent renewable resources. Unfortunately, these studies are in process, and no one has a firm answer about when these studies will be completed and adopted by the Commission for use in either the Long-Term Procurement Plan (LTPP) or RPS context.

Some parties recommend delaying development of integration cost adders pending completion of the LTPP proceeding.[1] Most parties recommend developing an appropriate methodology in the current proceeding related to the approval of the utilities' RPS procurement plans, and incorporating an integration cost adder in the first RPS competitive solicitation following approval of the RPS procurement plans.

IEP opposes delaying the development of RPS bid evaluation factors pending completion of the LTPP proceeding, which will not be concluded until late 2015 or early 2016. Rather, IEP recommends using the RPS procurement plans as the means to derive the appropriate integration cost adder for purposes of bid evaluation in RPS solicitations.

[1] Opening Comments of Union of Concerned Scientists, p. 2.

2. Role of Complex Modeling

Some parties have argued for complex production cost modeling as the means to determine the appropriate integration cost factors by project.[2] While IEP is not opposed to such an approach, IEP has two concerns. First, IEP opposes use of production cost models that are not employed in an open, transparent manner with stakeholder input. Second, IEP opposes delaying the application of an integration cost adder in RPS bid evaluation pending development and approval of any complex production cost model. PG&E's proposal deserves consideration in a stakeholder workshop.

3. Technology-based Integration Cost Adders

Some parties suggest that integration cost adders should be developed for individual projects or specific geographic locations.[3] While IEP does not oppose an approach that could generate accurate and timely information at this level of specificity, any such methodological approach to obtain project-specific or location-specific integration cost adders requires complex modeling. Complex modeling necessary to achieve reasonable integration cost adders for RPS resources does not appear available at this time for public review and comment. Moreover, as noted above, IEP has concerns about the complexity, lack of transparency, and potential for delay implied by this approach.

Rather than delaying the application of an integration cost adder pending more specific detailed modeling and the necessary public review of modeling efforts, IEP supports moving ahead with developing and applying a transitional proxy integration cost factor that reasonably approximates the integration costs associated with various renewable technologies.

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[2] See Comments of Pacific Gas and Electric Company, p. 2 *et seq.*
[3] Comments of Calpine Corporation, p. 8; Comments of Brightsource Energy, Inc., p. 4.

For purposes of bid evaluation, the Commission should create a unique integration cost adder for the following renewable resource types:

- Geothermal;
- Biomass/Landfill Gas;
- Small Hydro;
- Solar PV (Grid Connected);
- Solar PV (Behind the Meter);[4]
- Solar Thermal; and
- Wind

B. Integration Cost Adder Methodology: Key Variables For Inclusion

Parties have various proposals about what variables should be included in a methodology assessing overall integration costs. IEP's responses to individual proposals are set out below.

1. Increased Wear and Tear from More Frequent Cycling of Conventional Resources

Some parties propose to include in an overall integration cost adder the costs associated with increased wear and tear from more frequent cycling of conventional resources.[5] IEP has concerns about integrating this variable into an integration cost adder at this time.

The primary purposes for developing an integration cost factor is to compare renewable resources in bid evaluation. While an integration cost adder could apply to individual projects, an individual project approach may be technically infeasible and could interfere with the timely implementation of the RPS. The data required to make this variable useful for distinguishing individual projects in RPS bid evaluation is (a) highly complex, (b) not readily available in the public domain, and (c) so locationally specific as to make its verification

[4] Behind the Meter Solar PV is not subject to LCBF bid evaluation, but assessing the integration costs, if any, of this resource seems reasonable and necessary from a policy and procurement perspective.
[5] See Southern California Edison Comments, p. 4 *et seq*.

difficult. At this point, IEP cautions against relying on highly complex tools to assign integration cost adders for specific projects in the absence of clearer evidence of the feasibility of this approach.

2. Incremental Increases in Flexible Capacity Requirements

Some parties argue for including the incremental costs of flexible capacity reserves needed to integrate renewable resources reliably into the electric grid.[6] IEP agrees that an integration cost adder should include an estimate of the capacity cost of incremental flexible resources needed to integrate renewable resources in a reliable manner.

Any methodology imputing a flexible capacity component to an integration cost factor needs to account for a fundamental reality: flexible capacity is procured due to variances in both supply and demand. Accordingly, proposals for integrating flexible capacity costs as an aspect of an overall integration cost factor need to account for the fact that some significant portion of flexible capacity needed to maintain overall grid reliability is unrelated to variations in energy deliveries from intermittent resources; rather this flexible capacity is due solely to variations in load.

