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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue Implementation and Administration, and Consider Further Development of, California Renewables Portfolio Standard Program.	Rulemaking 15-02-020 (Filed February 26, 2015)

ADMINISTRATIVE LAW JUDGE'S RULING SEEKING POST-WORKSHOP COMMENTS

1. Background

1.1. Procedural Background

Energy Division staff held a public workshop on February 10-11, 2015 to discuss proposed revisions to the Renewables Portfolio Standard (RPS) Calculator Version 6.0. The content of the workshop was informed by comments filed in Rulemaking (R.) 11-05-005 in response to the Administrative Law Judge's Ruling: (1) Issuing an Energy Division Proposal on the Renewables Portfolio Standards Calculator, (2) Entering the Proposal into the Record, and (3) Setting a Comment and Workshop Schedule (October 10, 2015).[1]

The agenda, presentations, and other materials referenced in the workshop are available in the RPS section of the Commission's website.[2] Energy Division

[1] This proceeding is the successor proceeding to R.11-05-005. The record of R.11-05-005 was transferred to this proceeding by Ordering Paragraph 17 of R.15-02-020.

[2] They may be found at http://www.cpuc.ca.gov/PUC/energy/Renewables/RPS+Proceeding+Materials+Version+6.htm.

staff will be making changes to the RPS Calculator Version 6.0 in response to party comments. The changes currently planned are summarized in the Draft Staff Work Plan, attached to this ruling as Attachment A.

1.2. RPS Calculator Current Status

For ease of reference in preparing and responding to comments, Energy Division staff has developed a summary of the current status and intended uses of the RPS Calculator. These intended uses are not exclusive, and additional or different use of the RPS Calculator may be made by the Commission and/or by other agencies.

2. Long Term Procurement Planning Proceeding (LTPP)

The overall objective of the Commission's LTPP proceeding is to ensure the availability of safe, reliable capacity that complies with State policies at the least possible cost to ratepayers. To achieve this, the LTPP develops assumptions and future scenarios, looking ten years out, that represent a range of potential load and procurement possibilities. These scenarios are then tested to evaluate the need for incremental system, local, and flexible resources and authorize procurement, if necessary. LTPP does not quantify the renewable resources needed to meet RPS goals, but incorporates the forecasts of those resources, as produced by the RPS Calculator, in determining system, local, and flexible resource needs.

3. California Independent System Operator's Transmission Planning Process

The objective of the annual Transmission Planning Process (TPP) of the California Independent System Operator (CAISO) is to identify transmission infrastructure requirements for the CAISO balancing authority. To perform this analysis of potential transmission needs, CAISO uses the same planning

assumptions as the Commission does in the LTPP. Thus, the Commission and CAISO strive to use a single set of assumptions to perform their analyses of need for generation and transmission resources, respectively.[3]

4. CAISO Special Studies

Within the TPP, CAISO has the ability to conduct transmission studies that are for informational purposes outside the normal scope of its other studies.[4] The portfolios that CAISO studies for informational purposes may anticipate policies not yet adopted, such as an RPS procurement requirement above 33% of retail sales. Studies outside the normal scope of TPP studies are sometimes referred to as "special studies."

5. Overview of RPS Calculator Uses in 2015-2018 Planning

The RPS Calculator is being developed with the intention of producing outputs, or portfolios, that serve as inputs into the activities listed below.

- 2015 CAISO Special Study
- 2016 LTPP
- 2016-2017 TPP
- 2017-2018 TPP
- Future LTPP and TPP analyses

RPS Calculator outputs may also inform other activities, as deemed appropriate by the relevant entities.

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[3] CAISO's tariff (§ 24.3) specifies the process it must follow in developing the Unified Planning Assumptions and Study Plan in the first three months of each TPP cycle, including opportunities for stakeholder input (§ 24.3.3). Assumptions and scenarios developed through the inter-agency process will inform the development of the CAISO's adopted TPP assumptions and scenarios to the extent feasible.

