



**Pacific Gas and
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Electronic Delivery

California Energy Commission
Dockets Office, MS-4
1516 Ninth Street
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Re: Docket No. 11-IEP-1D

Docket Office:

Please find attached PG&E's comments on Proposed Method to Calculate the Amount of New Renewable Generation Requested to Meet Policy Targets workshop, held March 8. Please contact me should you have any questions.

Sincerely,

Attachment

DOCKET

11-IEP-1D

DATE	MAR 25 2011
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**Pacific Gas and Electric Company Comments in Response to
“Proposed Method to Calculate the Amount of New Renewable
Generation Required To Comply With Policy Goals”
11-IEP-1D**

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to offer comments on the California Energy Commission (CEC) Staff’s draft report on what it refers to as the “renewable net short” (RNS), or, the amount of additional electricity from renewable sources that is needed to meet California’s policy goals. Generally, the focus is on the RNS forecast for the year 2020, at which point California’s load-serving entities are to procure electricity from eligible renewable sources to meet 33% of their retail sales.

PG&E appreciates Staff’s leadership in addressing the issue. The difficulties in estimating the RNS is summarized in Staff’s paper: “Different, and possibly conflicting, methods [to forecast RNS] create confusion ... when making decisions...” (Staff Paper, p. 4). Consensus on input assumptions may not be achievable, because different parties will inevitably have different views about forecasts for 2020. However, analysis and discussion might reduce the range of differences in calculation methods, input assumptions, and uncertainty bands.

While PG&E generally agrees with the methodology Staff is proposing, individual design elements should not be based on aspirational policies or goals but rather reflect the reasonable uncertainties associated with forecasting demand-side management activities, distributed generation, existing and expected renewable generation, and CHP.

I. Calculation Method

Staff’s proposed equation for estimating the RNS is as follows:

Renewable Net Short (MWh in 2020) =

(Projected Retail Electricity Sales) – Energy Efficiency Programs – Combined Heat & Power Customer Services – Distributed Generation Additions – Other Demand Reduction Programs) x Policy Goal (in Percent)) – Generation from Existing Eligible Renewable Facilities

PG&E agrees that this equation is useful for the total RNS. However, as discussed below, additional analysis to capture renewable projects that have already been committed to meeting a portion of the RNS must be performed so that the estimated RNS is not overstated.

In addition, PG&E points out that the equation can create confusion. The deduction of “Distributed Generation Additions” should be “Generation Serving At Site Load From Distributed Generation Additions”. As the Staff Paper makes clear, any individual distributed generation installation could serve exclusively customer load, with no exports; or be acting as a merchant generator, with all generation exported to the grid for sale; or

some combination of the two. This is included in the general discussion in sections on incremental DG goals and incremental CHP, but the discussion sometimes fails to clarify when at-site DG is being discussed and when exported generation should be clearly identified as well (so it can be subtracted from the formula). On page 17, for example, the 5,000 of new renewable DG is categorized using a list of programs, only one of which is exclusively serving customer load (the CSI program) all others are either entirely merchant generation or a combination of the two. Not included is any renewable DG

II. Treatment of Uncertainties

The Staff paper states the need to consider uncertainties:

“All future supply and demand estimates are subject to a degree of uncertainty that may affect the trajectories of policy programs and intended infrastructure investments. ... Prudent consideration of these kinds of uncertainties should be applied to renewable net short calculations and infrastructure studies. The use of a single-point forecast will not reveal potential economic and system reliability risks of an infrastructure investment decision. (Staff paper, p. 9)

PG&E agrees that decisions should include consideration of the uncertainties. However, the approach the CEC has taken in its study is to bookend the range of possibilities for the main drivers and assumptions using aspirational goals. These possibilities are not assigned probabilities and therefore are not very useful in planning. However, this kind of analysis will be useful for discussion purposes.

III. Input Assumptions

Calculating RNS involves choosing among a variety of forecasts for each of many variables, particularly forecasts of sales and of customer energy efficiency. The choices can be made by a regulatory body, in a “top-down” approach, or by individual load-serving entities (LSEs), in a “bottom-up” approach. A centralized, top-down approach may lead to a “one size fits all” result, which is not a desirable outcome, given the uniqueness of each LSE’s portfolio.

PG&E prefers a “bottom up” approach. Each LSE is familiar with conditions in its own area, including prospects for demand growth. It knows its own plans for customer energy efficiency programs and their likely impacts. Each LSE is familiar with its portfolio of existing renewable resources and, more importantly, is well-suited to assess the future supplies from contracts it has signed. Consequently, a “bottom up” approach could result in a plan that accumulates the knowledge of individual LSEs that yields a more meaningful real-world assessment of the supply outlook.

Fortunately, the CEC will soon have the data needed for the “bottom up” approach. As part of the 2011 Integrated Energy Policy Report, in April 2011, LSEs will be filing electricity resource plans. The S-2 Energy Balance Table, in particular, will provide each LSE’s assessment of its renewables portfolio and its sales forecast. The CEC’s instructions make it clear that the CEC wants reasonable estimates. For example, the

instructions state: "...estimates about renewable generation performance should reflect realistic appraisals of likely outcomes..." (CEC-200-2010-009-CMF, p. 31).

IV. Renewables

The RNS equation excludes the renewable electricity that might reasonably be expected from identified projects that may have executed contracts, demonstrated site control, or even begun construction. For some purposes, it may be appropriate to define an "incremental RNS" or "RNS from unidentified sources" to include such resources so that the RNS is not overstated. PG&E will participate in workshops to discuss and possibly define some term or terms that include electricity from both existing and identified renewable sources.

V. CHP

One particular area of great uncertainty is the amount of CHP behind the meter generation that will come on-line by 2020. Staff has suggested a range of 0 to 19.9 TWh, with a mid-case of 7.5 TWh. PG&E believes the proposed mid-case should be used for the high-case. We believe that it is implausible that 3000 MW of behind the meter CHP operating at 76% capacity factor will develop. While we believe it unlikely that even 7.5 TWh of demand side CHP (or over 1,100 MW at 76% capacity factor) will develop, we believe that this is a more realistic figure to use for the high-case. This figure is more in-line with what PUC staff has proposed in the LTP, or 1871 MW for the state by 2020.

Use of the lower number considers the 2009 IEPR findings that while "60 percent of potential host sites for large CHP are located" in Southern California, large amounts of CHP in Southern California would be difficult with existing emission credit problems, could lead to over-generation problems, and would not lead to the "optimal compliance pathway" to 33% renewables.¹

Additionally, the CHP Settlement promotes CHP that reduces GHG emissions. PG&E believes that there is considerable uncertainty about the ability of large amounts of CHP to meet the required efficiency criteria and beat the emissions from the alternative of using a boiler and electricity from the grid. Finally, the capacity factors of the majority of CHP units installed under the SGIP program have been much lower than 0.8; they have been closer to 0.4 for internal combustion engines.

Given these considerations, PG&E proposes that the mid-case for CHP be around 4-5 TWh. PG&E is happy to participate in a public, transparent process to discuss appropriate assumptions for installation of DG CHP serving customer load that reduces GHG emissions.

¹ California Energy Commission, *2009 Integrated Energy Policy Report*, Final Commission Report, December 2009, CEC -100-2009-003-CMF, pages 191-193.

VI. Conclusion

PG&E looks forward to commenting further on any forthcoming proposals for specific inputs and assumptions that undergird the RNS calculation, and will continue to actively contribute to the 2011 IEPR process.