CALIFORNIA
ENERGY
COMMISSION

FORMS AND INSTRUCTIONS FOR SUBMITTING ELECTRICITY RESOURCE PLANS

Prepared in Support of the *2009 Integrated Energy Policy Report*

COMMITTEE FINAL REPORT

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Arnold Schwarzenegger, *Governor*

CALIFORNIA ENERGY COMMISSION

INTEGRATED ENERGY POLICY REPORT COMMITTEE

Jeffrey D. Byron
Presiding Member

James D. Boyd
Associate Member

Jim Woodward
Mike Jaske
David Vidaver
Principal Authors

Jim Woodward
Project Manager

Al Alvarado
Manager
ELECTRICITY ANALYSIS OFFICE

Sylvia Bender
Deputy Director
ELECTRICITY SUPPLY ANALYSIS DIVISION

Melissa Jones
Executive Director

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Abstract

These proposed electricity supply forms and instructions by staff of the California Energy Commission cover forecast years 2009 through 2018 and historic years 2007 and 2008. Load-serving entities in California are asked to submit plans showing how demand for energy and annual peak load will be met by specific supply resources.

Keywords: Electricity resource plans, electricity supply forecasts, resource adequacy, resource plan forms and instructions, California load-serving entities, *2009 Integrated Energy Policy Report*

Executive Summary

This report describes information for electricity planning that is needed by the California Energy Commission (Energy Commission) to prepare its *2009 Integrated Energy Policy Report*. This report also provides forms with instructions that define the electricity resource planning and procurement information that must be submitted by load-serving entities, using common terms and conventions.

The Energy Commission is directed by Public Resources Code Sections 25300-25323 to regularly assess all aspects of energy demand and supply. These assessments will be included in the *2009 Integrated Energy Policy Report* or in supporting reports. These assessments provide a foundation for policy recommendations to the Governor, Legislature, and other agencies. The broad strategic purpose of these policies is to conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety. This report is scheduled for adoption by the California Energy Commission in December 2009.

To carry out these energy assessments, the Energy Commission is authorized to require California market participants to submit historical data, forecast data, and assessments. Public Resources Code Sections 25216 and 25216.5 provide broad authority for the California Energy Commission to collect data and information "on all forms of energy supply, demand, conservation, public safety, research, and related subjects."

These electricity planning assessments will provide a foundation for recommendations of the *2009 Integrated Energy Policy Report*. Resource plans from the investor-owned utilities may subsequently serve as a reference case in the 2008 Long-Term Procurement Plan proceeding (R. 08-02-007) at the California Public Utilities Commission. Many resource plans by load-serving entities, individually and collectively, are expected to inform controlled grid studies by the California Independent System Operator and by other regional balancing authorities.

General Instructions

When to File

In adopting these forms and instructions, the California Energy Commission (Energy Commission) specifically requires the relevant parties to file certain electricity resource planning information by Friday, February 13, 2009. The data do not have to be distributed to the Integrated Energy Policy Report (IEPR) service list.

Load-serving entities (LSEs) that require additional time may request an extension by submitting a written request to the Executive Director, as described in California Code of Regulations, Title 20, Article 2, Section 1342.

At a later date, the IEPR Committee may direct LSEs to file additional data needed to assess particular scenarios, topical issues, or policy proposals under consideration.

Who Must File

Electricity resource plan information is required from every LSE in the state whose non-coincident peak retail load was greater than 200 megawatts (MW) in either 2007 or 2008.[1] Each LSE is required to file the information requested on each form in accordance with the accompanying instructions. For this filing requirement, LSE means every investor-owned utility (IOU), publicly owned utility (POU), and electric service provider (ESP) that has retail end-use customers in California. For this filing requirement, resource plan information means a completed set of S-1, S-2, and S-5 forms as described in these instructions.

The POUs with annual peak load less than 200 MW must file Supply Form S-3 reporting hourly loads in 2007. POUs are required to report hourly historical load for the previous calendar year according to language in Section 1346 on Electricity Resource Adequacy (California Code of Regulations, Title 10, Division 2, Chapter 3, Article 2). Supply Form S-3

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[1] A "small" LSE means a load-serving entity whose non-coincident peak retail load in both 2007 and 2008 was less than 200 MW. A "mid-sized" LSE has peak loads between 200 MW and 1,000 MW. A "large" LSE has peak loads greater than 1,000 MW. For the *2009 IEPR*, small LSEs are exempt from filing 10-year resource plans. However, these same LSEs are *not* exempt from filing resource adequacy information or transmission project plans. This exemption from the requirement to file 10-year resource plans applies to approximately 8 registered ESPs, 4 IOUs, 4 rural electric cooperatives, 1 recreation improvement district, 1 community aggregator, all potential community choice aggregators, and approximately 33 POUs. Together, the non-coincident peak loads of these small LSEs in 2008 amounted to about 1,600 MW.

is identical in all significant respects to Demand Form 1.1. By filing Supply Form S-3, small POUs are not required to file any of the Demand forms.

Every California POU must submit electricity supply narrative information related to resource adequacy. The narrative information is in the last section of these requirements and is essentially unchanged from 2007, except that it now applies to POUs with annual peak load less than 200 MW.

What to File

The electricity supply resource plan information to be provided by LSEs is identified on the following forms, which are included with these instructions:

- S-1 Capacity Resource Accounting Table
- S-1 Monthly Capacity Resource Accounting Table — Monthly for 2010 or 2009
- S-2 Energy Balance Accounting Table
- S-2 Monthly Energy Balance Accounting Table — Monthly for 2010 or 2009
- S-3 Hourly Loads in 2008 for POUs with less than 200 MW Annual Peak
- S-5 Bilateral Contracts and Power Purchase Agreements

What ESPs File

All mid-sized and large ESPs are asked to file S-1 and S-2 forms showing their forecast of loads and resources for 2009 through 2013. On the S-2 forms, these ESPs are asked to provide historic energy supply totals for 2007 and 2008 using data that they possess, control, or have acquired through market activities.[2] If there are gaps in records of actual energy purchases, then data should be aggregated by supply category (such as Form S-2, line 19a), with an explanation in their cover letter. ESPs that have not been keeping this data will be expected to provide information on actual energy supply purchases in 2009 and beyond. These ESPs are also asked to provide a forecast of monthly loads and resources for 2009 using the S-1 Monthly and S-2 Monthly forms. Mid-sized and large ESPs are asked to provide form S-5 information on each bilateral contract of three months duration or more. For ESPs, multiple wholesale supply contracts may be aggregated as discussed in the instructions for that form. Small ESPs are not required to provide any data submittals.

[2] See Senate Bill 1389 (Bowen, Chapter 4, Statutes of 2002) for a discussion in Section 25320(b)(2).

What POUs File

All mid-sized and large POUs are asked to file S-1 and S-2 forms showing their forecast of loads and resources for 2009 through 2018. On the S-2 forms, all POUs are asked to provide historic energy supply totals for 2007 and 2008 using data that they possess, control, or have acquired through market activities. POUs that have not been keeping this data will be expected to provide information on actual energy supply purchases in 2009 and beyond. All POUs are required to complete the load forecast section (lines 1 through 14) of supply Form S-1 Monthly for 2010. A complete twelve-month load and resource forecast is requested from all POUs using forms S-1 Monthly and S-2 Monthly for either 2009 or 2010. Many POUs may choose 2009 for which there is more near-term certainty. Others may prefer to show expected supply resources for the required 2010 monthly load forecast. All POUs are asked to provide S-5 information on each bilateral contract of three months duration or more as listed on the S-1 or S-2 forms. All small POUs (and only the small POUs) are asked to complete supply Forms S-3 to report hourly 2008 LSE loads. All POUs are again asked to provide narrative reports that describe their adopted adequacy standards, the procurement requirements made by their balancing area authority and by regulatory authorities, and the LSE's planning protocols used to assure those obligations are being met. What was voluntary in 2007 is now a regulatory requirement, with the same continuing public purpose of reporting on POU protocols to assure resource adequacy.

What IOUs File

All large IOUs are asked to file S-1 and S-2 forms showing their forecast of loads and resources for 2009 through 2018, and are invited to extend this forecast horizon to 2020. On the S-2 forms, the IOUs are asked to provide historic energy supply totals for 2007 and 2008. IOUs are also asked to provide a forecast of monthly loads resources for 2009 using the S-1 Monthly and S-2 Monthly forms. And the IOUs are asked to provide S-5 information on each bilateral contract of three months duration or more as listed on the S-1 or S-2 forms. All IOUs are asked to provide narrative reports, including appropriate spreadsheet data, which identify and support IOU assumptions and expectations about contractual resource procurement. What the Energy Commission expects in these reports is described below in a section on "Contractual Procurement Progress." Small and mid-sized IOUs are not required to provide any data submittals.[3]

Alternative Filing Format Considerations for LSEs

In lieu of filing S-1 and S-2 forms, LSEs may provide loads and resources forms that LSEs have completed and submitted to their balancing authority, if LSEs have used the forms and

[3] Energy Commission staff will contact these small and multi-jurisdictional IOUs for an estimate of their 2007 and 2008 non-coincident annual peak loads as shown on the S-1 form, lines 27 through 31.

instructions approved by the Western Electricity Coordinating Council (WECC). The most recent *Data Collection Instruction Manual* by the WECC Loads and Resources Subcommittee is posted at www.wecc.biz/documents/library/LRS/larcontl2007.pdf

All balancing authorities in the Western Interconnection are required to report annually to the WECC a 10-year plan on forecast peak loads, forecast energy consumption, and the specific supply resources that will be available to meet capacity and energy requirements in the control area. The most recent due date for these annual reports was February 8, 2008.

The WECC's requirements for balancing authorities to report on capacity loads and resources are in many ways identical to the Energy Commission's requirements for LSE reporting. In some respects, WECC reporting requirements are far more detailed and specific. For example, WECC instructions ask for a 120-month (10-year) forecast of monthly peak-hour demand and how that demand would be met by specific resources. On Supply Form S-1, the Energy Commission asks mid-size (over 200 MW annual peak) and large (over 1,000 MW) LSEs to report annual capacity numbers for 2007 through 2018. The Energy Commission requests monthly capacity data on Supply Form S-1 Monthly, but only for the 12 months of 2010.

WECC also requires balancing authorities to report on forecast energy needs and supplies. This includes a monthly tally of demand and named generation sources for the previous calendar year, plus a monthly forecast out four years, with an annual forecast for another six years. The Energy Commission requirements for LSE reporting are again comparable but less detailed. All POUs and all other mid-size or large LSEs are asked to report on Supply Form S-2 amounts of historical annual energy consumption and how that was served by specifically identified supply-side resources in 2007 and 2008. These same LSEs are asked to forecast monthly energy demand and supplies for the 12 months of 2010. On Supply Form S-2, all mid-size and large LSEs are asked to provide the Energy Commission an annual forecast of energy demand and generation resources for 2009 through 2018.

LSEs may choose to submit the historical and forecast loads and resource data on the forms approved by the WECC Loads and Resources Committee. These WECC forms may be modified to aggregate monthly energy data and to select for annual peak data according to the lesser requirements set by these instructions. If LSEs provide completed WECC forms, they are still asked to complete a Supply Form S-5 on each bilateral contract or agreement that is identified as a supply resource. This request for S-5 forms includes small POUs that are being asked only to report resource adequacy data for 2007, 2008, and 2010. Also, small POUs must complete Supply Form S-3 on hourly loads for 2008.

Submittal Format Requirements

For all filings, parties are requested to submit a brief cover letter along with information in these formats:

- Data on specified forms using Microsoft Excel
- Reports, narratives, and cover letters in Microsoft Word or Adobe Acrobat

To expedite the review, comparison, and assessment process, an Excel template with data forms is available on the Energy Commission website and by request. This template is the preferred format.

The template this year includes several improvements suggested by LSEs. Changes to the forms this year are shown in blue font, mainly some clarifying words and new categories in Column C. Lines showing numeric total and subtotals will sum automatically, and those lines use bold font. This bold font will be black except for negative numbers (shown in red). Cells with dark green font are for data supplied by the LSE, a color code that may be useful during preparation and review. The S-1 and S-2 templates have numeric examples that should be "zeroed out" before data entry. Yellow fill should be used to highlight all cells for which the LSE is requesting confidentiality. Energy Commission staff will use color coding to track these requests and to protect data determined to be confidential.