[4] *See* § 4.2.4 of the CAISO Transmission Planning Process Business Practice Manual, found at http://bpmcm.caiso.com/BPM%20Document%20Library/Transmission%20Planning%20Process/TransmissionPlanningProcessBPM-V13.doc.

6. Comments

Comments should be complete in themselves and address the questions set forth below. Comments should not incorporate by reference or attach any prior comments filed in R.11-05-005 in response to the October Ruling, or comments on prior versions of the RPS Calculator.

Comments should be as specific and precise as possible. Quantitative examples or illustrations should be used where relevant and helpful. References to legal arguments or legal standards must be supported with specific citations.

All comments should use publicly available materials. All comments should specifically identify, with respect to each question where it is relevant, whether the sources of information addressed in the response to the question are public or confidential. If both public and confidential sources of information are identified, the comments should clearly identify which are public and which are confidential.

Comments of not more than 30 pages may be filed and served not later than April 27, 2015. Reply comments of not more than 15 pages may be filed and served not later than May 8, 2015.

7. Questions for Comment

7.1. "Use-specific" questions

The questions in this section are intended to help clarify and improve the RPS Calculator from the perspective of the use to which the outputs (portfolios) of the RPS Calculator are put. Parties should refer to the "Overview of Uses," above, in responding to these questions. Responses should clearly indicate the specific use being addressed; if the response is intended to cover more than one use (or all uses), the response should clearly indicate which uses are being addressed:

1. What aspects of the RPS Calculator appear to work well for the intended use?
2. Are there any aspects of the RPS Calculator that make it unacceptable for the intended use? If so, what changes do you propose to correct the problem you identify?
3. What are additional improvements that would make the RPS Calculator even better for the intended use?
4. Given the potential for much larger net short in the case that RPS or other policies target an increase of RPS-eligible energy to 40%-50% of retail sales, should the RPS Calculator be used to generate multiple reasonably plausible patterns of development? If not, why not?
5. If multiple scenarios should be generated, which scenarios, or types of scenarios, should be represented among the portfolio(s) available for the intended use?
6. What criteria, if any, should be applied to determine if RPS portfolios need to be manually adjusted to reflect commercial viability or environmental plausibility? How should these criteria be developed? (For example, through a stakeholder process; staff analysis; formal comments; etc.)
7. Should environmental or land-use type "screens" be applied to remove from consideration those areas where development of significant RPS-eligible generation is undesirable or unlikely due to environmental and/or land-use concerns? If not, why not?
8. If environmental or land-use type "screens" should be applied, what source or sources should be used to develop and vet the screens? Please provide citations to any publicly available information used in your answer. If information is used that is not publicly available, please identify the type of non-public information and its significance for your answer.
9. If additional information should be considered for the RPS Calculator, what information should be used? How would

that information improve the RPS Calculator? Please provide citations to any publicly available information used in your answer. If information is used that is not publicly available, please identify the type of non-public information and its significance for your answer.

7.2. General questions

10. What changes, if any, are required in the process through which RPS portfolios are developed and selected for the purpose of transmittal to CAISO? If no changes are required, why not?

11. If you propose changes, please explain the reason the changes are needed and the value of making the changes. In your explanation, consider at least:

    - the timing of portfolio development;
    - the opportunities for stakeholder involvement.

12. How frequently should inputs and assumptions used in the RPS Calculator be updated? Why?

13. Should the planning activities and analytic development associated with the RPS Calculator be used more directly to inform RPS procurement? If these RPS Calculator-associated elements should not be used more directly, why not?

14. If you think these elements should be used more directly, how should they be used? (For example, use concepts developed for the RPS Calculator in the least cost best fit (LCBF) process; use actual value from the RPS Calculator in the LCBF process, etc.) Why? What value would your proposed uses add to the current RPS procurement process?