Parties generally note that, in most cases, the costs associated with the flexible capacity needs are relatively unknown today, but are expected to be publicly available in the relatively near future (*e.g.,* once a market for flexible capacity is operating). The CAISO is conducting studies on this matter in the LTPP proceeding, and the CAISO and the Commission are moving to implement a Flexible Resource Adequacy (RA) capacity obligation and a Flexible Ramping Product. However, the information on the costs associated with these obligations and products is not expected to be available until next year.

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[6] See Southern California Edison's Comments, p. 5; Comments of Calpine Corporation, p. 10 *et seq.*

Because the information from CAISO studies or markets is not likely to be available for use in solicitations resulting from the current RPS procurement plans, IEP recommends developing an interim, proxy measure for flexible capacity needed to integrate renewable resources. CalWEA proposes an approach based on the Effective Load Carrying Capacity (ELCC) work that deserves further consideration in a stakeholder workshop.

3. Regulation

Some parties propose including Regulation costs from CAISO ancillary services markets in the formula for calculating an integration cost adder.[7] IEP concurs that Regulation is a product necessary to integrate resources, particularly renewable resources and intermittent solar and wind. Calpine proposes a methodology for approximating a cost for Regulation that justifies further consideration in a stakeholder workshop.

4. Need to Construct New Conventional Generation

Some parties propose that the costs associated with the construction of new conventional generation should be included as a component of the integration cost factor.[8] IEP concurs that the costs associated with the need for new conventional generation to support the integration of renewables should be included in the methodology. However, IEP is unclear about how these imputed capacity values will be assigned for the purposes of bid evaluation to individual renewable bid submittals. For example, will the capacity costs of system, local, and flexible RA resources be applied? If so, how? SCE proposes a methodology for approximating the cost of the need for new conventional generation that deserves further consideration in a stakeholder workshop.

[7] See Comments of Calpine Corporation, p. 10.
[8] See Southern California Edison Comments, p. 7.

5. Other Qualitative Factors

Some parties argue for the inclusion of "other qualitative factors" in the integration cost adder.[9] The purpose of including other, undescribed and undefined factors is to provide additional flexibility to the utilities in the bid selection process.

IEP opposes any factors, quantitative or qualitative, that are not considered in an open, transparent manner with stakeholder input. Unspecified, unknown "qualitative factors" are particularly problematic, because of the possibility that these factors may in the end override the effects of all the other variables being considered in the least-cost/best-fit (LCBF) methodology approved by the Commission. Moreover, IEP's understanding is the utilities currently have a great deal of flexibility in bid evaluation and project selection, and adding a variable into the integration cost factor methodology solely to provide additional flexibility is unwarranted and inconsistent with the Commission's goal of promoting greater transparency in competitive procurements.

6. Other Quantitative Factors Should Be Excluded from Integration Cost Adder

Some parties note that other variables or factors *unrelated* to the integration of renewables should *not* be an input into the integration cost adder. [10] IEP concurs. While perhaps some of these factors (*e.g.,* fuel hedging, reduction in carbon and carbon costs) may merit inclusion in the LCBF bid methodology, factors like these that are unrelated to the direct costs of integrating renewables into the electric grid should not be considered in the development of an integration cost adder.

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[9] See Southern California Edison Comments, p. 7.
[10] See Comments of Brightsource Energy, Inc., p. 8.

II. CAPACITY VALUATION PROPOSAL

A. Retain Positive RA Value

Some parties have argued that the utilities' LCBF bid evaluation methodology should reflect system capacity needs forecasted in the Commission's most recently adopted LTPP proceeding.[11] These parties recommend that the Commission should direct the utilities to use a zero RA value for all RPS bids including both energy-only (EO) and Full Capacity Deliverability Status (FCDS) projects. IEP has a number of concerns regarding this proposal.

First, as a result of repeated signals by the utilities, the CAISO, and the Commission over the years, interconnecting renewable resources have sought full deliverability status in the CAISO interconnection queue in order to meet procurement and policy demands. In doing so, these resources have incurred significant costs (or commitments to pay) for the transmission infrastructure needed to ensure full deliverability preferred by the utilities. Commitments like these are now embedded in interconnection arrangement with the CAISO and transmission owners. Changing the market signals today regarding the buyers' preference for fully deliverable resources undermines these investments and commitments without good cause.