For a permanent record of data submittals, participants may provide a file in Adobe Acrobat that duplicates information shown on an Excel file. Participants may submit data in a different format as long as equivalent information is timely provided, organized, and clearly labeled.

General questions about these forms or instructions may be directed to Jim Woodward at jwoodwar@energy.state.ca.us or (916) 654-5180.

How to File

The Energy Commission encourages data filing by e-mail attachment if the attachment is 4 MB or less. When naming your attached file, please include your name or your organization's name.

By electronic mail without a request for confidentiality to:
Docket@energy.state.ca.us
Please include "Docket #09-IEP-1B Resource Plan" in the subject line.

Or by mail without a request for confidentiality to:
California Energy Commission
Docket Office
Attn: Docket 09-IEP-1B
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

Parties submitting electronic data by mail are requested to submit the electronic file containing the data and documentation on a common media format such as CD-ROM or DVD-ROM.

If you are requesting confidentiality for any part of your submittal, please read and carefully follow the instructions in Appendix 1.

Different Reporting Requirements Among LSE Types

The information requested differs depending on whether the LSE is an IOU, a POU, or an ESP. This difference stems from different requirements imposed upon each class of LSE by the Legislature and state agencies, and from materials created by each class of LSE while doing business. While a single format is presented in the sample forms accompanying this document, the detail to be provided will vary by class of LSE.

Some information is requested about the grid management services that LSEs may provide to other LSEs. Some utilities operate balancing areas or maintain distribution systems benefiting retail customers other LSEs. These information requests are discussed below.

Requirements Unique to Investor-Owned Utilities

IOUs are asked to submit some categories of information that is not requested from other LSEs: information related to contracts signed by the Department of Water Resources (DWR) and information about contracts with qualifying facilities (QFs).

The terms *investor-owned utility* and "*IOU*" refer to all seven state-regulated corporations that provide bundled electricity service to retail customers in California. By definition, this includes:

- Pacific Gas and Electric Company (PG&E)
- Southern California Edison Company (SCE)
- San Diego Gas & Electric Company (SDG&E)
- PacifiCorp
- Sierra Pacific
- Bear Valley Electric Service (BVES or Southern California Water Company)
- Mountain Utilities (Kirkwood)

The four smallest IOUs are exempt from the requirement to file multi-year supply resource plans because the peak load for their customers in California is less than 200 MW. In practice, therefore, when these instructions refer to investor-owned utilities, they generally apply only to the three large IOUs: PG&E, SCE, and SDG&E.

The three large IOUs provide distribution services to the customers of other LSEs. In this role as a utility distribution company (UDC), also known as *local distribution company*, each IOU has load data and forecasts load for all the customers in its service area. These instructions and forms do NOT ask for information about UDC loads. However, if an IOU has an agreement with another party to fully integrate the scheduling of loads and resources of both parties (such as the agreement between Southern California Edison Company and Metropolitan Water District), then the integrated loads and resources of both parties should be reported as one set of numbers on these forms.

Investor-Owned Utilities and Contractual Procurement Progress

The three large IOUs are asked to provide narrative explanations about the assumptions and expectations employed for the listing of all new contractual resources and for future generic resources as shown on the 10-year resource plans. The IOU's expectations about particular contractual resources, especially for new generation additions, should include timelines and benchmarks related to regulatory approvals, IOU financial commitments, transmission and pipeline connections, construction milestones, and other primary contractual obligations.

In more quantitative and categorical terms, IOUs are asked to identify standard phases and assumptions about the time intervals (in months) needed to procure new generation resources, from issuing a request for offers (RFO) to bringing a new plant on-line. This should include descriptions and assessments about the risk of failure and delays at various stages of completion, along with some metrics for both failures and delays.

To the extent that these historical patterns differ from the assumptions about future procurement, the IOUs are asked to provide insights about how the procurement process has changed or should change to promote better outcomes.

For renewable energy resources, the IOUs are asked to identify all specific or contingent assumptions related to procurement of new generic resources, including the energy amounts shown on line 23 of Supply Form S-2. These essential assumptions would include:

- Timelines for transmission grid expansion to identified renewable energy zones.
- Description of bids received in response to competitive solicitations that proposed to firm, shape, and deliver renewable energy to a California Point of Delivery.
- Potential future authorization to procure renewable energy credits.
- Program development facilitating renewable distributed generation (DG) and self-generation resources.

Publicly Owned Utilities and Resource Adequacy Progress

All POUs are asked to explain how their planning and procurement standards relate to their customer service obligations, to physical reliability expectations, and to balancing area

operating requirements. All POUs are asked to demonstrate how their planning activities are leading to adequate resource procurement for all 12 months of calendar year 2010.

With these forms and instructions, resource plan information is being requested from 11 mid-size POUs (200 MW to 1,000 MW peak demand), 2 large POUs Los Angeles Department of Water & Power (LADWP) and Sacramento Municipal Utility District (SMUD), and 38 small POUs (less than 200 MW peak demand).

All POUs are asked to provide information on loads and resources for 2007, 2008, and 2010, and to report this information on Supply Form S-1 (capacity) and Supply Form S-2 (energy). For 2007 and 2008, only annual peak-hour and annual energy values are requested. For 2010, monthly capacity and monthly energy values are requested using Supply Form S-1 Monthly and Supply Form S-2 Monthly. If the supply forms for 2010 identify a bilateral contract or power purchase agreement, a Supply Form S-5 is also requested describing attributes of that resource. For the small POUs, these data requests are new this year, though this information is already included in the aggregate loads and resource filings that each balancing authority files with the WECC.

The Energy Commission requests comparable resource plan information from organizations that effectively plan, procure, schedule, and deliver energy to serve their own project loads and to meet other electricity supply obligations. The Energy Commission requests this information from the Western Area Power Administration (WAPA) Sierra Nevada Region, the California Department of Water Resources (CDWR), and the Northern California Power Agency (NCPA) and extends appreciation to these organizations for providing information and insights in previous years on their resource planning and procurement protocols. These three organizations are active market participants with significant loads and resources in the California ISO Balancing Area. Though not defined as "LSEs" in all federal and state statutes and regulations, these three organizations continue to fulfill those LSE roles for their projects and customers. The 10 small LSEs in the NCPA Power Pool may arrange with NCPA to provide the Energy Commission with aggregated data tables on the supply forms. This aggregated historic data on Supply Form S-1 would be for the coincident peak of LSE loads in the NCPA Power Pool. (This annual peak load for the NCPA Power Pool would be non-coincident to the system load annual peak within the California ISO Balancing Area.)

The requests for POU monthly loads and resources for 2010 and the request for narratives explaining current POU planning and procurement standards are designed to be complementary. Using these filings, the Energy Commission will be able to report to the Legislature, as required by Assembly Bill 380 (Núñez, Chapter 367, Statutes of 2005), how POUs meet their customer and balancing area obligations for resource adequacy, and how they will continue to do so under expected conditions and predictable contingencies.

Requirements Unique to Electric Service Providers

For the *2009 IEPR*, large and medium-size ESPs are asked to provide disaggregated data on their statewide forecasted loads. ESPs are asked to file a separate S-1 and S-2 form for each

UDC service area (PG&E, SCE, and SDG&E) in which they have forecasted loads. These separate filings by local distribution company only need to identify the amounts of energy and capacity shown on lines 1a, 1b, and 1c of the S-1 and S-2 forms. Single S-1, S-2, and S-5 forms from each ESP (along with Single S-1 Monthly and S-2 Monthly forms for 2010) will suffice for reporting all other categories of requested resource plan information. For the *2009 IEPR*, narrative assessments are not being solicited from ESPs.

This requirement is necessary to assess load migration and local reliability concerns at a geographic level commensurate with the load forecasts of other LSEs. ESP loads are part of utility transmission planning areas and are often located in generation load pockets. For both these geographic contexts, there are special sensitivities about serving customers in the long run. Since the UDC load forecasts include small ESPs and some small POUs that are not required to file resource plans, the disaggregated resource plans of larger ESPs are essential for various physical system assessments.

Giving consideration for ESP business models and their limited-term obligations to serve current direct access customers, the resource plans provided by ESPs are required to cover only five years, 2009 through 2013. This avoids the "long ruler" approach to a speculative demand forecast linked to generic supply portfolios.

ESPs have not been asked to provide hourly demand forecasts to the Energy Commission. The need for this information has largely been met by the IOUs in their role as utility distribution companies. The demand instructions included a request for IOUs to provide forecast hourly loads for their expected "bundled" customers and all their customers to whom they provide distribution services.

The IOUs, in their UDC roles, are asked to report and forecast on demand forms the amount of energy delivered annually to ESP loads (Form 1.2) and the annual peak for all ESPs (Form 1.4). IOUs are also asked to show the sum of all UDC loads with customer counts (Form 2.4), how UDC loads are disaggregated by customer class (Form 1.7), and how UDC loads are disaggregated by climate zone or transmission planning area (Form 1.6b). ESPs are now being asked to provide a disaggregated load forecast simply by UDC areas. This information will help verify and confirm the independent IOU and ESP load forecasts. This disaggregated reporting will likely be helpful in better estimating local area load forecasts that are used in reliability studies.

Public Purposes to Be Served by Supply Resource Data

General Purposes and Authorities

These forms and instructions provide the Energy Commission with a better understanding of LSE planning assumptions and resource adequacy commitments. From this information,

the Energy Commission will assess current conditions in electric generation system infrastructure and identify major statewide trends affecting electricity supply and reliability.

The Energy Commission has regulatory authority to request long-term supply forecasts from LSEs with annual peak loads greater than 200 MW. In the Title 20 regulations on public utilities and energy, Section 1347 states, "Each LSE shall submit its 10-year resource plan for meeting forecasted demand according to forms and instructions adopted by the Commission." That forecast from each LSE shall include "A description of existing and projected sources of supply, including generation projects and purchases from other utilities or elsewhere." The S-1 and S-2 supply forms are designed to collect these categorical and quantitative descriptions of forecast LSE electricity supplies. While Section 1347 refers to "each LSE" being subject to an Energy Commission data request, Section 1350 specifically exempts a small LSE from this requirement "if it provides the information required by Section 1346."

For all LSEs not under jurisdiction of the CPUC, the new Section 1346 on electricity resource adequacy authorizes the Energy Commission to request "quantitative documentation of its load forecasts and resource plans, and narrative descriptions of its procurement activities that will enable it to have adequate electricity supplies to serve forecasted loads." This regulatory request is new this year, though it is similar to the request for such information that most LSEs voluntarily provided in early 2007. This year, the Energy Commission is asking LSEs not under CPUC jurisdiction to provide "monthly energy and peak load forecasts" for the period of 12 months that start with January 2010.

Section 1346 also authorizes the Energy Commission to request "for the most recent calendar year, historic hourly loads, and for each month, peak demand and resource utilization to satisfy customer demand, operating reserves, and other planning obligations of that month." Based on this authority, small publicly owned LSEs are asked to provide their hourly loads for 2008 on Supply Form S-3. All LSEs are asked, for the first time this year, to report their historical annual (but not monthly) peak demand and to show the resources that were used to supply that peak demand. This data is to be reported on Supply Form S-1 for 2007 (the most recent year when these instructions are scheduled for adoption), and for 2008 (which will be the most recent year when the forms are due from LSEs). All LSEs are also asked to report on Supply Form S-2 how annual (not monthly) customer demand in 2007 and 2008 was served by the LSE's supply resources. This information will be used to conduct assess (as well as forecast) energy supply as authorized by Public Resources Code (PRC) Sections 25303 and 25305, with an emphasis on evaluating the adequacy and availability of existing electricity supplies, and identifying progress to date in reducing statewide greenhouse gas emissions.

In addition to reporting annual energy deliveries for the past year, LSEs are asked to report total annual retail sales to consolidate forms and recurrent data submittals. The authority to request retail sales data is in Public Utilities Code, Title 20, Sections 398.5 and 1394.

Needed Capacity, Retirements, and Repowering

All medium and large utilities are asked to identify new and existing capacity that will be needed to meet forecasted end-use loads over the next 10 years through 2018. The continued need for existing utility-owned generation, along with potential retirement and repowering possibilities, will be part of this demonstration.

Medium and large ESPs are asked to identify how their contractual obligations to direct access customers will be met over the next five years through 2013. ESPs are also asked to identify their expected new and renewing customer loads for the next five years, using protocols set by the CPUC. LSEs are asked to identify their monthly or annual bundled customer loads. Utilities are also asked to identify, if applicable, other forecasted loads included within their distribution systems. These load forecasts will help identify how the interconnected LSEs will likely serve their local and zonal loads in the coming five years. The supply components of these resource plans will help assess the scope and temporal context of LSE open positions. Some of these open positions are subject to load migration uncertainties. In broad terms, the aggregate of these open positions will indicate where, when, and for whom new physical or contractual resources will be needed.