IT IS RULED that:

1. Post-workshop comments of not more than 30 pages may be filed and served not later than April 27, 2015.

2. Reply comments of not more than 15 pages may be filed and served not later than May 8, 2015.

3. Comments and reply comments must be filed in this proceeding, Rulemaking 15-02-020.

4. Comments and reply comments must be served on the service list of this proceeding, Rulemaking 15-02-020.

5. Although Comments will be served on the service list of Rulemaking (R.) 15-02-020 only, this ruling will be served on the service lists for R.11-05-005 and R.15-02-020.

Dated April 13, 2015, at San Francisco, California.

/s/ ANNE E. SIMON
Anne E. Simon
Administrative Law Judge

ATTACHMENT A

Energy Division Staff's Draft 2015-2016 RPS Calculator Work Plan

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Energy Division Staff's Draft 2015-2016 RPS Calculator Work Plan

Energy Division staff have planned a number of changes to the RPS Calculator based on input received from parties in response to the Staff Proposal issued in October 2014 and at the workshop held on February 10-11, 2015. The changes currently planned by staff are summarized in Table 1.

Staff intends to use a combination of working groups and workshops to inform additional revisions to the RPS Calculator. Staff currently contemplates three areas in which the use of additional workshops and/or working groups may be appropriate.

1. Developing plausible portfolios to establish transmission lines of least regret.
2. Developing a standardized process and schedule for updating the RPS Calculator and vetting portfolios produced by the RPS Calculator.
3. Exploring development of functionalities for environmental screening and scoring in the RPS Calculator
   a. Characterizing the nature and magnitude of the issues, using one or more scoping workshops;
   b. Addressing the problems identified through the initial scoping work, using additional workshops and/or a working group.

The revisions to the RPS Calculator that will be informed by workshops and working groups are envisioned to occur in batches that will be staged according to the intended use of the portfolios produced by the RPS Calculator. Each new set of revisions that is released to the public will be designated with a new version number.

RPS Calculator Uses in 2015-2018 Planning

<u>2015 CAISO Special Study</u>

CAISO's Draft 2015-2016 Transmission Planning Process Unified Planning Assumptions and Study Plan includes a proposed special study developed in conjunction with Energy Division staff. The objective of the 2015 CAISO Special Study is to assess technical constraints on using energy-only power purchase agreements (PPAs) as a strategy for increasing the procurement of renewable resources to 40% or more of overall retail sales. In the past, most renewable PPAs approved by the CPUC provided for full deliverability.

The primary purpose of using RPS Calculator outputs in the 2015 CAISO Special Study is to identify locations that may be subject to congestion in the event of unlimited energy-only procurement in a future year in which renewable energy resources supply 40% or more of retail electricity sales. Energy Division staff understand that there are two secondary purposes for the 2015 CAISO Special Study: 1) to quantify the amount of renewable curtailment that would be caused by any predicted congestion; 2) to quantify the costs of transmission infrastructure needed to partially and/or completely alleviate predicted congestion.

2016 LTPP

The RPS Calculator serves as a key input to the LTPP process, by developing projected portfolios of renewable resources that are likely to be procured. Since policy choices can affect the mix of renewable resources that are procured the future, more than one type of RPS portfolio is likely to be necessary to reflect a range of plausible future scenarios.

2016-2017 CAISO TPP

The primary purpose of using RPS Portfolios in the 2016-2017 CAISO TPP is to identify transmission lines that are likely to be needed for achieving compliance with the RPS and any other related policies, while maintaining reliability.

2017-2018 CAISO TPP

As currently planned[5], the 2016-2017 study plans developed through the LTPP and TPP will use inputs and assumptions to be developed in a thorough review and study process to be completed in the fall of 2015. In contrast, the study plans for the 2017-2018 TPP will rely on a more limited update to the assumptions (include RPS portfolios) developed in 2015. The purpose of the more limited update is solely to ensure that the data used in the upcoming plans are as current as possible.