Second, the LTPP process as a general rule covers a forecast period of 10 years. While the current LTPP proceeding is investigating a 2030 planning scenario, the accuracy of forward planning beyond 2024 is highly speculative, and this fact is recognized by most modelers. On the other hand, RPS contracts typically extend for 20-25 years (particularly for new resources). It would be inappropriate to base bid evaluation for 20-25 year RPS contracts on forecasts of the need for new RA capacity today when even the modelers would agree that today's forecasts are highly speculative over a 20-25 year contract term.

[11] Comments of California Wind Energy Association, p. 9.

Third, to the extent that the utility may wish to "count" RPS resources against RA obligations in the future, then the RA value should be recognized in RPS bid evaluation today. Whether the utility will wish to include RPS resources in meeting its RA obligations is unknown (and may change over time); however, it seems prudent to include a positive RA value in bid evaluation.

B. Methodology for Assessing Capacity Value of RPS Resources

Most parties argue for including a positive valuation for RA capacity in bid solicitations. Many parties advocate for applying ELCC factors when determining the capacity value of specific resources in RPS bid evaluation.[12] On the other hand, some parties argue for applying proprietary calculations based on a load-serving entity's forecast capacity valuation methodology.[13]

If ELCC factors approved by the Commission are available prior to release of a utility RPS Request for Offers (RFO), then these factors ought to be employed as a means to value and distinguish RA capacity among various technologies in bid evaluation. To the extent that ELCC factors have not been approved by the Commission, IEP urges the Commission to act expeditiously to finalize and approve ELCC factors for renewable resources prior to the next RPS RFO. If new ELCC factors are not approved by the Commission prior to the next RPS RFO, then IEP recommends re-applying the capacity factors used in the last RPS RFO (*i.e.,* maintain the status quo) rather than delaying an RPS RFO pending completion of ELCC factors that may prove controversial.

[12] See Comments of California Wind Energy Association, p 11; Comments of Calpine, p. 3.
[13] See Comments of Pacific Gas and Electric Company, p. 14; Comments of SCE, p. 9.

C. Single Set of TOD Factors for Full Capacity Deliverability Status and Energy-only Projects

Some parties advocate for applying a single set of Time-of-Delivery (TOD) factors for RPS resources, including both FCDS and EO projects.[14] As noted by SCE in its RPS Plan, the rationale for applying different TOD factors for allocation of capacity value based on whether a unit is fully deliverable or energy-only is flawed and unwarranted. IEP concurs. Furthermore, as noted by SCE, there are other means to distinguish the value of deliverability among discrete projects.

III. ENVIRONMENTAL SCREEN FOR BID EVALUATION

Some parties have argued for an environmental screen in bid evaluation and bilateral contracting.[15] This matter has been addressed and briefed fully by parties.[16] By reference, IEP adds its prior comments on this matter hereto. Overall, and for the reasons stated before, IEP opposes this proposal. Imposing an environmental screen in bid evaluation will serve only as an additional barrier to the development of the preferred resources sought by policymakers to meet the state's statutory and environmental objectives.

IV. CURTAILMENT

A number of parties commented on the utility-proposed curtailment provisions, particularly proposals to reintroduce unlimited compensated buyer-directed curtailment and automatic curtailment based on CAISO market signals.[17] The concerns included the disproportionate impact on projects relying on various federal tax policies (*i.e.,* PTC vs. ITC),

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[14] See Comments of the California Wind Energy Association, p. 10; Southern California Edison 2014 RPS Procurement Plan, Volume 1, June 4, 2014, at p. 18.
[15] See Opening Comments of the Nature Conservancy, *et al.*, p. 1 *et seq*.
[16] See comments in response to the Administrative Law Judge's Ruling Issuing Staff Proposal to Reform Procurement Review Process for Renewables Portfolio Standard Program, Setting Comments Dates, and Entering Staff Proposal into the Record (April 8, 2014).
[17] See Comments of California Wind Energy Association, p. 4 *et seq.*; Comments of the Large-Scale Solar Association, p. 2 *et seq*.

the unilateral unbounded nature of the right to curtail, and the need to integrate into the utilities' pro forma contracts the treatment of curtailment as a policy matter.

IEP concurs with these concerns. As noted by IEP in its Opening Comments, first and foremost, curtailment provisions must not impede the developer's ability to finance the project. To the extent that curtailment is imposed on RPS projects, the risk of curtailment must be bounded. Unlimited curtailment, even if partially compensated, fails this test.

