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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Integrate and Refine Procurement Policies and Consider Long-Term Procurement Plans.	Rulemaking 10-05-006 (Filed May 6, 2010)

ADMINISTRATIVE LAW JUDGE'S RULING REQUESTING COMMENTS ON RENEWABLES INTEGRATION MODELS

The Commission's Energy Division staff conducted workshops on August 24-25, 2010 regarding two Renewable Integration Model (RIM) methodologies, the first from the California Independent System Operator Corporation (CAISO) and the second from Pacific Gas and Electric Company (PG&E).

Parties to Rulemaking (R.) 10-05-006, R.06-02-012 and R.08-08-009 are invited to file comments and reply comments. Comments from parties will be due on Tuesday, September 21, 2010 and reply comments due on Tuesday, September 28, 2010.

I. Energy Division's Proposed Renewable Integration Data Needs for 2010 and 2011

At the workshop, Long Term Procurement Proceeding (LTPP) staff proposed a list[1] of the categories of data needed to provide the basis for a Commission determination of procurement need associated with renewables integration in the 2010 – 2020 timeframe.

A) Please describe any modifications to the list needed to determine the appropriate levels and types of procurement to support renewables integration in LTPP through the year 2020.

B) Does the proposed data needs list in any way prejudice the Commission's determination of what types of flexible resources could be authorized for renewables integration purposes?

II. Importance of Renewable Integration-Related Topics

A) Please discuss the importance of the following renewable generation integration-related topics and how they should inform LTPP.

1. Current System flexibility.
2. Changes to existing resources that will either increase or decrease ancillary services (A/S) availability.
3. What timeframe is appropriate for authorization to procure resources providing additional flexibility?
4. Frequency (e.g., hours per year) and timing (e.g., what year) of flexibility requirements? (e.g., regulation requirements)

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[1] Proposed data needs list available at: http://www.cpuc.ca.gov/NR/rdonlyres/169D0E27-84C7-455B-A2D8-9BF7FAD676A5/0/CPUCStaffEnergyDivisionProposedDataNeedsfromRenewableIntegrationModels.pdf.

5. What key drivers of flexibility requirements need to be better understood, forecasted and/or controlled?
6. The uncertain makeup of future renewable generation portfolios.
7. Out-of-state source of renewables and flexible resource.
8. Other.

For purposes of commenting on the CAISO and PG&E integration models, there are two different "Steps." "Step 1" refers to the portion of each methodology that calculates operating flexibility requirements (e.g., MW of regulation and load-following) associated with a given renewables scenario. "Step 2" refers to the portion of each methodology that calculates the amounts of actual system infrastructure (combustion turbines (CTs) and combined cycle generation plants (CCs) are currently being modeled, but demand response (DR) and storage could be considered subsequently) providing the required flexibility, as well as any costs and emissions associated with deploying and operating this infrastructure to meet flexibility requirements. As noted at the workshop, comments are requested only for the methodologies, inputs and assumptions used in Step 1 of each model. Comments on Step 2 issues will be requested after Energy Division hosts a future workshop that will lay out Step 2 results from the CAISO and PG&E models.

III. CAISO 33% Renewable Integration Study

A) CAISO Step 1 Inputs, Assumptions, and Methodologies

1. Upon review of the written materials[2] and verbal presentations regarding the models at the workshop, how clear and reasonable are the key inputs, assumptions and methodologies are used by Step 1 of the CAISO model in its calculation of operating flexibility requirements? Please be specific about any necessary changes or additions to the model's key inputs, assumptions and methodologies (i.e., those that would have a **material** impact on the results) for future case runs, considering at a minimum the following:
   a. Imports and exports allowed from other balancing authorities
   b. Load profiles
   c. Wind profiles
   d. Solar profiles
   e. Forecast errors associated with renewable generation
   f. Consequences of the above for calculated flexibility requirements

B) Validation of CAISO 33% Renewable Integration Study

1. How should Step 1 of the CAISO model be validated before results are considered for LTPP planning and procurement purposes?
   a. Clarifying certain methods, inputs or assumptions
   b. Testing alternative assumptions
   c. Benchmarking against historical or other information

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[2] Full set of written materials available at: http://www.cpuc.ca.gov/PUC/energy/Renewables/100824_workshop.htm.