Planning Reserve Margin Assumptions

These instructions ask IOUs and ESPs to apply the 15 percent planning reserve margin to the entire planning horizon (10 years for IOUs, 5 years for ESPs). This amount is included on the Excel template for Form S-1, line 9. This 15 percent planning reserve margin is appropriate for 10-year resource plans and was used this way by IOUs and ESPs in their previous 2005 and 2007 filings with the Energy Commission.

Most POUs also used the 15 percent planning reserve margin in 2005 and 2007. Some POUs have adopted a higher planning reserve margin based on their portfolio contingencies or reliability goals. Mid-size POUs are asked to apply this 15 percent planning reserve margin, or their own adopted planning reserve criteria, for all 10 years in the planning horizon.

None of the ESPs and very few utilities can afford to secure all the generating resources needed to meet loads for the next 10 years. By 2018, most LSEs will have open positions for capacity in the summer months. A standardized application of the 15 percent planning reserve margin allows the open positions of individual LSEs to be compared and summed using common assumptions.

In their month-ahead resource adequacy filings, LSEs under CPUC jurisdiction must now show that they have procured 115 percent of the capacity needed to meet hourly peak demand for the subsequent month. The “year-ahead” resource adequacy filings require a showing that 90 percent of this need has been procured (90 percent of 115 percent) for each of the subsequent summer months.

In these year-ahead and month-ahead filings, all LSEs have been authorized to use a “peak coincidence” adjustment. This adjustment factor varies by the month and effectively reduces

the 15 percent planning reserve margin by about 2.5 percent. This adjustment can be considered a transitional requirement as LSEs go from a 15 percent planning reserve margin above their year-ahead non-coincident peak and eventually are responsible for scheduling resources to meet a 6 percent to 7 percent operating reserve margin.

For consistency with the resource adequacy filing requirements for LSEs under CPUC jurisdiction, the 10-year resource plans allow for an adjustment for peak coincidence. A forecast of non-coincident peak-hour demand of end-use customers is required on line 9 of the S-1 form. Line 10 of this form, which is new with this cycle, allows an LSE to reduce that forecast peak hour demand by a factor that corresponds with a statistically probable LSE share of peak demand during the system (balancing area) coincident peak-hour demand.

The year-ahead and month-ahead resource adequacy filings carry with them two significant regulatory obligations. One involves penalties for inadequate procurement, including the cost of backstop purchasing by the California ISO. The second involves a commitment by LSEs to make resources available to the California ISO. With appropriate exclusions and conditions, once a resource is listed in the resource adequacy filings, if that resource is not scheduled by the LSE in the day ahead, it must be made available to the California ISO for grid reliability or for sales within markets administered by the California ISO. Listing a resource in the 10-year resource plans carries no such obligations or potential penalties.

Loading Order Considerations

As with the request for data for the *2007 IEPR*, LSEs are asked to include realistic estimates of capacity and energy to be achieved from loading order programs. Do not assume that officially prescribed or formally adopted targets will be met precisely on schedule. These estimates affect the calculation of net short capacity and open energy positions. If the loading order program estimates are too optimistic, the volume limits that CPUC authorizes for individual IOU long-term procurement may be inappropriate, which in turn could adversely affect planning and operating reserve margins in future years.

The loading order is not to be confused with dispatch order preferences. For example, demand response is high in the loading order, but dispatchable demand response (DR) interruptible and emergency options, herein considered a supply resource, are obviously low in the priorities for day-ahead scheduling and real-time dispatch. LSEs are not asked to comment directly on the decision criteria or analytical methods that were part of establishing loading order targets. The resource plan is meant to be a practical guide based upon reasonable expectations, limitations, and contingencies as currently known. LSEs are expected to meet service obligations at reasonable cost, to generate within environmental permits, and to contract for deliveries within prudent risk tolerances. If a deficiency or contract problem with preferred resources has become apparent, the LSE must fill that need from other long-term or short-term procurement options. If particular loading order targets adopted for LSE procurement will likely not be met, the LSE is asked to footnote the S-1 and S-2 forms to flag that discrepancy with some attribution regarding probable cause.

The resource plans can be used to demonstrate the extent to which LSEs expect to meet or exceed particular program goals. As such, the estimated numbers depicted here may serve as a useful benchmark for expected results given everything currently known about technical capabilities, market incentives, regulatory constraints, statutory mandates, and policy guidance. Some programmatic goals are general in nature, not yet quantified or tied to specific locations. For example, these forms ask for data on expected outputs and reductions from distributed generation (DG), though the loading order does not identify annual targets for this resource type. Some legislation does not prescribe or proscribe specific procurement actions, such as the AB 1576 encouragement to repower older plants. Another non-prescriptive loading order preference is for utilities to simultaneously consider transmission and generation alternatives.

Definitions and Aggregated Data

Deliverability of Resources

Electricity resources must be deliverable to the respective LSE load centers to be fully counted as existing or planned resources. The one notable exception to this general deliverability requirement is the long-term Sempra contract with the California Department of Water Resources (DWR), a contract that is not tied to specific generating plants and that allows a delivery point anywhere in the State of California. Each LSE is expected to perform deliverability screening, filtering, or other appropriate criteria for matching loads with resources. However, the disclosure of these criteria is not requested on these forms.

Definitions

For existing and planned electricity supply resources, all LSEs in California must use reasonably consistent and compatible terms and counting conventions. This consistency is needed to facilitate a general evaluation of statewide supply adequacy. This evaluation includes some limited assessments of coincident peak supply needs within specific balancing areas, primarily that of the California ISO.

Existing demand-side management (DSM) programs that are not dispatchable are incorporated into the demand forecast and are not considered to be supply resources.

Existing resources are generating resources that are on-line and available to the LSE, including all power purchase agreements.

Planned resources are those that an LSE deems either most likely or most preferred as additions to the portfolio. For IOUs, planned resources are those specific facilities and power purchase agreements that are signed and approved by the CPUC (for example, Otay Mesa, Humboldt Wartsila), or are signed but not approved or on-line. For other LSEs, they

are resources that are either committed or for which the LSE has a reasonable expectation of commitment. This would include SMUD's Cosumnes 2 power plant (if SMUD presently intends to go forward with the second unit). An LM 6000 plant may be a planned resource if a utility expects to use it to meet load growth. The listing of planned resources should reflect the most probable long-term resource plan for an LSE and its preferred "loading order,"[4] especially where an LSE must add new resources to accommodate forecast load growth or capacity retirements.

Generic resources include generating resources needed to serve forecast demand, including utility-owned facilities and power purchase agreements, and which are not specifically identified at this time by resource type or location.

Hydroelectric generation is considered to be an existing resource for the duration of time that an LSE has legal authority to integrate production of forecast energy and dependable capacity. After the expiration date of a Federal Energy Regulatory Commission (FERC) hydro license or operating agreement or integration agreement, it would be a planned resource if the LSE expects to retain it in its portfolio.

The term "planned resources" can include physical and contractual resources about which there is considerable uncertainty due to regulatory, financial, or legislative risks. For example, the need for regulatory approvals and permits might keep a specific planned resource from becoming a committed resource for many months.[5]

Utility-controlled resources are those that an IOU or POU can dispatch or schedule and then integrate in real time. This category includes all forms of ownership and joint powers authority. Resource data about facilities controlled by one LSE but owned by another, such as an irrigation district, should be reported by the controlling utility. LSEs have the reporting responsibility for generating resources owned by non-LSE irrigation and water districts. For example, PG&E should include Placer County Water Agency, Nevada Irrigation District, and other irrigation districts and water agencies with generation that is dispatched or integrated by PG&E.

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[4] For example, the 2003 Energy Action Plan adopted the following loading order: First, the agencies want to optimize all strategies for increasing conservation and energy efficiency to minimize increases in electricity and natural gas demand. Second, recognizing that new generation is both necessary and desirable, the agencies would like to see these needs met first by renewable energy resources and distributed generation. Third, because the preferred resources require both sufficient investment and adequate time to "get to scale," the agencies also will support additional clean, fossil fuel, central-station generation. Simultaneously, the agencies intend to improve the bulk electricity transmission grid and distribution facility infrastructure to support growing demand centers and the interconnection of new generation.

[5] The distinction between planned and committed resources was important in past *Electricity Reports* (such as *ER 1994*); however, this distinction is not important for data collection for the *2009 IEPR*.

Integration means the ability of an LSE or Balancing authority (balancing area authority) to use the generation output of facilities to serve load or balance the grid. The rights and obligations to integrate the output from cogeneration, wind, and "run of river" hydro are typically detailed in contractual agreements. Special integration concerns often exist for resources like this that are not dispatched by LSEs, especially those which operate intermittently, those which are difficult to predict or schedule day-ahead, and those which do not have an obligation to be available.

A more complete set of definitions may be found in the California Energy Commission's regulations governing data collection for the Integrated Energy Policy Report (Title 20, California Code of Regulations, Section 1301 et seq. and 1340 et seq.), regulations implementing the Energy Commission's complaint and investigation process (Title 20, California Code of Regulations, Section 1230 et seq.), and regulations governing the disclosure of Energy Commission records Title 20, California Code of Regulations, Section 2501 et seq.). The definitions are found in Chapter 3, Article 1, Section 1302.

Aggregated Data

As a general requirement, each resource should have a line-item entry on Forms S-1 and S-2. Each resource should have a numeric entry showing capacity or energy for each month that the LSE expects to own, control, or contract with that resource. This includes all supply resources, existing or planned, physical or contractual, firm or non-firm.

There are three exceptions to this general requirement where the LSE may prefer to report aggregated data. First, all utility-controlled hydroelectric assets (other than qualifying facilities [QFs]) may be aggregated into two categories (more than and less than or equal to 30 MW nameplate). Second, QF contracts may be aggregated by technology or fuel types (for example, biofuels, geothermal, small hydro, solar, wind, natural gas/cogeneration, and other). Third, all micro-supply contracts supplying less than 1 MW may be aggregated by fuel type, resource type, or program type. Examples include contracts with end-use customers involving program categories such as distributed generation, demand response, and the California Solar Initiative.

Supply Form S-1: Capacity Resource Accounting Table

Scope

LSEs are asked to estimate how much power in megawatts (MW) is needed to serve annual peak retail customer load, plus reserves and other obligations. LSEs are also asked to identify how much power will come from various electricity supply resources. These estimates are required for all years of the forecast period, 2009 through 2018. LSEs are

requested to provide these data on Supply Form S-1, Capacity Resource Accounting Table, also called a CRATs table. The data submitted by each LSE on Form S-1 should correspond one-to-one with the data submitted on the Energy Balance table, Form S-2.

A completed Form S-1 provides a forecast of non-coincident peak demand for each LSE, followed by a summary of how that demand will be met with existing, planned, and generic resources.

Qualifying Capacity or Dependable Capacity

LSEs that provide end-use electrical services in the California ISO balancing area are asked to report supply resources as qualifying capacity. Numbers should be consistent with year-ahead resource adequacy filings. The list of updated net qualifying capacity (NQC) values is posted at http://www.caiso.com/1796/179688b22c970.html.

If there is a difference between qualifying capacity and dependable capacity numbers for a particular resource, LSEs are asked to use the lower number on the S-1 form, though the higher number may be used if an explanatory footnote is provided. Do not use or report values for nameplate capacity, installed capacity, or Pmax capacity (unencumbered capacity).

Please report the amount of capacity from each generation source that is considered firm and reliable for meeting loads forecast to occur in the monthly or annual peak hour. This amount would be measurable at the busbar. For intermittent resources without flexible dispatch (such as wind), dependable capacity estimates should reflect the non-firm nature of this supply. Those LSEs under CPUC jurisdiction may use the calculated qualifying capacity values for wind. Capacity values should not be adjusted for expected forced outages. However, specific forecast months on the S-1 Monthly form should incorporate any capacity reductions for scheduled outages, such as annual hydro maintenance in November and scheduled nuclear shutdowns from refueling.

Resource Adequacy Counting Rule Issues

Resources should only count as far as their capacity can be relied upon to perform. Unless otherwise specified by the CPUC, the California ISO, the Energy Commission, or the LSE's adopted counting conventions, a resource must be able to operate for four consecutive hours for three consecutive days at the capacity listed on Form S-1. For contractual resources, show how much capacity will be available to the LSE throughout the forecast period.