As noted by IEP and others,[18] current state law and policy create a floor on RPS procurement as a percentage of retail sales. The Commission has the authority to require utilities to purchase renewable energy exceeding 33% of retail sales, and IEP urges the Commission to provide a policy and contractual platform for purchases in excess of the 33% minimum requirement.

Moreover, proposals for unbounded curtailment impose an additional barrier to RPS purchases from grid-connected, utility-scale RPS-eligible resources. Other similar resources (*e.g.,* rooftop solar) face no similar barriers to the delivery of energy. Rather than create a barrier to energy production from these preferred resources (within a contracted capacity limit), the Commission should encourage maximum energy production technically feasible within a contracted, nameplate rating capacity limit, and consistent with ensuring grid reliability.

V. CONCLUSION

Overall, IEP recommends that the Commission move expeditiously to convene stakeholder workshops as soon as possible to address a number of RPS program design features that merit additional scrutiny. For example, IEP urges the Commission to hold a workshop to

[18] See Comments of the Center for Energy Efficiency and Renewable Technologies, p. 2; Comments of the Large-Scale Solar Association, p. 1.

address the technical issues associated with determining a methodology for calculating or estimating:

- The appropriate RA values for use in bid evaluation (*e.g.,* apply ELCC if available; apply proxy value; apply outcome of production cost modeling);
- An integration cost adder to be applied by RPS resource technology, including a methodology for determining regulation value; and
- The costs of new, incremental flexible RA capacity needed to integrate intermittent resources.

In addition, IEP recommends removing barriers to timely and cost-effective RPS development by rejecting the use of environmental screens in bid evaluation and contracting; ensuring that utility pro forma contract curtailment provisions are bounded, financeable, and provide the requisite optionality required of a diverse supply of RPS resources; and developing a methodology for calculating an integration cost adder for consideration in an open, transparent forum.

On July 21, Energy Division staff distributed to stakeholders "Questions to Guide Reply Comments." IEP's Reply Comments, above, address most of the questions posed by staff; however, IEP's Reply Comments are not necessarily arranged in the same order as the questions. Accordingly, in Attachment A to these comments, IEP responds to the questions posed by staff.

Respectfully submitted this 30th day of July, 2014 at San Francisco, California.

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ATTACHMENT A:

RESPONSES OF IEP TO QUESTIONS TO GUIDE REPLY COMMENTS

Questions to Guide Reply Comments

1. **There is general consensus among parties that an integration adder should be dynamic, updated frequently and differ based on technology and location. Furthermore, most parties agree that an adder should only include the indirect costs associated with integrating variable energy resources such as costs associated with regulation, ramping and cycling. If this is the case, should the term "integration adder" be changed to reflect these agreed upon attributes if what ends up being calculated are unique costs for each technology based on changes in electrical systems' portfolio mixes over time? What is your recommendation and what standard "term" and "definition" do you believe the CPUC should adopt?**

   IEP does not believe that the term "integration adder" needs to be changed. First, the RPS statute uses the term "cost" in conjunction with "integration" (PU Code §§ 399.13(a)(4)(i), 399.26(b)(i). Retaining the phrase is consistent with the statute. Second, parties are familiar with the term, and absent some compelling reason to change, the Commission should retain the concept. Finally, once the attributes of the integration adder are determined, they will be embedded in the concept "Integration Adder," and that is sufficient for stakeholders and policymakers to appreciate what the factor represents.

2. **If integration adders were developed in the LTPP Proceeding, would updating the adders best be achieved by including that as part of the biennial LTPP process? If not, what frequency and manner would be ideal? How would those results be introduced into the LTPP record?**

   As noted in IEP's Reply Comments (*e.g.,* pp. 2-3), the Commission should not wait for completion of the LTPP proceeding to determine an effective integration cost adder for purposes of RPS bid evaluation. Further, the determination of the integration cost factor for purposes of RPS bid evaluation is aligned more properly with the annual RPS procurement plant proceeding, as opposed to the biennial LTPP. Only if the annual RPS proceeding were terminated would it make sense to consider updating this factor in the biennial LTPP proceeding.

3. **Three general approaches to calculating integration adders were identified by parties – 1) using values from publicly available studies, 2) using market-based cost data from CAISO's regulation and upcoming flexible capacity markets, and 3) using the operational flexibility studies currently scoped in the LTPP proceeding to**

inform the development of integration adders. Please comment on the advantages and disadvantages of each approach and recommend a procedural framework for implementing your preferred approach. If your recommended framework utilizes more than one approach please be specific regarding the procedural steps and timeline that the CPUC should follow in developing integration adders.

