California Energy Commission

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Staff Presentation on Staff Draft Electricity Demand Forecast Forms and Instructions

Prepared in Support of the
2009 Integrated Energy Policy Report

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Tom Gorin
Demand Analysis Office

Staff Proposed Data Request

Staff is requesting demand forecasts and supporting information from LSEs with annual peak demand >200 MW.

- Data are due by Feb. 13, 2009.
- Instructions and procedures for requesting confidentiality are summarized in ***Draft Demand Forecast Forms And Instructions For The 2009 Integrated Energy Policy Report (Including Retail Price Information) – Draft Staff Report.*** (CEC-100-2008-011-SD).

Role of CEC Demand Forecast

Energy Commission demand forecasts serve as a baseline for:

- Resource adequacy assessments
- Analysis of impacts of demand-side programs and policies, including energy efficiency, demand response, and renewables
- CPUC 2010 LTPP Procurement Proceeding
- Transmission planning studies

Purpose of Requested Data

- Provide alternative views of demand trends throughout the state.
- To support staff forecast development:
  - Need to account for energy efficiency, renewable, and other demand-side program plans.
  - Historic data for calibration and to support geographic disaggregation of the staff forecast.
  - Support assessment of migrating loads.

Major Changes from 2007 IEPR

(1) For the *2009 IEPR*, staff will be developing an uncommitted energy efficiency forecast.

- Respondents are required to provide substantially increased documentation on methods used to quantify impacts of energy efficiency programs (both committed and uncommitted) in their demand forecast.

(2) An abbreviated version of the Retail electricity Price Forms (Form 8.1 – 8.3) have been included as part of the Demand Forms

- Separate Retail Electricity Price Forms will not be required in the *2009 IEPR* process.

Overview of Demand Forecast Process

(Dates are approximate)

- Both staff and LSEs prepare forecasts (Feb. 2009)
- Staff publishes Forecast Comparison Report (March 2009)
- Hearing on differences in demand forecasts (April 2009)
- Revised staff forecasts following Committee direction (May 2009)
- Revised staff forecast (Summer 2009)

Forecast Conventions

- Data are to be submitted through 2020, but the adopted forecast will be for 2010-2020.
- Forecast should include “committed” energy efficiency, renewable, and nondispatchable demand response impacts.
  - Committed programs are those with approved funding and at least a preliminary program plan. For IOUs, 2009-2011 program plans are committed (if approved).
  - Uncommitted programs are those expected or scheduled, but not approved.
  - Impacts of dispatchable demand response programs are reported, but not included in the forecast.

Form 1 Electricity Demand

1.1 Sales by Sector or Class to Bundled Customers
- Record assumptions about migrating load.

1.2 Total Distribution Area Sales by customer category (bundled, resale, Direct Access, CCA, etc.)

1.3 Annual Peak Demand of Bundled Customers by Sector or Class
- Record assumptions about migrating load.

1.4 Total Distribution Area Peak Demand by customer category
- Adds direct access and other departed loads and losses to bundled load to obtain distribution area coincident peak.

Form 1 Electricity Demand, cont.

1.5 Peak demand under high temperature conditions with 1-in-5, 1-in-10, 1-in-20, and 1-in-40 probabilities of occurring.

1.6a Hourly Loads – 8760 hours for selected years by customer category

1.6b Hourly Loads – 8760 hours for selected years by control area

1.6c IOUs only –Historic and forecast hourly loads by climate zone or transmission subarea (for example, Divisions or “A-Bank Substations).

Form 1 Electricity Demand, cont.

1.7a and **1.7b** Private supply forecast

- Private supply includes self generation, customer side of the meter distributed generation, over the fence sales, and wheeling from a cogenerator to a final user.
- Reports annual energy and expected coincident peak (not capacity).
- Represents total private supply, including the incremental program effects in Form 3.3.