It is reasonable to count all generation as deliverable by assuming that transmission upgrades will be completed by participating transmission owners. For LSEs not under CPUC jurisdiction, dependable capacity for exchanges and imports is the amount that can be counted on with high certainty for meeting the LSE's non-coincident peak demand.

QFs and Hydro

The resource adequacy counting rules require the capacity of QF hydro units to be calculated based on the Standard Offer 1 peak period generation in an average dry year (defined to be a 1-in-5 dry year). However, if hourly generation for QF hydro is not available for the average dry year, LSEs may calculate qualifying capacity from the next driest hydro year with reliable hourly data. If a hydro unit owned by the LSE or under contract to the LSE experienced significant outages during the 1-in-5 dry year, the next closest dry year may be used to calculate resource adequacy for these units.

Non-Hydro Renewables

The resource adequacy counting rules in general require the capacity of renewable resources to be based on the historical performance over the last three years. However, if three years of generation data is not available, the LSE may use available generation data to calculate the resource adequacy capacity.

For solar and wind resources, a three-year rolling average of performance history during peak hours is appropriate to assess qualifying capacity. For LSEs under CPUC jurisdiction, the peak period is defined as noon to 6 p.m. year-round (based on Standard Offer 1 contracts defining summer peak hours).

Consistency With the Demand Forecast

The resource plan from each LSE shall demonstrate how the LSE can meet its obligations to serve end-use loads and to meet other firm obligations. This load forecast and resource supply plan shall be consistent with and compatible with the demand forecast provided to the Energy Commission according to the requirements of Section 1345(a).

Peak Load Calculations

Line 1a—Forecast Total Peak-Hour Demand

On line 1, all LSEs are asked to forecast their total non-coincident demand during the annual peak hour for each year in the forecast period. This number, in MW, must include all power needed to serve end-use loads along with the power needed to deliver supplies to these loads. Therefore, the annual peak hour estimates must include allowances for transmission losses, distribution line losses, and unaccounted for energy (UFE). Do not include generator station (parasitic) loads. For these 1-in-2 end-use customer load forecasts, LSEs are required to use their best estimates about their future customers and their loads. These estimates may be greater than or less than the current obligation to serve end-use customers.

For each year in the forecast period, the largest annual Forecast Total Peak Load on line 1 of the S-1 form should correspond to the LSE non-coincident peak load previously reported on demand Form 1.3.

Forecast Total Peak-Hour Demand already includes adjustments for distributed generation and for energy efficiency programs that are "committed" (or funded).

The load forecast on Form S-1, line 1, should already include adjustments for committed demand response (DR) programs that are not dispatchable by the LSE. A non-dispatchable DR program allows customers to make economic choices whether to modify usage, such as response to ongoing price signals. All LSEs are asked to assume a reasonable level of effectiveness for price-responsive DR programs that may or may not correspond with adopted targets. This includes fixed time-of-use tariffs that result in load reductions. Price-sensitive DR goals for the IOUs were established in CPUC D.03-06-032 (p. 10). These amounts are 5 percent in 2009 and thereafter.[6]

Dispatchable DR programs are activated using a predetermined threshold such as interruptible residential air conditioner loads. All dispatchable demand response resources should be included on line 4.

Other adjustments to the Total Forecast Peak Load are discussed below, including uncommitted programs for energy efficiency (line 3) and all dispatchable demand response and interruptible programs (line 4).

Peak Load estimates on line 1 should not include capacity amounts needed for a planning reserve margin (shown on line 12a), or for firm wholesale obligations of the LSE (shown on line 13).

Line 1b—ESP Peak Load: Existing Contracts

ESPs are asked to identify how their expected loads are divided between new and renewing customers. On line 2, ESPs are asked to indicate the load obligations to serve existing customers. Include all continuing loads of those customers under contract, along with contracts that have future start dates.

Line 1c—ESP Peak Load: New and Renewed Contracts

On line 3, ESPs are asked to estimate total annual capacity needs that arise from new customers, plus future contract renewals or extensions to serve existing customers. This forecast should be the "most likely" case as judged by the ESP. The likely share of contract renewals and extensions should closely follow historical patterns, unless such a difference different is warranted by a business model, forecast, or announcement that has been publicly disclosed. The sum of this value on line 3, plus the value entered on line 2, should equal the annual peak load number entered on line 1.

Line 2a—Departing CCA & Municipal Load (minus)

IOUs are asked to identify a particular amount of existing IOU load that it expects to depart to community choice aggregation (CCA), or to POUs (commonly called departing

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[6] It was further established in D.04-06-011 that interruptible and emergency programs do not qualify to satisfy these price-responsive demand goals.

"municipal" load, or MDL, in this context). As likely CCA/MDL values are both very uncertain and are apt to be utility-specific, each IOU is asked to choose a CCA/DML level for its reference case that reflects a median value among reasonable estimates, centered on the most likely or probabilistic outcome. CCA and departing municipal load amounts can be listed separately or combined on line 4. For IOUs, this amount will be subtracted from line 1a as part of calculating net peak load to serve bundled IOU customers. For each year, the highest hourly peak load shown on Form S-1, line 2a, should match the sum of numbers shown on Demand Form 1.4 in Columns 4 and 5 (Community Choice Aggregators and Other Publicly Owned Departing Load, including Losses).

Line 2b—Arriving & New Municipal Load (plus)

POUs are asked to show estimated amounts of annual peak load that are expected to "depart" from existing IOU service or that are located in previously unserved areas. (These estimates should not be included on line 1a.) Also included on line 2b, POUs are asked show service to new bundled customers in developing areas where POU and IOU service territories overlap (such as Modesto ID and Merced ID). Data reporting here is not designed or intended to resolve ongoing legal conflicts related to retail competition between IOUs and POUs. Instead, the intent here is to clearly account for load growth and customer migration and to avoid double counting.

Line 3—Uncommitted Energy Efficiency (minus)

On line 3, IOUs and POUs are asked to estimate median values for achievable and cost-effective savings from future programs that are not yet implemented or funded. Do not include the effects of energy efficiency programs that are already embedded in the LSE demand forecast (Demand Forms 1.1 and 1.3) or in LSE load forecast (Supply Form S-1, line 1).

Section 1345 of the Energy Commission's regulations (found in Title 20 of the California Code of Regulations) requires that demand forecasts are to account for all conservation "reasonably expected to occur." Since the *1985 Electricity Report*, reasonably-expected-to occur conservation programs have been split into two types: committed and uncommitted. That distinction is continued in these instructions. Committed programs are defined as programs that have been implemented or for which funding has been approved. While conservation "reasonably expected to occur" includes both committed and uncommitted programs, only the effects of committed programs should be included in the demand forecast. On line 3 Form S-1, only include the impacts of uncommitted conservation programs. Uncommitted effects are defined as the incremental impacts of post-2011 programs, impacts of future unfunded programs, and impacts from expansion of currently funded programs.

For the IOUs, committed conservation programs are those programs funded through 2008. The revised 2009-2011 program plans scheduled to be filed February 2, 2009 according to the November 25, 2008 CPUC Scoping Memo and anticipated to be approved in the CPUC Energy Efficiency Rulemaking Proceeding (R06-04-010) in summer 2009 should be filed as uncommitted impacts. Should the revised programs be adopted and funded prior to the

revised demand forecast adoption, these programs will be considered as "committed" programs in the revised demand forecast. Currently for post 2008 programs, the demand forecast should include as committed the effects associated with the 2006-2008 level of programs only if they represent impacts associated with replacement of aging building stock and equipment, or installation of new stock and equipment at efficiency levels that comply with current building and appliance standards. Also considered "committed" programs are programs covered by "bridge" funding for 2009. Staff will work with the IOUs as part of the newly formed Energy Efficiency working group to better define the filing status of these programs as the current CPUC time frame unfolds.

On line 3, IOUs are asked to estimate annual peak hour load reductions reasonably expected from future efficiency programs. For IOUs, the CPUC established energy efficiency targets for both peak demand and energy for each IOU. CPUC specified these targets in D.04-09-060. In 2005, the three large IOUs were asked to assume these targets will be precisely met in supply and demand forecasts. This will not be the case in 2009. Realistic estimates of energy savings as reported on line 6 may vary from program targets.

For POUs, supporting studies may not be available to predict energy efficiency (EE) reductions to load that would be listed on line 3. Where studies to identify a reasonable offset are lacking, enter zero. Where studies have identified potential EE programs, POUs should assume that these programs are funded and implemented and become reasonably effective. For publicly owned utilities, "committed" means the governing board for a municipal utility has authorized spending for at least a preliminary program plan from which impacts can be quantified.

For post-2008, forecasts should include as committed the impacts associated with the 2006 level of programs only to the extent they represent impacts associated with replacement of aging building stock and equipment, or installation of new stock and equipment at efficiency levels that comply with current building and appliance standards. Uncommitted effects are defined as the incremental impacts of the 2006 level of programs (for example, savings associated with new equipment that exceeds current standards or early replacement of existing stock), impacts of new programs, and impacts from expansion of current programs.

Line 4—Demand Response/Interruptible Programs (minus)

On line 4 IOUs and POUs are asked to enter the load reduction amounts (stated as negative numbers) that are expected to be available from all dispatchable programs to reduce demand or to interrupt non-firm demand. Only interruptible load subject to LSE or balancing authority dispatch should be counted on line 4.

The term "demand response" encompasses a variety of programs, including traditional direct control (interruptible) programs and new price-responsive demand programs. For this filing, a key distinction is whether the program is dispatchable. Dispatchable programs are defined here as programs with triggering conditions that the customer does not control and cannot anticipate, such as direct control, interruptible tariffs, or demand bidding

programs. Programs with triggering conditions are dispatchable whether they are a day-of or day-ahead trigger and whether the trigger is economic or physical.

Nondispatchable programs are not activated using a predetermined threshold condition but allow the customer to make the economic choice whether to modify its usage in response to ongoing price signals. Impacts from committed *nondispatchable* programs should be included in the demand forecast, for example, load reductions at on-peak hours subtracted from the "base" forecast and load building or load shifting in off-peak hours added to the "base" demand forecast.

All price response programs that have specified triggering conditions should be treated as dispatchable. This includes critical peak pricing and real-time pricing. Energy or peak load saved from dispatchable programs is to be treated as a supply resource on line 4 of the S-1 and S-2 forms and is not to be accounted for in the demand forecast.

LSEs serving loads in the California ISO balancing area are asked to use the CPUC-adopted standards for counting DR qualifying capacity. "The Commission determined that DR resources should be available at least 48 hours each summer season to count as qualifying capacity, and that DR resources that operate two hours per day should be eligible but subject to a limit of 0.89 percent of monthly peaks." (D.04-10-035, pp. 26-27 and D.04-10-035, quoted in D.05-10-042). This standard for year-ahead resource adequacy capacity should be applied to projected DR resources throughout the forecast period.

In the California ISO balancing area, for example, many LSEs can cycle power to residential air conditioners during Stage 2 emergencies to avoid reaching a Stage 3 emergency with forced load shedding. To count, interruptible and emergency programs need only be dependable for two consecutive hours in a month.

Line 5—Self-Generation (Total, Non-CSI [minus])

LSEs are asked to provide their own best estimates of the load impacts from distributed generation (DG), from the CPUC's Self-Generation Improvement Program (SGIP), and from other sources of supply that are owned by end-use customers (except CSI, to be shown in line 6).

The capacity amounts of Self-Generation shown on line 5 represent a deduction from total peak-hour customer loads that utilities would otherwise be obligated to serve. This adjustment also reduces amounts of planning reserves that utilities would otherwise need to procure.

DG is defined here to be self-generation at distribution level voltages, with power sources limited to less than 20 MW. (A broader definition of DG, which was considered but not used in these instructions, would include all forms of self-generation and cogeneration, along with smaller independent systems capable of supplying many of the electrical needs of residential and small commercial customers. Self-generation capacity includes capacity used by a project for on-site demands and any capacity sold by the project to third parties. Self-

generation capacity is normally not available to the LSE and may not have any unit-specific qualifying capacity for LSEs in the California ISO balancing area.)

Do not count on line 5 amounts of output from DG facilities that are surplus to customer loads. Supplies of DG power that are surplus to customer needs should be reported on lines 21b (renewable DG) and line 22b (non-renewable DG).