As noted in IEP's Reply Comments (*e.g.,* pp. 2-4, 5-6), the methodology for determining an integration cost factor in bid evaluation must be publicly vetted and transparent to the extent practical. Both publicly vetted studies and CAISO studies serve this purpose. On the other hand, studies of other areas outside of California are not likely to accurately represent the integration costs of renewables in California. Moreover, CAISO studies or market results may be appropriate, but they may not provide reliable data for some time in the future. For the next round of RPS RFOs, consideration of a proxy integration cost adder based on empirical evidence, studies, and other sources available today for public review may need to be considered.

4. **Do you think it is important for the Commission to determine a methodology for the development of integration adders as well as calculate the values to be used in LCBF? Or is it more appropriate that the IOUs be responsible for calculating integration cost adders based on the methodology developed by the CPUC? Please recommend your preferred approach by weighing the strengths and weaknesses of allowing for IOU-based values. In considering your recommendation, how important is it that the values calculated be verifiable by parties?**

The Commission should take the lead role in determining the methodology for assessing integration costs in bid evaluation. Furthermore, the Commission through its Energy Division should take the lead role in affirming the value of individual variables that are embedded in the methodology. IEP remains concerned with processes that lead to "black box" decision-making by buyers in what otherwise should be a relatively transparent bid evaluation process. In particular, IEP is concerned with proposals to use unknown and unspecified "qualitative factors" or unrelated "other quantitative factors" in RPS bid evaluation. See IEP Reply Comments, p. 7.

5. **Do you think it is important for the CPUC to adopt a methodology to calculate integration adders in time for the 2014 RPS Solicitation beginning in early 2015? If so, can any of the three general approaches mentioned in Question 3 meet this objective while also providing reasonable and defensible cost estimates? In addition, do you believe integration adders, if calculated using one of the three approaches, will be significant enough to alter procurement decisions?**

As noted in IEP's Reply Comments (*e.g.,* p. 5), it is important to calculate integration cost adders in time for the 2014 RPS Solicitation beginning in early 2015. However, IEP also is adamant that the implementation of the 2014 RPS Solicitation in early 2015 need

not and should not be delayed pending determining of these factors based on complicated modeling routines or LTPP studies to be completed.

6. **In its comments, PG&E provided a framework for calculating integration adders using production cost modeling. If parties agree that production cost modeling should be utilized to determine the costs associated with integrating renewables, do you agree with the framework that PG&E has proposed? Are there any modifications to the framework that you would make? If so, provide a modified framework in your response.**

   As noted in IEP's Reply Comments (p. 3), IEP is not opposed to considering PG&E's suggested approach. However, IEP opposes delays in procurement while stakeholders and the Commission fully consider this approach. PG&E's proposal should be subject to a stakeholder workshop to evaluate its merits and determine the feasibility of its timely development.

7. **Integration costs may rise as the saturation level of renewable resources increases over time. If production cost modeling is used to assist in developing integration adders, what level of renewable saturation should be assumed and what is your rationale?**

   This matter requires a stakeholder workshop. In theory, production cost modeling will suggest an integration cost adder valued between zero ($) and infinity ($). Accordingly, setting an assumed "saturation level" seems unnecessary.

8. **In its comments, CalWEA provided a framework for calculating the short-term, medium-term and long-term costs associated with renewable integration. Please comment on the practicality of this framework and whether you think it could meet the objective of developing integration adders that are reasonable and defensible. What refinements need to be made to the proposed framework for it to achieve the stated objectives?**

   IEP is not opposed to adopting an integration cost factor associated with the duration of the as-bid contract. However, a stakeholder workshop is necessary to determine the technical and practical feasibility of this approach.

VERIFICATION

I am the attorney for the Independent Energy Producers Association in this matter. IEP is absent from the City and County of San Francisco, where my office is located, and under Rule 1.11(d) of the Commission's Rules of Practice and Procedure, I am submitting this verification on behalf of IEP for that reason. I have read the attached "Reply Comments of the Independent Energy Producers Association on the RPS Procurement Plans," dated July 30, 2014. I am informed and believe, and on that ground allege, that the matters stated in this document are true.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 30th day of July, 2014, at San Francisco, California.

/s/ Brian T. Cragg
Brian T. Cragg

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