May 24, 2012

Request for Pre-Workshop Comments on a Renewable Net Short Position Calculation

Comments Due: June 1, 2012 by 5PM
Workshop Date: June 12, 2012, CPUC Auditorium, 12PM-4PM

I. Background

On April 5, 2012 Commissioner Ferron issued an Assigned Commissioner Ruling[1] (ACR) in R.11-05-005 identifying issues and a schedule of review for the 2012 Renewables Portfolio Standard Procurement Plans. These RPS Plans were submitted to the Commission on May 23, 2012. Retail sellers are also permitted to provide non-substantive changes to the plans by August 1, 2012.[2] Specifically, the ACR requires that the large IOUs and ESPs (LSEs) provide a quantitative assessment in their RPS Plans that forecasts the additional renewable generation required (i.e. net short) to comply with RPS procurement quantity requirements recently adopted by the Commission in D.11-12-020[3]. The net short is defined as the amount of new renewable generation necessary for LSEs to meet or exceed the renewable target.[4] The process for calculating the net short includes forecasting the renewable supply and netting the resulting forecast against the renewable target which is measured as a percentage of forecast bundled retail sales. Renewable supply is defined as the amount of renewable generation from contracted facilities both online and under development, after adjusting the forecast for the risk of project failure.

The April 5, 2012 ACR also directs Energy Division Staff to hold a workshop for LSEs and all interested parties to develop a methodology, inputs, and format, as needed, for reporting RPS portfolio needs and procurement net short. Given that the workshop will be after the May 23, 2012 filing of the draft procurement plans, the April 5, 2012 ACR requires the LSEs to submit an updated net short calculation by August 1, 2012 for each compliance year from 2011 to at least 2020 using the new standardized Commission adopted net short methodology.

II. Purpose of Workshop

Energy Division Staff's objective is to develop a standardized net short methodology and corresponding set of assumptions to inform and guide the State's RPS procurement process which includes 1) the evaluation and approval of renewable projects based on portfolio need, 2) the coordination of annual renewable procurement with CAISO's transmission planning process, and 3) to inform the larger resource planning initiative in the Commission's Long-term Procurement Plan (LTPP) process for determining total long-term system needs.[5]

Energy Division Staff requests that interested parties provide comments on the different IOU methodologies and assumptions and respond to the associated questions from Energy Division Staff (sections III-IX). Comments should be served, not filed, on the R.11-05-005 service list no later than 5:00 PM on June 1, 2012. Comments should be limited to 15 pages in length.

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[1] *See* http://docs.cpuc.ca.gov/efile/RULINGS/163513.pdf
[2] Updates are not intended to the form and format of the plan but may be appropriate for limited elements based on changed circumstances or recent information (i.e. new legislation, recent Commission decision, etc.).
[3] D.11-12-020 establishes the annual compliance targets necessary to achieve 33% of renewable generation as a percentage of bundled retail sales by 2020.
[4] The renewable target is currently 33% of bundled retail sales by 2020.
[5] Currently the 2012 LTPP, R.12-03-014.

Based on June 1, 2012 comments by parties, Energy Division Staff will develop a staff proposal for standardizing the renewable net short calculation for LSEs, which will then be vetted by parties at an Energy Division workshop. The workshop will be held on June 12, 2012 from 12PM-4PM in the CPUC Auditorium at 505 Van Ness Ave., San Francisco, CA.

Energy Division Staff will circulate the workshop agenda and staff proposal to R.11-05-005 and R.12-03-014 service lists shortly before June 12, 2012.

III. The Commission's Basic Data Requirements

The Commission has basic data requirements that need to be met in formulating the RPS net short. First, because the portfolios will be used to inform the CAISO's transmission planning process and the system planning process within LTPP, project capacity, technology, annual generation, capacity factor and location are necessary data requirements. In addition, for projects under development it is necessary for the Commission to determine the probability of project success, or conversely, the risk of contract failure. Therefore, it is important that the Commission develop a standard methodology that determines whether a project is included or excluded from the renewable supply forecast based on the likelihood of project success. Lastly, for existing projects that have contracts which are expected to expire in the foreseeable future, the Commission must develop a standard methodology to determine how to account for expiring contracts in the renewable supply.