For the IOUs, the CPUC has not established targets for customer-side DG. In its October 27, 2005, decision on resource adequacy (D.05-10-042), the CPUC concluded that DG programs "appear to have no more than a few hundred megawatts." While DG programs may have more impact on loads in the future, they are less substantial than EE and DR programs and therefore had less stringent measurement and evaluation criteria for estimating qualifying capacity.

Line 6—California Solar Initiative (minus)

On line 6, IOUs and POUs are asked to estimate how much dependable on-peak capacity will be available to serve on-site loads of end-use customers who participate in programs implementing the California Solar Initiative (CSI). This number should represent new amounts of aggregate generating capacity that utilities would otherwise need to procure.

Line 7—Direct Access Loads (minus/plus)

IOUs are asked to show on line 7 the net amount of peak-hour load that is most likely to either return to bundled customer load (plus) or to depart from IOU bundled customer service to an ESP supply provider (minus). These amounts of true load migration between IOUs and ESPs should reflect reasonable projections based on the IOU's own internal assumptions and assessments.

Line 8—Subtotal: Adjustments to Peak-Hour Demand

This line is the numerical sum of lines 2 through 7. The Excel spreadsheet should be used to automatically sum these rows.

Line 9—Adjusted Peak-Hour Demand: End Use Customers

On the Excel spreadsheet, this line automatically calculates the forecast non-coincident peak-hour demand of an LSE's end-use customers. It is the sum of line 1a and line 8.

Line 10—Coincidence Adjustment (minus)

Line 10 of this form, which is new with this cycle, allows an LSE to reduce their forecast non-coincident annual peak-hour demand by a factor such that it corresponds with the statistically probable LSE share of peak demand during peak-hour demand of the system (balancing area). For LSEs under CPUC jurisdiction, this coincidence adjustment promotes methodological and regulatory consistency between in the near-term resource adequacy filing requirements and these long-term 10-year resource plans.

Line 11—Coincident Peak-Hour Demand

On the Excel spreadsheet, this line automatically calculates the forecast coincident peak-hour demand of an LSE's end-use customers. It is the sum of lines 9 and 10.

Line 12a—Required Planning Reserve Margin (for example, 15 percent)

IOUs, ESPs, and most POUs will enter an amount on line 12a that equals 15 percent of line 11. Under D.04-101-050, IOUs and ESPs now required to meet a 15 percent month-ahead planning reserve margin. The year-ahead resource adequacy showing for summer months (May-September) is due September 30 in the year before (or as specified by the CPUC).[7] By extending this requirement to the entire forecast period, IOUs and ESPs are asked to show how much capacity will be needed to reliably serve expected load obligations.

The Energy Commission encourages POUs to use the same 15 percent planning reserve margin unless their local governing authority has adopted a different standard. If a POU consistently uses a different number for its resource planning and procurement responsibilities, then that number should be used to calculate line 12a. For example, LADWP, Burbank, and Glendale plan and procure for a reserve margin based on single or multiple contingency criteria, and this contingency reserve (in MW) is higher than 15 percent of forecast peak load.

Line 12b—Credit for Imports That Carry Their Own Reserves (minus)

Some LSEs have firm imports or other contractual resources that carry their own reserves with a specified delivery point. All such resources should be clearly identified and referenced or explained with a footnote. For these firm supply resources, LSEs may show a capacity credit on line 12a equal to 5 percent of that firm capacity. This includes LSEs with an "all requirements" contract with Western or BPA. Another example would be a Northern California POU that has a contract for 60 MW of firm supply delivered to NP15. That POU would show a 3 MW credit on line 12. However, a firm import to an LSE in the California ISO balancing area must also have the capacity counting rights established by the ISO.

An LSE with a firm supply import does not need to procure additional resources that would cover for planned and forced outages from a specific generating resource. That combined planned and forced outage rate is arbitrarily assumed here to be about 5 percent. But an LSE with a 15 percent planning reserve margin will still need to procure enough supply over forecast peak load to cover an operating reserve margin (+6 percent) and to cover normal forecast errors (4 percent).

Line 13—Firm Sales Obligations

On line 13, list total amounts of firm capacity that the LSE has contracted to deliver to other parties. If this capacity obligation is measured at some distant delivery point, add an appropriate amount to accommodate line losses and station load. Please include 15 percent reserves for the share of sales obligations for which reserves are required.

Line 14—Firm LSE Peak-Hour Resource Requirement

Add lines 11, 12a, and 13 and subtract line 12b to calculate amount of capacity here called the firm peak resource requirement. Enter this amount on line 14.

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[7] Meeting this reserve requirement in 2006 was directed in R.04-04-003.

Existing and Planned Resources

Utility-Controlled Fossil Resources

This section asks for forecast data on fossil resources that the LSE owns or controls. Include ownership, contracts, and power purchase agreements for the output from natural gas-fired plants, coal plants, and other resources that primarily use fossil fuels.

Line 15a—Total Fossil Capacity

On the Excel spreadsheet, this line automatically calculates the sum of individual fossil resources listed on subsequent lines.

Line 15b—Unit 1

Beginning on line 15b, submit one row of capacity forecast data for each fossil plant. Please list any fossil imports first. Replace "Unit 1" with a generating resource name such as "Four Corners."

Line 15c—…

Add lines as needed to list every utility-controlled fossil resources and please delete unused lines.

Line 15d—Unit N

Please list any planned and new fossil resources last. This should be a specifically planned or named resource, even if permitting or financing is not yet underway.

Utility-Controlled Nuclear Resources

This section asks for forecast data on nuclear resources that the LSE owns or controls. Include ownership shares and contractual rights to the output from Diablo Canyon Units 1 and 2, San Onofre Nuclear Generating Station (SONGS) Units 2 and 3, and Palo Verde Units 1, 2, and 3.

Line 16a—Total Nuclear Capacity

On the Excel spreadsheet, this line automatically calculates the sum of nuclear resources listed on subsequent lines.

Line 16b—Unit 1

Beginning on line 16b, submit one row of capacity forecast data for each nuclear unit. Replace "Unit 1" with a generating resource name such as "Palo Verde Unit 3."

Line 16c—…

SCE and Riverside should add lines to list each nuclear unit.

Line 16d—Unit N

All other LSEs are asked to delete lines 16b to 16d if unused.

Utility-Controlled Hydroelectric Resources

Unlike the section on fossil plants above, LSEs are not being asked to report capacity estimates for individual hydroelectric generating plants that they own or control. Lines 17 and 18 on Form S-1 ask for the total capacity of all LSE-controlled hydroelectric resources under 1-in-5 Dry Year hydrological conditions, with one notable exception. The exception is Hoover Dam because the U.S. Bureau of Reclamation (USBR) publishes highly reliable forecasts of capacity and energy looking forward 24 months. Therefore, LSEs with Hoover entitlements should use the latest USBR forecast for 2009 and 2010 and use 1-in-5 Dry Year estimates for 2011 and beyond.

In general, a hydro resource must be able to operate during four super-peak hours for three consecutive days for capacity in that month to count. If individual LSEs use a significantly different definition of qualifying or dependable capacity, they are asked to provide a footnote to these numbers with explanatory information.

The amount of dependable capacity may diminish as a result of new FERC license conditions and from mandatory conditions set by the State Water Resources Control Board (SWRCB) for water quality certification according to Section 404 of the federal Clean Water Act. LSEs are instructed to identify and incorporate any reductions in capacity considered most probable.

Line 17a—Total Dependable Hydroelectric Capacity (Actual/1-in-5)

On the Excel spreadsheet, this line automatically calculates the sum of line 17b and line 17c.

Line 17b—Total: Hydro Plants Over 30 MW (Actual/1-in-5)

On line 17b, provide the capacity of all hydro resources over 30 MW nameplate. Use 1-in-5 Dry Year hydrological conditions for those plants where capacity is affected by year-to-year variations in rainfall and snowpack. If historical data is used as a proxy, LSEs should use generation numbers that were exceeded in 4 of the last 5 years, or 16 of the last 20 years, or some similar series considered most appropriate.

Line 17c—Total: Hydro Plants 30 MW or Less (Actual/1-in-5)

On line 17c, provide the total capacity for all hydro resources equal to or less than 30 MW nameplate. Again, use 1-in-5 Dry Year hydrological conditions.

A power plant size of 30 MW is the upper limit for IOUs, ESPs, and CCAs to count the output as "renewable energy" under California's Renewables Portfolio Standard (RPS). This distinction follows FERC definitions of large and small hydro.

Utility-Controlled Renewable Resources

This section asks for forecast data on individual renewable resources (other than hydro) that are under LSE ownership or control. The data include existing resources and planned resources (specific, named generating facilities that have been announced). List generating resources (and fuel types) on separate rows starting on line 18b, similar to the section above

on utility-controlled fossil fuel resources. The sum of all Utility-Controlled Renewable Resource capacity should be calculated automatically on line 18a.

Line 18a—Total Renewable Capacity
Line 18b—Unit 1 (fuel) (List each non-hydro resource.)
Line 18c—…
Line 18d—Unit N (fuel)

DWR Contractual Resources

The state's three major IOUs are asked to report Net Qualifying Capacity from specific DWR contracts. This refers to supply contracts signed in 2001 by the California Energy Resources Scheduling Office of the DWR. These DWR contracts were negotiated during the energy crisis to provide capacity and energy from third parties to meet IOU loads.

Use line 19b to begin listing individual DWR contracts. Add lines as needed; please delete unused lines. The sum should be calculated on line 19a.

Line 19a—Total Capacity From DWR Contracts
Line 19b—Contract A
Line 19c—….
Line 19d—Contract N

Qualifying Facility Contractual Resources

Beginning on line 20b, IOUs are asked to provide total amounts of capacity from qualifying facilities (QFs) as defined by the Public Utilities Regulatory Policy Act (PURPA). QF capacity should be aggregated/summarized by fuel/technology type. This form does not ask LSEs for data about specific QF contracts or individual QF generating resources.

IOUs are asked to indicate the amounts of capacity expected from QFs through 2018. As existing contracts expire, many of these generating resources will likely remain available to IOUs under new contract terms. Some QF owners may win new contracts in competitive renewable solicitations. Other QF owners may negotiate tolling agreements or new dispatch terms that would increase capacity ratings of the resource in return for capacity payments.

IOUs need not assume that existing QF contracts will be renewed or extended beyond those terms for which an extension has already been mandated, requested, or approved. So far as an IOU assumes current QF resources will continue to be available, these resources should be included in the aggregate lists on lines 20b through 20h.

The capacity total for QF resources includes everything that the IOU deems likely to be available during the peak hour of a specific month. Estimates of QF capacity should be based on average historical generation during peak hours as defined in Standard Offer 1 contracts, which is noon to 6 p.m. on summer weekdays, excluding holidays. Qualifying

capacity includes both firm contract capacity, plus that portion of as-available contract capacity that the LSE deems likely to be available based upon historical performance. Any changes to this method and related impacts to the derived values shall be explained in an attachment or footnote to the CRATs table.

Line 20a—Total QF Qualifying Capacity

Line 20a is for the sum of all QF capacity for the fuel types listed on lines 20b through 20h. On the Excel template, this sum should be calculated automatically.

Line 20b—Biofuels

Line 20b asks for the total capacity of QF resources powered by biofuels. This is a large generic term including landfill gas, forest products, almond shells, dairy waste, and discarded fast food cooking oils.

Line 20c—Geothermal

Line 20c asks for the total capacity of all types of geothermal production including dry vapor and dual-flash systems.

Line 20d—Small Hydro

Line 20d asks for the total capacity of small hydro QF, meaning only those plants rated 30 MW nameplate or less. Provide a derated qualifying capacity total showing what can be expected for a 1-in-5 dry year.

Line 20e—Solar

Line 20e asks for the total capacity from all types of solar resources, including photovoltaic and gas-assisted central station plants. Do not include solar generation that only reduces end-use demand. Include only the output of solar facilities injected into distribution or transmission systems that will help serve annual LSE peak loads.

Line 20f—Wind

Line 20f asks for a summary of existing and planned wind QF resources that the LSE knows or expects will be under QF contract terms. New wind resources are not expected to have new QF contracts. New wind should be listed elsewhere on the form, either as a planned renewable resource (line 21 if they are utility-controlled), under renewable contracts for identified projects (line 38), or as generic renewables (line 51) to meet future targets with facilities that are not yet specifically identified. Provide the qualifying capacity total for QF wind on line 35.