d. Focused inspection of certain portions of the inputs, outputs and their relationship (e.g., for an hour requiring high flexibility)

e. Overall, what criteria should be used to determine if and to what extent the methodology and its results should be used for LTPP purposes?

f. Other

2. How can or should the CAISO's forthcoming study of 20% renewables portfolio standards (RPS) integration in 2012 provide a baseline for, and assist validation of, the calculation of operating flexibility requirements under more distant and unfamiliar conditions represented by a 33% RPS in 2020? Could other information serve such purposes instead, for example an all-gas (i.e., maintaining 2008 renewables levels in 2020) or 20% in 2020 can run using the ISO 33% integration methodology?

C) Use of CAISO Renewable Integration Study Results in the LTPP Proceeding

1. If not already discussed:

a. What are the model's primary strengths as a tool for estimating renewable integration-related procurement need?

b. What are the model's primary weaknesses as a tool for estimating renewable integration-related procurement need?

c. Is the model an appropriate tool for populating the proposed data needs list and otherwise informing the LTPP record of the need for renewable integration-related resources, and if so in what precise ways should the tool be used to do so?

IV. PG&E Renewable Integration Model

A) PG&E Step 1 Renewable Integration Model Inputs, Assumptions and Methodologies

1. Upon review of the written materials[3] and verbal presentations regarding the models at the workshop, how clear and reasonable are the key inputs, assumptions and methodologies are used by Step 1 of the PG&E model in its calculation of operating flexibility requirements? Please be specific about any necessary changes or additions to the model's key inputs, assumptions and methodologies (i.e., those that would have a **material** impact on the results) for future case runs, considering at a minimum the following:
   a. Imports and exports allowed from other balancing authorities
   b. Load profiles
   c. Wind profiles
   d. Solar profiles
   e. Forecast errors associated with renewable generation
   f. Consequences of the above for calculated flexibility requirements

B) Validation of PG&E Renewable Integration Model Methodology

1. How should Step 1 of the PG&E model be validated before results are considered for LTPP planning and procurement purposes?
   a. Clarifying certain methods, inputs or assumptions
   b. Testing alternative assumptions
   c. Benchmarking against historical or other information

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[3] Full set of written materials available at: http://www.cpuc.ca.gov/PUC/energy/Renewables/100824_workshop.htm.

d. Focused inspection of certain portions of the inputs, outputs and their relationship (e.g., for an hour requiring high flexibility)

e. Overall, what criteria should be used to determine if and to what extent the methodology and its results should be used for LTPP purposes?

f. Other

C) Use of PG&E Renewable Integration Model Results in the LTPP Proceeding

1. If not already discussed:

   a. What are the model's primary strengths as a tool for estimating renewable integration-related procurement need?

   b. What are the model's primary weaknesses as a tool for estimating renewable integration-related procurement need?

   c. Is the model an appropriate tool for populating the proposed data needs list and informing the LTPP record of the need for renewable integration-related resources, and if so in what precise ways should the tool be used to do so?

V. Other

a. What other information sources should be used to validate, complement and/or substitute for the CAISO and PG&E renewable integration methodologies, for informing LTPP regarding renewable integration needs?

b. Please comment as needed on any other aspect of the CAISO and PG&E renewable integration cost methodologies or their potential use as a basis for authorization of any renewable integration-related procurement need in LTPP.

Therefore, **IT IS RULED** that:

1. Parties may file comments regarding the questions in this ruling by Tuesday, September 21, 2010.
2. Reply Comments are due on Tuesday, September 28, 2010.

Dated September 8, 2010, at San Francisco, California.

/s/ VICTORIA S. KOLAKOWSKI
Victoria S. Kolakowski
Administrative Law Judge

INFORMATION REGARDING SERVICE

I have provided notification of filing to the electronic mail addresses on the attached service list.

Upon confirmation of this document's acceptance for filing, I will cause a Notice of Availability of the filed document to be served upon the service list to this proceeding and also on R.06-02-012 and R.08-08-009 by U.S. mail.
The service list I will use to serve the Notice of Availability of the filed document is current as of today's date.

Dated September 8, 2010, at San Francisco, California.

/s/ CRISTINE FERNANDEZ
Cristine Fernandez

N O T I C E

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