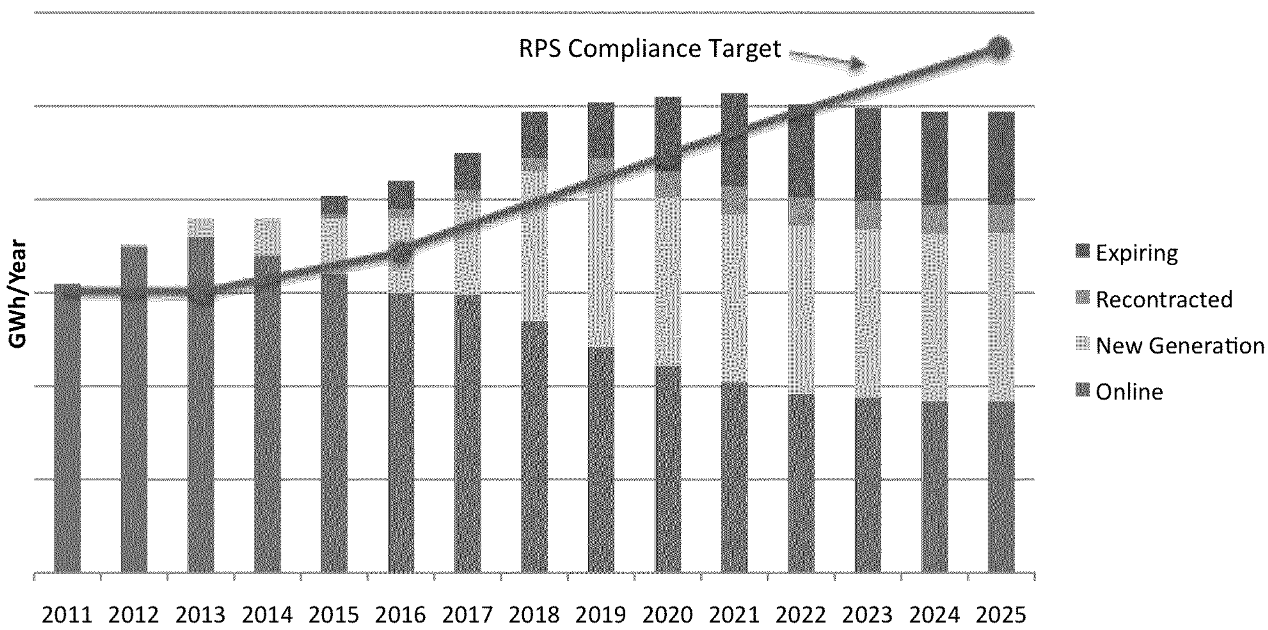
Because of the sensitive nature of determining whether a project (new or expiring) gets included or excluded from the risk-adjusted RPS portfolio that will be submitted to LTPP for planning purposes, the Commission requires that the methodology and assumptions being developed are unbiased, completely transparent and largely accepted by the stakeholder community. We ask all interested parties to keep this in mind when submitting comments.

IV. Definitions: Annual Net Short and Total Net Short Calculations

Energy Division defines the (a) annual RPS risk-adjusted net short calculation and (b) total RPS risk-adjusted net short calculation using the simplified equations below. A graphical representation of a utility's annual RPS risk-adjusted net short position through 2025 is provided in Exhibit 1. The components of the annual RPS risk-adjusted net short calculation that need to be addressed will be explored in sections V-IX below and questions related to each component will be included in each respective section.

> *(a) Annual RPS Risk-adjusted Net Short = (Bundled Retail Sales Forecast x RPS Compliance Target) – (Online Generation + Risk-adjusted Forecast Generation + Re-contracted Generation +Minimum Margin of Procurement – Online But Expiring Generation)*
>
> *(b) Total RPS Risk-adjusted Net Short =* $\sum_{\text{current year + 10 years}}$ *Annual RPS Risk-adjusted Net Short – Bankable RPS Eligible Generation*

Exhibit 1 – Annual RPS Risk-adjusted Net Short Position



Q1: For equations (a) and (b), are all components of the net short calculation accounted for? What other components need to be considered in calculating the net short position?

Q2: Is there any reason why the minimum margin of procurement should not be used to calculate a utility's RPS net short position? Why?

V. Bundled Retail Sales Forecast

The assumptions that each of the three large investor-owned utilities currently uses to forecast bundled retail sales are listed in Table 1. Two utilities use their own internal forecasts and one utility uses the California Energy Commission's (CEC) most recent Integrated Energy Policy Report (IEPR) forecast.[6] Staff recommends that in the future, utility forecasts should utilize the same methodology as determined in the 2010 LTPP bundled plans when calculating the renewable net short.[7] Specifically, the decision stated that for bundled procurement, the utilities can utilize their own forecasts for bundled retail sales for the first five years and use the LTPP standardized planning assumptions thereafter.

Table 1 – Bundled Retail Sales Forecast Assumptions

PG&E	SDGE	SCE
• Generated by internally every January, and may be updated throughout the year as additional data becomes available. • Monthly recorded sales replace forecasts as current year (e.g., 2012) progresses.	• Uses California Energy Commission's most recent Integrated Energy Policy Report (IPER) forecast.	• Generated internally by the utility

[6] *See* http://www.energy.ca.gov/2011publications/CEC-100-2011-001/CEC-100-2011-001-CMF.pdf
[7] D.12-01-033 at pages 15-17 and Ordering Paragraphs at 3, 8, and 9.