Future LTPP and TPP

In the future, the respective CPUC and CAISO cycles will use the most recent RPS portfolios to inform planning. These projected future scenarios will be viewed in conjunction with revised data reflecting energy demand forecasts and changes to the supply of generation.

[5] http://www.cpuc.ca.gov/NR/rdonlyres/367DF06D-05A4-4819-A632-1AF64368A0D4/0/ProcessAlignmentText.pdf.

Schedule for RPS Calculator Revisions

Each activity in which the RPS Calculator outputs will be used has a different objective. Therefore, the schedule for completing future revisions is organized according to when the outputs are required by each activity and the purpose of using the outputs in that activity.

The schedule for revising the RPS Calculator is designed to ensure that modifications to the RPS Calculator are staged in such a way that it produces outputs that are appropriate for each intended use (e.g., 2015 CAISO Special Study, 2016 LTPP, 2016-2017 CAISO TPP). The schedule also reflects technical and staff resource limitations.

Three dates are critical for revisions to the RPS Calculator, because they establish when RPS Calculator outputs will be required: 1) the beginning of the 2015 CAISO Special Study; 2) the launch of the 2016 LTPP proceeding and 2016-2017 TPP cycles; and 3) the launch of the 2017-2018 TPP cycle. Energy Division staff will coordinate internally and with the relevant agencies to establish firm dates for each of these milestones.

The schedule shown in Table 2 is designed to ensure that modifications to the RPS Calculator are staged in such a way that it produces outputs that are appropriate for each intended use. Parties should note, however, that the current approach to LTPP-TPP process alignment calls for a complete development of assumptions and RPS portfolios in 2015 to inform the 2016 LTPP and 2016-2017 TPP. To maintain consistency with that approach, the determination of the types of portfolios to be used would be made in the fall of 2015. In 2016, the actual content of the portfolios developed with the RPS Calculator could be altered, but the types of portfolios to be used should have been selected the previous year. A potential shortfall of this approach is the fact that modifications in RPS Calculator functionality are anticipated in 2016. As a result, it may be desirable for a different set of portfolios to be developed in 2016 for use in the 2016-2017 TPP than those selected in 2015.

Table 1. Revisions to RPS Calculator Planned for 2015 Q1-Q2

The following table summarizes the planned changes to RPS Calculator Version 6.0 that are currently planned. The next public release of the RPS Calculator will be called RPS Calculator Version 6.1.

Element	RPS Calculator Version		Rationale or Comment
	6.0	6.1	
Data/Inputs			
DG Projects	2013 E3 LDPV Technical Potential Study	Detailed Aerial Imagery assessment by Black & Veatch	More granular, accurate, and current
Conceptual Tx costs	Old	New	More current
AC costs	Included	Included	
DC costs	Not included	Included	Allows for consideration of DC-based out of state Tx lines
Results of SCE Storage solicitation	Not included	Included	Accounts for ability of procured storage to mitigate oversupply-based curtailment costs
POU resources	Limited	Limited	Pending CEC reform of required data submittals
CCA and ESP resources	Not included	Limited	Pending CPUC revision of required data submittals
Integration Adder	0	California-specific value based on production simulation modeling	More accurately reflects the total costs of

			marginal renewable procurement by accounting for variable costs in existing fleet
Resource Potential (supply curve)	• Updated from v.5 • One supply curve	• further refined from v. 6.0 with updates to resource potential and costs • includes new DG potential • multiple supply curves reflecting different land use and DG screens	Facilitates comparative policy analysis
Functionality			
Include Integration-Related Costs	Only oversupply-based curtailment	Oversupply based curtailment and variable costs	More appropriate and inclusive California-specific value
Model hydro	Available	Refined	More accurately reflect hydro resource behavior
Calculate Energy Value	Included using these renewable resources profiles: • CSP No Storage • CSP With Storage • Solar PV Dist • Solar PV Utility • Wind Coastal • Wind Inland	Updated or additional resource profiles: • Solar PV Utility • OOS Wind • TBD	Includes more inclusive, current, and granular set of resource profiles
Save and Compare Multiple Scenarios	Not Available	Available	Facilitates comparative policy analysis