Line 20g—Natural Gas

Line 30 asks for the total capacity of all QF resources powered by natural gas.

Line 20h—Other

Line 20h reports all other generating resources under QF contracts, including resources that once had QF eligibility according to PURPA.

Renewable Energy Contractual Resources

LSEs are asked to list capacity from renewable resources that are acquired to meet renewable procurement targets. Capacity data on individual generating facilities, such as wind turbines, is not requested in this section. To avoid double-counting, do not repeat a listing of contract resources if they are included in earlier sections on utility-controlled hydro resources or QF contract resources. LSEs with a large number of renewable contracts may list them on a separate spreadsheet. Renewable contracts providing less than 1 MW of supply may be aggregated by fuel type.

Line 21a—Total Capacity From Renewable Energy Contracts

Line 20a is for the sum of all capacity from renewable energy contracts, including existing renewable DG supply on line 21b, and individual contracts below that beginning on line 21c. On the Excel template, this sum should be calculated automatically.

Line 21b—Renewable DG Supply

LSEs are asked show on line 21b amounts of existing and expected renewable distributed generation (DG) supply that is surplus to customer consumption during the peak hour. Do not include DG output that is produced and consumed on the customer's side of the meter. Include only amounts of DG injections that can supply other connected loads.

LSEs are encouraged to distinguish among different renewable DG supply programs by adding and labeling additional rows. Examples include the California Solar Initiative, New Solar Homes Partnership, and the Solar Photovoltaic Incentive Program.

DG supply is listed here with other renewable contractual supplies as a matter of convenience. While all end-use customers with DG facilities must sign interconnection agreements, development of these resources does not result from RFOs, bilateral negotiations, or other typical contracting activities. No assumption is made or implied here regarding contractual rights of any party to the renewable attributes of DG supply. LSEs are asked to list here all DG capacity for which the LSE has purchased or expects to purchase from end-use customers. If the customer retains ownership of renewable attributes, the DG supply should be listed on line 46 below.

Line 21c—Contract A

Use line 21c to begin listing individual renewable energy contracts. Add lines as needed; please delete unused lines.

Line 21d—…

Line 21e—Contract N

Other Bilateral Contracts

All LSEs are asked to list supplies from other bilateral contracts with durations longer than three consecutive months. List all such bilateral contracts that are not already reported in earlier sections. Each bilateral contract should be named and listed on a separate row

beginning with line 22c, except that contracts providing less than 1 MW may all be aggregated. Capacity data on individual generating facilities are not being requested in this section. If an LSE has more than 25 contracts in this category, it may be appropriate to aggregate reporting at a higher level. Any aggregate reporting for contracts that individually provide more than 1 MW should be based on prior consultation with Energy Commission staff.

Line 22a—Total Capacity From Other Bilateral Contracts

Line 22a is for the sum of all capacity from other contracts, including existing non-renewable DG supply on line 22b, and individual contracts below that beginning on line 22c. On the Excel template, this sum should be calculated automatically.

Line 22b—Non-Renewable DG Supply

LSEs are asked to show total amounts of existing and expected non-renewable DG supply that is surplus to the amount the DG customer consumes. Again, do not include DG output consumed by the DG customer. Include only amounts of DG injected into the distribution system for other end-use customers, amounts that would otherwise be supplied by the LSE.

Use line 22c to begin listing individual bilateral contracts. Add lines as needed; please delete unused lines.

Line 22c—Contract A
Line 22d—Contract B
Line 22e—Contract C
Line 22f—Contract N

Line 23—Short-Term and Spot Market Purchases

For 2007 and 2008, LSEs are asked to indicate how much of their annual peak-hour capacity needs were met by short-term procurement or spot market purchases.

Short-term purchases are defined here to include all procurement that is more than two days duration and less than 90 consecutive days duration, consistent with CPUC and IOU usage. Spot market purchases are defined here to include all procurement that is two days or less in duration. In previous years, LSEs were asked to distinguish between these two estimates in resource plans. That distinction is moot this year, since these two categories have been combined.

For the forecast period beginning with 2009, LSEs may list capacity line 24 that they expect to procure through short-term or spot market purchases. More commonly, however, an open position for additional capacity will be shown as a generic resource need on line 25.

Capacity Balance Summary

Line 24—Total: Existing and Planned Capacity

On line 24, enter the sum of existing and planned electricity supply resources that were counted in earlier sections. On the Excel template, this sum should be calculated automatically.

The amount to enter on line 24 is the sum of lines 15a (utility-controlled fossil resource capacity), 16a (utility-controlled nuclear capacity), 18a (utility-controlled renewable capacity), 19a (DWR contracts), 20a (QF capacity), 21a (renewable energy contracts), 22a (other bilateral contracts), and 23 (Short-Term and Spot Market Purchases).

Line 25—(Resource Need) or Resource Surplus

On line 25, enter the difference between line 23 (Existing and Planned Capacity) minus line 14 (Firm LSE Peak-Hour Resource Requirement). On the Excel template, this sum should be calculated automatically.

A positive number on line 25 indicates a net-surplus capacity position. A negative number indicates a net-open position. (Almost by definition, a negative number for 2007 and 2008 is not considered possible or acceptable in this reporting.)

A net-open capacity position will be filled in future years by one or more procurement actions (including new bilateral contracts, planned additions for utility-controlled capacity, short-term contracts, and spot market purchases). If an LSE expects an existing contractual resource to be renewed during the 2009-2018 resource plan horizon, then the capacity from those resources should be listed in subsequent years in earlier sections on this form (Renewable Energy contracts, QF contracts, and so forth).

In some instances, LSEs have committed to specific but yet-to-be-built physical resources. All announced projects with plant names and known physical locations should be listed in earlier sections on utility-controlled or contractual resources.

Additional Needs for Capacity

Line 26—Generic Renewable Resources

On line 26, enter the aggregate or dependable capacity reasonably expected from renewable resources that will be new to the LSE's portfolio. Show only capacity beyond that for specific, named resources that already exist or that are already listed in earlier sections. The capacity values for generic renewable resources should correlate with the forecast of generic renewable energy procurement shown on line 23 of supply form S-2, though this need not be a formulaic or absolute relationship since the capacity values vary significantly for different renewable technologies.

Line 27—Generic Non-Renewable Resources

On line 27, enter the aggregate or dependable capacity that the LSE reasonably expects will be needed as new additions to the LSE's portfolio other than from generic renewable

resource additions. The sum on line 27 should include capacity for baseload energy, load-following, and peaking. If line 25 shows a resource need for a given year, the capacity amounts on lines 26 and 27 should at least be equal to that forecast need. The sum of lines 26 and 27 may be greater than the resource need shown on line 25 where the LSE expects to add capacity to meet local reliability requirements, to integrate intermittent resources, and for other purposes.

Line 28—Specified Planning Reserve Margin

On line 28, state the percentage (such as 15 percent) if the LSE has adopted a percentage number as its planning reserve margin. All LSEs in California ISO have adopted a "year-ahead" planning reserve margin stated as a percentage of forecasted peak load. This is the number that was used to calculate the actual amount of capacity on line 12a and does not include a reduction for coincidence. This cell does not feed any other cell. For most LSEs this number will be a constant for the planning horizon.

If the LSE's planning reserve margin is based on a contingency reliability criteria (such as N-1), state that number in megawatts. Burbank, Glendale, and LADWP in the LADWP Balancing Authority Area have adopted a contingency-based planning reserve margin that would still provide for adequate operating reserves (under 1-in-10 load probabilities) even with the loss of the largest generation or import (transmission) resource.

Historic LSE Non-Coincident Peak Load

All LSEs are asked to calculate and report their actual peak loads during calendar years 2007 and 2008. This annual peak-hour load includes all metered deliveries plus all firm sales obligations. By definition, peak-hour load includes all the energy needed to move and deliver energy to end-users including transmission losses, distribution losses, and UFE.

Each LSE is asked to show its annual non-coincident peak-hour load. Do not include a planning reserve margin or an operating reserve margin. Do not include an adjustment for coincidence in the balancing authority area. (However, the 10 members of the NCPA Power Pool are asked to report the annual peak loads for each LSE, and the coincident peak loads for the Power Pool.)

Line 27—Annual Peak Load-Actual Metered Deliveries

Actual metered deliveries are the value most commonly reported by LSEs. This number does not include interruptible load that was called on during that hour. For reporting 2007 and 2008 annual peak load, this number is the sum of line 9 (peak hour demand) and line 13 (firm sales obligations). Note: The historic amount of firm sales obligations does not include short-term sales or spot market sales that may have been negotiated for that hour.

Line 28—Date of Peak Load for Annual Peak Deliveries

Please report the day in numeric format, such as 07/26/2006.

Line 29—Hour Ending (HE) for Annual Peak Deliveries

Please report the hour during which average energy load was higher than any other hour that year. For example, show "16" for the 16th hour of the day that ends at 4 p.m. For summer days, report the hour using Pacific Daylight Savings Time. (This convention matches popular reporting in public media, though hourly metered load reports on Demand Form 1/Supply Form 3 use Pacific Standard Time for the entire year.)

Line 30—Interruptible Load That Was Called on During That Hour (Plus)

Show a positive number for the amount of air conditioner cycling and other interruptible load that was curtailed during the hour when actual metered deliveries were at annual peak.

Line 31—Adjusted Annual Peak Load

This is the sum of line 27 plus line 30.

The Energy Commission suggests using this number in load forecasting to positively incorporate both the benefits and the counting conventions of demand-side management (DSM) programs. Many LSEs have DSM programs that are expected to grow in size and importance so that costs of meeting firm load can be reduced by asking certain loads to participate in curtailments. Without these DSM programs, the annual peak for actual metered deliveries would be measurably higher for most LSEs.

Supply Form S-1 Monthly for 2009 or 2010

All POUs are asked to complete this form, which asks for a forecast of monthly loads and resources for calendar year 2009 or 2010. All large IOUs and all large or mid-sized ESPs are asked to complete this same form for calendar year 2009. The S-1 Monthly Excel template is identical to Supply Form S-1 in most respects including line numbering. The requested monthly capacity data is explained by instructions for annual capacity data to be entered on Supply Form S-1. However, specific forecast months should incorporate any capacity reductions for scheduled outages, such as annual hydro maintenance in November and scheduled nuclear shutdowns from refueling. Other key differences are explained below.

After entering data on the S-1 Monthly form, the column with the annual peak load can be copied onto the column for 2009 or 2010 on the Supply Form S-1. For most California LSEs this will be the month of July, August, or September, though a few LSEs such as Lassen MUD and Truckee Donner PUD have non-coincident annual peak loads in winter December or January.

Line 1a For each month, starting with January 2009 or 2010, provide a forecast of 1-in-2 peak-hour load forecast. As stated previously, LSEs are required to use their best estimates about their future customers and their loads. These estimates may be greater than or less than the current obligation to serve end-use customers.

Supply Form S-2: Summary of Energy Resources

LSEs are asked to estimate how much energy in gigawatt-hours (GWh) is needed to serve forecast needs and how much energy will come from various electricity supply resources. These estimates are required for all years of the forecast period, 2009 through 2011 for ESPs, and 2009 through 2018 for utilities. LSEs are requested to provide this data on Supply Form S-2, Summary of Energy Resources, also called an energy balance table. The data submitted on Form S-2 should correspond one-to-one with the data submitted on the CRATs tables, Form S-1.

The instructions for individual lines on Form S-2 often repeat those provided for lines on Form S-1. This repetition is meant to provide clarity and convenience for people who will be completing these forms. The data categories on the two forms differ only slightly. On Form S-2, there is no percentage planning reserve margin requirement. However, the S-2 does ask for more information about LSE expectations and assumptions related to generic energy needs in their 10-year energy plans.

Energy Demand Calculations (GWh)

Line 1a—Forecast Total Energy Demand/Consumption

On line 1a, all LSEs are asked to estimate total annual energy demand for all retail customers. Total energy demand includes transmission losses, distribution losses, energy needed to serve station loads of utility-controlled resources, and unaccounted for energy.

LSEs are asked to include on line 1a non-retail and self-supply load such as the municipal loads served by the City & County of San Francisco, and the Metropolitan Water District load that is integrated with SCE loads.

Total demand already includes adjustments for distributed generation and for energy efficiency programs that are "committed" (or funded). The demand forecast on Form S-2, line 1, should already include adjustments for committed demand response (DR) programs that are not dispatchable by the LSE, as explained in the instructions for Form S-1. A non-dispatchable DR program allows customers to make economic choices whether to modify usage, such as response to ongoing price signals.