VI. Online Generation

Online generation includes utility-owned assets and RPS contracts signed after 2002, pre-2002[8] Qualifying Facility contracts and pre-2002 utility-owned assets. The assumptions that each investor-owned utility uses to determine online generation are listed in Table 2.

Table 2 – Online Generation

PG&E	SDGE	SCE
<u>Contracts executed post-2002</u> • Forecast is based on contract volumes or three-year historical average output (for projects with at least a full calendar year of deliveries if more than 12 months of actual delivery data is available). • Year 2012 deliveries: Recorded meter data replaces forecasted deliveries for all projects as it becomes available. **<u>Pre-2002 QF Contracts</u>** **Baseline Non-Hydro** • Utility forecasts non-hydro QF projects at 95% of their 3-year average output (2008 – 2010), with the slight reduction based on the observation that, for a variety of reasons, these older resources (as a portfolio) have tended to under-deliver when compared to their average historical performance. • Year 2012 deliveries: Recorded meter data (as available) replaces forecasted deliveries for all projects. **Baseline Small Hydro** • Projects are forecast at 75% of normal for 2012 (based on utility's latest internal hydro delivery forecast), 91% of normal for 2013, and 100% of normal for future years.	**<u>Contracts executed post-2002</u>** • Forecast is based on last three year's historical average • Takes into consideration any expected change in generation by reviewing trailing three year historical average and adjusting for extraneous events that are forecast on a monthly basis. • Probability weights all projects to reflect risk associated with uncertainty in forecast (i.e. wind variability) **<u>Pre-2002 QF Contracts</u>** • Same as above	**<u>Contracts executed post-2002</u>** • Forecast is based on last three year's historical average • Year 2012 deliverables: Recorded meter data replaces forecasted deliveries for all projects as it becomes available. **<u>Pre-2002 QF Contracts</u>** • Same as above

[8] Pre-2002 generation represents all renewable generation procured before the development of the RPS Program that is RPS-eligible for compliance purposes.

Year 2012 deliveries: Recorded deliveries are used in place of forecasts as they become available.		

VII. Risk-adjusted Forecast Generation

Risk-adjusted forecast generation represents all generation from two components: 1) projects that are under development that have executed PPAs and for which an advice letter has been filed with the Commission, and 2) generic generation pre-approved through the Commission's Renewable Auction Mechanism (RAM) and Feed-in Tariff (FIT) procurement programs and each utility's respective Solar PV procurement program. The assumptions that each investor-owned utility uses to determine risk-adjusted forecast generation are listed in Table 3. All IOUs employ a bottom's up deterministic model to forecast generation under development. This involves a comprehensive review of every project based on its own merits without assuming a project's success or failure by grading it only on how many project milestones it has achieved. One common perspective that all of the IOUs have on forecasting new generation is that it is impossible to adequately determine a project's probability of success by assigning weights to various project viability metrics such as achieving permitting, site location, interconnection etc. Energy Division is seeking input on this matter and would like stakeholders to provide commentary on the IOUs' common perspective and whether a feasible method can be employed by the CPUC that adequately projects the success and failure of new projects for forecasting purposes.

Table 3 – Risk-adjusted Forecast Generation

PG&E	SDGE	SCE
a) <u>Generation Under Development</u> • Employs a bottom's up deterministic methodology • Excludes projects from the portfolio that 1) fail or are challenged to meet major contractual milestones (e.g. GCOD, project financing, permitting), 2) face significant CPUC approval delays due project viability issues, 3) require contract amendments in order to be commercially viable, 4) are no longer operating and are expected to cease operations, and 5) the CPUC has directed the utility not to count for forecasting and planning. **b) <u>Generic Pre-approved Generation</u>** **Feed-in Tariffs**	**a) <u>Generation Under Development</u>** • Employs a bottom's up deterministic methodology • For CPUC-approved contracts, removes from the portfolio if the project fails or is challenged to meet major contractual milestones. • For contracts not CPUC-approved 1) assigns an immediate discount, and 2) applies a greater discount if the price of the contract is deemed higher than current market pricing. • Evaluates progress of projects ability to achieve major contractual milestones on a monthly basis.	**a) <u>Generation Under Development</u>** • Assumes a 40% failure rate for all projects under development for public filings and employ a bottom's up deterministic methodology for internal forecasting **b) <u>Generic Pre-approved Generation</u>** • Assumes 100% success for all pre-approved generic generation (RAM, FIT, Solar PV)

All deliveries from executed contracts are assumed at 100% of contract volumes.