Form 2 Assumptions

- Include all economic and demographic drivers used to develop the forecast. LSEs should modify forms as appropriate:
  - **2.1** State or National Economic and Demographic Assumptions
  - **2.2** Service area Economic and Demographic Assumptions
  - **2.3a** and **2.3b** Electricity and natural gas price forecasts used for the forecast
  - **2.4** Customer counts, and any other drivers used to develop the forecast
- Document data sources and assumptions in Form 4.

Form 3

Report both committed and uncommitted impacts:

3.1 Efficiency Program First Year Costs and Impacts

3.2 Efficiency Program Cumulative Impacts (savings from current year program, plus decayed savings from previous years)

3.3 Renewable And Distributed Generation Program Costs and Impacts – including programs to comply with CSI/SB 1.

3.4 Demand Response Program Costs and Impacts

- Methodology, assumptions, and data sources are to be documented in the Form 5 Report.
- In particular, discuss how expected coincident peak impacts of renewable programs were developed.

Form 4 Forecast Methodology

In addition to demand forecast methodology, include:

- Definition of subareas used in Form 1.6b, including a zip code or other geographic identifier.
- Discussion of how migrating load is accounted for
- Weather adjustment methods, including what weather stations are used, and how weather sensitivities were developed.
- Discuss forecast performance and present summary statistics.

Forms 5 & 6 Demand-Side Program Methodology

- Methodology, assumptions, and data sources for *Committed* Demand-Side Program impacts are to be documented in the Form 5 Report.
- Methodology, assumptions, and data sources for *Uncommitted* Demand-Side Program impacts are to be documented in the Form 6 Report. (i.e in the absence of specific program plans, how are impacts derived)
- In particular, discuss how expected coincident peak impacts renewable programs were developed.

Form 7 ESP Forecasts

- ESPs submit at least a forecast of contracted load by IOU area.
- May also submit an expected load forecast to be consistent with the resource plan submittal.
- Include an explanation of the basis of the forecast.

Form 8.1a (IOU)

- Revenue requirements by cost category.
- Data requested from 2006 through forecast period.
- 2006 – 2008 data should be in nominal dollars and represent actual revenue requirements
- 2009-2020 should be in 2008 real dollars and be based on current or anticipated authorization levels.

Form 8.1a (POU)

- Revenue requirements by expense category.
- Data requested from 2006 through forecast period.
- 2006 – 2008 data should be in nominal dollars and represent actual costs
- 2009-2020 should be in 2008 real dollars and be based on current or anticipated budget levels.

Form 8.1a (ESP)

- Estimated power-supply costs.
- Data requested from 2006 through end of current contract periods.
- 2006 – 2008 data should be in nominal dollars and represent actual costs
- 2009-2020 should be in 2008 real dollars and be based on current contracts.

Form 8.1a (ESP)

- Estimated power-supply costs.
- Data requested from 2006 through end of current contract periods.
- 2006 – 2008 data should be in nominal dollars and represent actual costs.
- 2009-2020 should be in 2008 real dollars and be based on current contracts.

Form 8.1b (Bundled)

- Revenue allocation by bundled customer/rate class.
- Data requested from 2006 through forecast period.
- 2006 – 2008 data should be in nominal dollars and represent actual costs
- 2009-2020 should be in 2008 real dollars.

Form 8.1b (Direct Access)

- Revenue allocation by for direct access customers by customer/rate class.
- Data requested from 2006 through forecast period.
- 2006 – 2008 data should be in nominal dollars and represent actual costs
- 2009-2020 should be in 2008 real dollars.

Form 8.2

- Residential electricity sales by baseline percentages.
- Only need to be reported by utilities with tiered rates.
- Monthly kWh and customers by 10% increments of baseline consumption (0-10% of baseline to 300%+)
- For years 2006-2008.
- Needed to examine continuing impacts of AB1x and determine distribution of residential consumption by baseline territory.

Form 8.3

- Pricing factors for purchased power.
- Data requested from 2006 through forecast period.
- 2006 – 2008 data should be in nominal dollars and represent actual costs
- 2009-2020 should be in 2008 real dollars.