Line 1b—ESP Energy Demand: Existing Contracts

All electric service providers (ESPs) are asked to identify how their expected loads are divided between new and renewing customers. On line 1b, ESPs are asked to estimate total annual energy needs of their existing customers. Energy totals on line 1b should include only obligations for current contract service periods.

Line 1c—ESP Energy Demand: New and Renewed Contracts

On line 1c, ESPs are asked to estimate total annual energy needs that arise from new customers, plus contract renewals and extensions to serve existing customers. This forecast should be the "most likely" case. Enter the amount of energy needed to serve new

customers plus existing customers who are expected to renew or extend ESP service. The amount on line 1c should equal the amount on line 1a less the amount on line 1b.

Line 2a—Departing CCA and Municipal Load (minus)

IOUs are asked to identify a particular amount of community choice aggregation (CCA) and departing municipal load (DML) from a specified range of possibilities. As likely CCA/DML values are both very uncertain and apt to be utility-specific, each IOU is asked to choose a CCA/DML level that represents the most likely or median values during the forecast period. If there is a wide range of uncertainty about these types of departing load, more detail can be presented in a footnote.

Line 2b—Arriving CCA and Municipal Load (plus)

POUs are asked to show on line 2b their assumptions regarding increased loads that may depart from IOU bundled service or that are located in previously unserved areas. (These estimates should not be included on line 1a). Also included on line 2b, POUs are asked to list service to new bundled customers in developing areas where POU and IOU service territories overlap.

Line 3—Uncommitted Energy Efficiency (minus)

On line 3, IOUs and POUs are asked to estimate amounts of achievable, cost-effective savings from future EE programs that are not yet implemented or funded. Do not include the effects of energy efficiency programs that are already embedded in the LSE demand forecast (Demand Forms 1.1 and 1.3) or in LSE load forecast (Supply Form S-1, line 1).

Utilities are asked to estimate energy savings from currently uncommitted programs. For IOUs, the CPUC established energy efficiency targets for both peak demand and energy for each of the IOUs. CPUC specified these targets in D.04-09-060. In 2005, the three large IOUs were asked to assume these targets will be precisely met in supply-and-demand forecasts. This is not the case in 2009. Realistic estimates of energy savings may vary from program targets. (See the instructions on forecasting capacity from uncommitted conservation programs. A few definitions and examples are provided in the instructions for this subject on the Supply Form
S-1, line 3.)

For POUs, supporting studies may not be available to predict EE reductions to load. Where studies are lacking to identify a reasonable offset, enter zero. Where studies have identified potential EE programs, POUs should assume that these programs are funded and implemented and become reasonably effective. If future programs already have a funding commitment established in rates, the EE reductions should be embedded in the load forecast.

Line 4—Demand Response/Interruptible Programs (minus)

On line 4 IOUs and POUs are asked to enter the load reduction amounts (stated as negative numbers) that are expected to be available from all dispatchable programs to reduce

demand or to interrupt non-firm demand. Only interruptible load subject to LSE or balancing authority dispatch should be counted on line 4.

Dispatchable programs are defined here as programs with triggering conditions that the customer does not control and cannot anticipate, such as direct control, interruptible tariffs, or demand bidding programs. Programs with triggering conditions are dispatchable whether they are a day-of or day-ahead trigger, and whether the trigger is economic or physical.

All price response programs that have specified triggering conditions should be treated as dispatchable. This includes critical peak pricing and real-time pricing. Energy or peak load saved from dispatchable programs is to be treated as a supply resource on line 4 of the S-1 and S-2 forms and is not to be accounted for in the demand forecast. (See the instructions on forecasting capacity from demand response programs. A few definitions and examples are provided in the instructions for this subject on the Supply Form S-1, line 4.)

LSEs should treat energy or peak load saved from dispatchable programs as a resource and not a reduction to the demand forecast. Impacts from committed non-dispatchable programs should be included in the demand forecast, for example, load reductions at on-peak hours subtracted from the "base" forecast and load building or load shifting in off-peak hours added to the "base" forecast.

Line 5—Self-Generation (Total, Non-CSI [minus])

On line 5, IOUs and POUs are asked to estimate how much energy will be produced and consumed by end-use customers, on the customer side of the revenue meter. This number should represent new amounts of energy supply that utilities would otherwise need to procure.

LSEs are asked to provide their own best estimates of the load impacts from Self-Generation including the CPUC's Self-Generation Improvement Program (SGIP), from DG, and from other sources of supply that are owned by end-use customers (except CSI, to be shown in line 6). For IOUs, the CPUC has not established a target for customer-side DG.

The amounts of Self-Generation shown on line 5 represent a deduction from energy that utilities (and possibly ESPs) would otherwise be obligated to serve. This number does not include the supply of DG-produced energy that will be injected into the grid for use by IOU customers. Supplies of DG power that are surplus to customer needs should be reported on lines 21b (renewable DG) and line 22b (non-renewable DG). DG is defined here to be self-generation at distribution level voltages, with power sources limited to less than 20 MW. (A broader definition of DG, which was considered but not used in these instructions, would include all forms of self-generation and cogeneration, along with smaller independent systems capable of supplying many of the electrical needs of residential and small commercial customers.

Self-generation includes energy used by a project for on-site demands and any energy sold by the project to third parties. Self-generation is normally not available to the LSE.

Line 6—California Solar Initiative (minus)

On line 6, IOUs and POUs are asked to estimate how much energy will be generated and consumed by end-use customers who participate in programs implementing the California Solar Initiative (CSI). This number should represent new amounts of net energy generation that that utilities would otherwise need to procure.

Line 7—Direct Access Loads (minus/plus)

IOUs are asked to show on line 7 the net amount of energy demand that is most likely to either return to bundled customer load (plus) or to depart from IOU bundled customer service to an ESP supply provider (minus). These amounts of true load migration between IOUs and ESPs should reflect reasonable projections based on the IOU's internal assumptions and assessments.

Line 8—Subtotal of Adjustments to Energy Demand

This line is the numerical sum of lines 2 through 7. The Excel spreadsheet should be used to automatically sum these rows.

Line 9—Adjusted Energy Demand Consumption

Line 9 asks for the net energy demand for end-use customers, which is the sum of line 1a and line 8. For IOUs and POUs these are "bundled" customers.

Line 10—Firm Sales Obligations

On line 8, list total amounts of firm energy that the utility has contracted to deliver to other parties, both within the LSE's balancing area and beyond. If this obligation is measured at some distant delivery point, add an appropriate amount to accommodate line losses and station load.

Line 11—Firm LSE Energy Requirement

Add line 9 to line 10 to calculate what is here called the firm LSE energy requirement. Enter this amount on line 11.

Existing and Planned Resources

Utility-Controlled Fossil Resources

This section asks for forecast data on fossil resources owned or controlled by utilities.

Line 12a—Total Fossil Energy Supply

On line 12a, enter the sum of lines 12b through 12d (or as many lines as are needed to list every utility-controlled nuclear generating unit).

Line 12b—Unit 1

Beginning on line 12b, submit one row of forecast energy production for each fossil plant. Line 12c shows an ellipse representing one row for other plants in the series, and line 12d is for the last plant in the series, "Unit N." Add lines as needed; please delete unused lines.

Line 12c—…
Line 12d—Unit N

Utility-Controlled Nuclear Resources

Line 13a—Total Nuclear Energy Supply

On line 13a, enter the sum of lines 13b through 13d (or as many lines as are needed to list every utility-controlled nuclear generating unit).

Line 13b—Unit 1

Use line 13b to begin listing individual resource unit. Add lines as needed; please delete unused lines.

Line 13c—Unit 2

Utility-Controlled Hydroelectric Resources

Lines 14a-e on the S-2 energy balance table ask for total annual hydroelectric energy production from all resources under LSE ownership or control. Unlike the sections on fossil resources and nuclear resources above, LSEs are not asked to report on or estimate energy from individual hydroelectric generating plants.

Line 14a—Total Hydroelectric Energy Generation (Actual/1-in-2)

On line 14a, enter the sum of lines 14b and 14c.

For lines 14a, 14b, and 14c, energy production estimates should use median (1-in-2) hydrological conditions, with one caveat. The U.S. Bureau of Reclamation (USBR) publishes highly reliable 24-month forecasts of capacity and energy for the lower Colorado River. Therefore, LSEs with Hoover, Davis, and Parker entitlements may use the latest USBR forecast for 2009 and 2010 on lines 14a, b, and c, followed by 1-in-2 estimates for 2011 and beyond.

For 2007 and 2008, LSEs are asked to show actual amounts of annual energy generation on lines 14a, 14b, and 14c. (The 1-in-5 Dry Year rows 14d and 14e are grayed out for these years because a "hindsight forecast" is not requested; the authors recognize, however, that 2007 and 2008 were dry or critically dry years in most watersheds.)

Line 14b—Total Energy: Hydro Plants Over 30 MW (Actual/1-in-2)

On line 14b, estimate total hydroelectric energy production from all LSE-owned or controlled hydro resources over 30 MW nameplate. This distinction follows Federal Energy Regulatory Commission (FERC) definitions of large and small hydro. Thirty MW is also the

upper plant size limit that is eligible to be counted as a producer of "renewable energy" under California's RPS.

Line 14c—Total Energy: Hydro Plants 30 MW or Less (Actual/1-in-2)

On line 14c, estimate total hydroelectric energy production from all LSE-owned or controlled hydro resources equal to or less than 30 MW nameplate.

Line 14d—Hydroelectric Energy in Dry-Year Conditions (1-in-5)

On line 14d, estimate total annual hydroelectric energy produced during a "dry year" defined as 1-in-5 hydrological conditions that have an 80 percent chance of being exceeded each year. If historical data is used as a proxy, LSEs should use generation numbers that were exceeded in 4 of the last 5 years, or 16 of the last 20 years.

If feasible, use historical production data adjusted to current operating constraints and license conditions. If those conditions are expected to change during the forecast period, 2009-2018, adjust the averages accordingly so that this number represents what might be expected during a 1-in-5 dry year. Do not derate amounts of energy from Hoover Dam for 2009 or 2008. Instead, use the latest 24-month forecast by the USBR.

This estimate is for comparative interest and systemwide assessments. The number on this line stands alone; it is not added to other numbers on the form.

Line 14e—Hydroelectric Energy in Wet-Year Conditions (1-in-5)

On line 14e, utilities are also asked to estimate the amount of generation from hydroelectric facilities in a "wet year" defined as 1-in-5 hydrological conditions that have a 20 percent chance of being exceeded every year. If historical data is used as a proxy, LSEs should use generation numbers that were exceeded in just 1 of the last 5 years, or 4 of the last 20 years. (As with the request for dry year energy estimates, do not increase amounts of energy from Hoover Dam above those shown in the latest 24-month forecast by USBR.)

This estimate is for comparative interest and systemwide assessments. The number on this line stands alone; it is not added to other numbers on the form.

Utility-Controlled Renewable Resources

This section asks for forecast data on individual renewable resources (other than hydro) that are under utility ownership or control. List all existing resources and all specific generating facilities that have been announced. List each generating resource on a separate row, similar to the section above on utility-controlled fossil fuel resources. If a utility has a large number of renewable resources that it owns or dispatches, these may be listed on a separate tab with the total number brought forward to Form S-2, line 22.

Line 15a—Total Utility-Controlled Renewable Energy

On line 15a, enter the sum of lines 15b through 15d (or as many lines as are needed to list every utility-controlled renewable energy resource other than small hydro).

Use line 19b to begin listing individual DWR contracts. Add lines as needed; please delete unused lines. The sum should be calculated on line 19a.

Line 15b—(fuel)
Line 15c—…
Line 15d—Unit N (fuel)

DWR Contractual Resources

The state's three major IOUs are asked to report energy supplies from specific DWR contracts. To avoid the potential for double counting, do not report these contract amounts elsewhere on the forms. List each contract on a separate row, starting with line 25. Actual line numbers for each IOU will vary from the line numbers in these instructions and on the form templates.

Line 16a—Total Energy Supply From DWR Contracts

On line 16a, enter the sum of forecast annual energy from all DWR contracts.

Line 16b—Contract A

Use line 16b to begin listing individual DWR contracts. Add lines as needed; please delete unused lines.