Allow OOS resources	Not Available	Available	Facilitates comparative policy analysis
Allow Energy Only Projects	Available	Available within CAISO-prescribed limits (rules of thumb)	CAISO special study required to develop full optimization of transmission and energy-only procurement tradeoffs
Allow Partial Deliverability	Not Available	Not Available	CAISO special study required to develop full optimization of transmission and energy-only procurement
Apply Land Use Screens to Limit Resource Selection	Not Available	Available	Facilitates comparative policy analysis
Require SB 1122 Compliance	Not Available	Available	Reflects statutory requirements
Account for effect of storage on energy value and overgeneration	Not Available	Available	Accounts for potential of storage to mitigate oversupply-based curtailment costs
Evaluate impacts of different future load shapes	Not Available	Not Available	Technical challenges restrict availability of this option to future version

Table 2. Schedule of Activities for RPS Calculator 2015-2016

<table>
<tr><th rowspan="2">Date</th><th rowspan="2">Activity</th><th rowspan="2">Activity Topic</th><th colspan="3">Activity Outcome</th></tr>
<tr><th>RPS Calculator Version Number</th><th>Portfolio Type</th><th>Intended Use</th></tr>
<tr><td>2015 Q1-Q2</td><td>Implement Revisions</td><td>See Table 1</td><td rowspan="2">6.1</td><td rowspan="2">Study Only</td><td rowspan="2">2015 CAISO Special Study</td></tr>
<tr><td>2015 Q3-Q4</td><td>Special Study</td><td>Energy Only/Congestion-Driven Curtailment</td></tr>
<tr><td>2015 Q1-Q2</td><td>Form Working Groups</td><td rowspan="4">• Alternative future load profiles
• Process alignment
• TBD depending on stakeholder priorities</td><td rowspan="3">6.2</td><td rowspan="2">Study Only</td><td rowspan="4">• 2016 LTPP
• 2016-2017 TPP
○ New transmission
○ Study Only</td></tr>
<tr><td>2015 Q2-Q3</td><td>Staff and Working Group Activities</td></tr>
<tr><td>2015 Q3 - Q4</td><td>• Implement Revisions
• Develop Staff Proposal</td><td>Draft</td></tr>
<tr><td>2015 Q4</td><td>• Implement Revisions
• Issue Final Portfolios</td><td>6.3</td><td>Final</td></tr>
<tr><td>2016 Q1-Q2</td><td>Continue Staff and Working Group Activities</td><td rowspan="3">• Environmental Screening/Scoring
• Energy Only Transmission Optimization
• TBD depending on stakeholder priorities</td><td rowspan="2">7.0</td><td rowspan="2">Draft</td><td rowspan="3">• 2017-18 TPP
○ New transmission
○ Study Only</td></tr>
<tr><td>2016 Q3</td><td>• Implement Revisions
• Develop Staff Proposal</td></tr>
<tr><td>2016 Q4</td><td>• Implement Revisions
• Issue Final Portfolios</td><td>7.1</td><td>Final</td></tr>
</table>

Table 3. List of Abbreviations and Acronyms

Acronym or Abbreviation	Referent
AC	Alternating Current
CAISO	California Independent System Operator
CCA	Community Choice Aggregation
CEC	California Energy Commission
CSP	Concentrating Solar Power
DC	Direct Current
DG	Distribution Generation
ESP	Electric Service Provider
LTPP	Long Term Procurement Planning
OOS	Out Of State
POU	Publicly Owned Utility
PV	Photovoltaic
RPS	Renewable Portfolio Standard
TPP	Transmission Planning Process

(End of Attachment A)