- Annual energy volumes (for non-operating projects) are modeled based on utility's best estimate for project start dates/initial energy delivery date.

Renewable Auction Mechanism (RAM)

- Assumes full program subscription and a projected technology mix of 20% baseload/non-peaking and 80% as-available product.
- Assumes first deliveries begin 24 months after contract execution for new projects (6 month regulatory approval, 18 month project development, 6 month max delay).
- New RAM Resolution issued on 4/19 will change modeling assumptions [initial deliveries now modeled to begin 36 months (6 month regulatory approval, 24 month project development, 6 month max delay) after contract execution].
- All deliveries from executed contracts are assumed at 100% of contract volumes, and modeled deliveries are adjusted upon contract execution.

Solar PV Program (PPA)

- Assumes that deliveries from Project Years (PY) 2-5 are consistent with those of PY 1 (~105 GWh/year), and that projects come online after exercising maximum contract delays.

b) <u>Generic Pre-approved Generation</u>

- Assumes 100% success for all pre-approved generic generation (RAM, FIT, Solar PV)

All deliveries from PY 1-5 are assumed at 100% of contract volumes.

Solar PV Program (UOG)

- For planning purposes, assumes annual installation of 50 MW, and that PY 2-5 projects begin deliveries in Q3 of respective year.

Q3: Does enough industry knowledge and project history exist today which would allow the Commission to develop a probabilistic methodology that ranks projects based on achieving critical milestones as discussed above?

Q4: If the answer to Q3 is yes, what milestones are important in achieving projects success and what weighting would you assign to each of the milestones?

Q5: One investor-owned utility expressed concern that ordering a utility to make a projection on whether a project succeeds or fails based on the utility's own internal analysis puts the utility at risk of litigation because of the perception that the IOU is not supporting the PPA as it is contractually mandated, particularly if the project portfolio is used in a public forum. Is this a concern that the Commission should take into consideration? If so, present an alternative solution that would be adequate for both RPS and LTPP purposes.

Q6: For generic pre-approved generation (i.e. RAM) is it reasonable to assume that all projects will be 100% successful? If not, propose an alternate solution.

VIII. Re-contracted Generation Forecast

Re-contracted generation is defined as online generation for which the term of the contract is set to terminate before LTPP's 10-year planning horizon and the contract is projected to be renewed beyond the original term. It is also assumed that the re-contracting is the result of successfully bidding into a future annual RPS solicitation (or bilaterally negotiated) or Commission pre-approved program such as RAM. The assumptions that each investor-owned utility uses to determine re-contracted generation are listed in Table 4.

Table 4 – Re-contracted Generation Forecast

PG&E	SDGE	SCE
• For the following reasons expiring volumes are not retained in forecasts: 1. The utility does not yet have contractual commitments for these expiring volumes; 2. A number of the expiring contracts are with aging generating facilities with limited remaining useful life; 3. Contract-renewal bids may not be competitive with offers for new projects received in the current or future solicitations; and 4. Assuming re-contracted volumes obscures utility's current real need for additional energy in later years. • Re-contracting is not precluded by the above assumption, but rather it reflects that re-contracting will be considered in the future side-by-side with procurement of other new resources.	• Assumes no re-contracting • Future decisions on expiring contracts will be made based on market conditions and need requirements that exist at that time.	• Assumes all facilities generating less than 20MW will be re-contracted.

Q7: Should the Commission expand the definition of re-contracted generation to include online generation set to expire beyond the LTPP 10-year planning horizon?

Q8: Is one utility's methodology preferable? Why?

Q9: Should the Commission also account for the retirement of facilities after their useful lives? If so, how should these assets be accounted for in the net short calculation and how should the useful life of a renewables facility be determined?[9]

IX. Minimum Margin of Procurement Forecast

[9] In its May 10, 2012 Straw Proposal on LTPP Planning Standards, Energy Division recommended three possible retirement scenarios for renewables; 1) all units are repowered at end of life, 2) retire all facilities 25 years after COD, and 3) retire all facilities 20 years after COD.

Public Utilities Code §399.13(a)(4)(D) requires the Commission to adopt by rulemaking "an appropriate minimum margin of procurement above the minimum procurement level necessary to comply with the renewable portfolio standard to mitigate the risk that renewable projects planned or under contract are delayed or canceled." The April 5, 2012 Assigned Commissioner's Ruling[10] mandates that each proposed 2012 RPS Procurement Plan identify the assumed minimum margin of procurement and to include a methodology and inputs regarding the utility's proposed minimum margin of procurement metric.

Q10: Given that each utility's portfolio needs are different is it possible to create a standardized methodology for determining a minimum margin or procurement? If so, explain your recommended methodology?

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[10] *See page 11,* http://docs.cpuc.ca.gov/efile/RULINGS/163513.pdf