Line 16c—Contract B
Line 16d—Contract C
Line 16e—…
Line 16f—Contract N

Qualifying Facility Contractual Resources

Beginning on line 17a, IOUs are asked to provide total amounts of annual energy from QFs as defined by the Public Utilities Regulatory Policy Act (PURPA), summarized by fuel/technology type. This section on QF contract resources does not ask LSEs for data about individual QF generating resources.

IOUs are asked to indicate the amounts of energy expected from QFs through 2018. As existing contracts expire, many of these generating resources will likely remain available to IOUs under new contract terms. Some QF owners may win new contracts in competitive renewable solicitations. Other QF owners may negotiate tolling agreements or new dispatch terms that would increase or decrease amounts of energy expected from these resources.

IOUs need not assume that existing QF contracts will be renewed or extended beyond those terms for which an extension has already been mandated, requested, or approved. If an IOU assumes current QF resources will continue to be available, the generation from these resources should continue to be included here in this section on lines 17b through 17h.

Line 17a—Total Energy Supply From QF Contracts

On line 17a, enter the sum of all QF resources listed on lines 17b through 17h.

Line 17b—Biofuels

Line 17b asks for QF annual energy from biofuels, a large generic term including landfill gas, dairy waste, forest products, almond shells, and discarded fast food cooking oils.

Line 17c—Geothermal

Line 17c asks for all types of geothermal energy, including dry vapor and dual-flash systems.

Line 17d—Small Hydro

Line 17d asks for small hydro QF totals, meaning only those plants rated 30 MW nameplate or less.

Line 17e—Solar

Line 17e asks for total annual energy from all QF solar resources, including photovoltaic and gas-assisted central station plants. Do not include solar generation that only reduces end-use demand. Include only the output of solar facilities injected into distribution or transmission systems that will help serve annual IOU peak loads.

Line 17f—Wind

Line 17f asks annual QF wind energy from resources that the IOU knows or expects will be under contract. New wind resources are not expected to have new QF contracts and should probably be listed elsewhere on the form.

Line 17g—Natural Gas

Line 17g asks for total annual energy of all QF resources powered by natural gas.

Line 17h—Other

Line 17h includes annual energy from all other QF contract generating resources.

Renewable Energy Contractual Resources

All LSEs are asked to list forecast energy supplies from renewable resources that are acquired to meet renewable energy procurement targets. Each contract with durations longer than three consecutive months should be named and listed on a separate row beginning with line 18c. Energy from individual generating units or plants, such as wind turbines, is not being requested. To avoid double-counting, do not repeat a listing of contract resources if they are included in earlier sections on utility-controlled hydro resources or QF contract resources.

Line 18a—Total Energy Supply From Renewable Contracts

On line 18a, enter total energy amounts from all renewable contract resources, here represented as lines 18b through 18e. Add lines as needed; please delete unused lines in this section after 18b.

Line 18b—Renewable Distributed Generation (DG) Supply

LSEs are asked to show on line 18b amounts of annual energy from existing and expected renewable DG supply that is surplus to customer consumption. Do not include DG output that is produced and consumed on the customer's side of the meter. Include only amounts of DG injections that can supply other connected utility loads. Only show renewable DG amounts for which the LSE has procured or expects to purchase from the end-use customer, and only include these energy amounts if the utility will purchase all renewable attributes of this supply. If the customer retains ownership of renewable energy attributes or credits, the DG supply should be listed below on line 19b.

Line 18c—Contract A
Line 18d—….
Line 18e—Contract N

Other Bilateral Contracts

All LSEs are asked to list forecast energy supplies from other bilateral contracts that are not already counted in earlier sections on utility-controlled hydro, DWR contracts, QF contracts, and renewable resource contracts. Each bilateral contract should be named and listed on a separate row beginning with line 40. Energy output from individual generating facilities is not being requested in this section. If an LSE has or projects a large number of such bilateral contracts, they may be listed on a separate spreadsheet, equal to lines 41 to 44. Any aggregate reporting for contracts that individually provide more than 1 MW should be based on prior consultation with Energy Commission staff.

Line 19a—Total Energy Supply From Other Bilateral Contracts

On line 45, enter total energy amounts from all other bilateral contracts, here represented as lines 19b through 19e. Add lines as needed; please delete unused lines in this section after 19b.

Line 19b—Non-Renewable Distributed Generation (DG) Supply

LSEs are asked to show on line 9b amounts of existing and expected non-renewable DG supply that is surplus to the amount the DG customer consumes. Again, do not include DG output consumed by the DG customer. Include only annual energy from DG injected into the distribution system for other end-use customers, amounts that would otherwise be supplied by the LSE.

Line 19c—Contract A
Line 19d—….
Line 19e—Contract N

Short-Term Purchases and Sales

Line 20—Short-Term and Spot Market Purchases

On line 20, all LSEs are asked to indicate how much of their annual energy are expected to be may be met by short-term or spot market purchases under average or expected conditions.

Short-term purchases are defined here to include all procurement that is more than two days duration and less than 90 consecutive days duration, consistent with CPUC and IOU usage. Spot market purchases are defined here to include all procurement that is two days or less in duration. Amounts shown on line 20 may represent historical averages, estimates of future purchases, or some other reasonable expectation. Do not include amounts related to "economy energy" purchases. This line is intended to represent a small residual "open position" of end-use customer need that is typically filled by through short-term procurement or spot market purchases.

Energy Balance Summary

Line 21—Existing and Planned Energy

On line 21, enter the sum of lines 12a, 13a, 14a, 15a, 16a, 17a, 18a, 19a, and 20.

Line 11—Total LSE Energy Requirement

The values on this line are repeated above in the table.

Line 22—(LSE Energy Need) or Surplus

On line 22, enter the difference between line 21 (Existing and Planned Energy) minus the amount shown on line 11 (LSE Energy Requirement). A positive number on line 22 indicates a net-surplus energy position. A negative number indicates a net-open position.

Additional Needs for Energy

Generic Energy Resource Needs

In some instances, LSEs have committed to specific but yet-to-be-built resources. All announced projects with names and locations should be listed in earlier sections on utility-controlled resources, or contractual resources.

Some LSEs have seriously considered specific projects to serve loads after 2011. Other LSEs have yet to determine if these loads could be better served with physical or contractual resources. During a 10-year planning horizon, many supply-and-demand uncertainties are compounded, which makes peak load and annual energy forecasts highly contingent or tentative. Nonetheless, the daily and seasonal shapes of LSE load obligations may be reasonably estimated. Each LSE knows its own portfolio of existing and planned resources and how that portfolio matches up with forecast loads. For projected loads and necessary reserves that are not covered by existing and planned resources, all LSEs are expected to estimate the generic energy procurement needs that must be fulfilled to meet forecast obligations.

On Form S-2, first identify new renewable resources that will be needed to meet adopted renewable energy targets. Second, identify generic non-renewable baseload, shaping, and/or peaking resources that will be needed through 2018. The listings of generic resources on Form S-2 must be consistent with those listed on Form S-1.

Line 23—Generic Renewable Energy

On line 23, enter the aggregate amounts of energy expected from renewable resources that will be new to the LSE portfolio. Show only energy amounts beyond what is already listed in earlier sections. Include only energy with all its renewable attributes (not stripped of RECs), energy that the LSE expects to receive and have delivered to its end-use customers.

Estimates from LSEs about renewable generation performance should reflect realistic appraisals of likely outcomes from authorizations, solicitations, direct investments, regulatory incentives, and many other decisions too numerous to list here. The obligation and opportunity to acquire new renewable resources varies among different LSEs and across different classes of LSEs (IOUs, POUs, and ESPs). Most LSEs have a policy preference to acquire more renewable energy in proportion to annual retail energy sales. With targets such as these foremost in mind, these instructions do not ask LSEs to anticipate the location, technologies, fuel types, or generating performance attributes likely associated with generic new renewable resources.

Line 24—Generic Non-Renewable Energy

On line 24, enter the amount of all baseload, load-following, and peaking generation needs that will not be met by existing resources, by planned resources, or by generic renewable resources.

Line 25—Total Generic Resources to be Added

On line 25, enter the sum of lines 24 and 25. In practice, most LSEs that show a net-open position for energy on line 22, will match that energy procurement need with the same amounts on line 25. To meet forecast load obligations, most LSEs will need to procure additional resources during the next 10 years.

Renewable Energy Accounting

This section of the S-2 form is separate from the energy balance calculations above, though most lines ask for a repeat or sum of earlier lines on the form. This section compiles historic data and forecast information showing trends in renewable energy generation and procurement. This information will be used to assess how different classes of LSE expect to use renewable energy resources to serve their forecasted loads over time, and what shares these resources represent in comparison to end-use demand over time.

Line 26a—Utility-Controlled Renewable Resources

On line 26a, enter the sum of line 14c (small hydro) and line 15a (total renewable supply other than small hydro).

Line 26b—QF Renewable Contract Resources

On line 26b, enter the sum of all QF renewable resources (lines 17b through 17f).

Line 26c—Renewable Energy Contract Resources

On line 26c, repeat the total from existing and planned renewable contracts (line 18a).

Line 26d Generic Renewable Energy

On line 26d, repeat the total of expected generic renewable energy (line 23).

Line 26e—Total State-Defined Eligible Renewable Energy

On line 26e, enter the sum of expected annual energy that comes from facilities and contracts meeting the state's definition of an eligible renewable energy resource. (This does not necessarily mean the energy is from a "certified" or "precertified" eligible renewable energy resource.) This value is the numeric sum of lines 27a through 27d.

Line 26f—Other LSE-Defined Renewable Energy

On line 26f, enter any amounts of other renewable energy or credits that the LSE expects to claim or procure. For all LSEs, this includes the potential purchase of renewable energy credits. If the LSE has a net metering agreement with an end-use customer who has on-site renewable generation, and if the LSE has an agreement allowing the LSE to claim credit for the renewable energy generated and consumed on the customer side of the meter, then these amounts should be included on line 26f.

For POUs, the amounts listed on line 26f should include renewable energy from facilities that meet the POU's but not the state's eligibility criteria for this designation. This would include calculated amounts of electricity produced from digester gas and landfill gas that is pumped directly into the combustion boilers of fossil fuel resources. For some POUs, this certainly includes renewable energy from large hydroelectric resources, such as utility-owned shares of Hoover generation.

Line 26g—Total Actual/Expected Renewable Energy

On line 26g, enter the sum of lines 26e and 26f.

Line 26h—Renewable Energy as a Percentage of End-Use Demand

On line 26h, show what proportion of energy provided to end-use customers (line 9) can reasonably be attributed to renewable energy supplies (line 26g). Enter this number as a percentage rounded off to the nearest tenth of 1 percent (for example, 17.5 percent).

End-use demand includes an allowance for transmission, distribution, and UFE energy losses. Retail sales are less than end-use demand, because retail sales do not include losses. End-use demand may be larger than retail sales for additional reasons, such as energy exchange agreements or serving water agency loads remote from their generation. These caveats highlight only some of the uncertainties about future renewable energy supplies and how they might be related to LSE retail sales through 2018.

Line 27—Total Retail Sales

On line 27, report (or forecast) the amount of energy sold to retail customers. For historical calendar years 2007 and 2008, this amount should match the annual amount shown on Schedule 2A: Retail Sales (*Annual Report to the California Energy Commission: Power Source Disclosure Program*). Please indicate with a footnote if historical year amounts are subject to further verification checks.

Line 28—Renewable Energy as a Percentage of Retail Sales

On line 28, show what proportion of energy sold to retail customers (line 27) can reasonably be attributed to renewable energy supplies (line 26g). Enter this number as a percentage rounded off to the nearest tenth of 1 percent (for example, 17.5 percent).

Biomass Energy Accounting

Line 29a—Biofuels (QF Contractual Resources)

On line 29a, IOUs are asked to repeat the amount shown for on line 17b.

Line 29b—Other Biomass Energy

On line 29b, all LSEs are asked to enter total annual biomass energy from all other supplies. These supplies may be utility-owned or contractual. Again, this amount can include renewable energy from facilities that do not meet the state's eligibility criteria for this designation, such as digester gas and landfill gas pumped into the combustion boilers of a fossil fuel resource. Filers are asked to use Excel formulas to calculate this amount (such as "=G52+G64+G75") to show how this value on line 29b is derived.

Line 29c—Total Biomass Energy

On line 29c, enter the sum of lines 29a and 29b.

Supply Form S-2 Monthly for 2009 or 2010

All POUs are asked to complete this form, which asks for a forecast of monthly loads and resources for calendar year 2009 or 2010 starting with January. All large IOUs and all large or mid-sized ESPs are asked complete this same form for calendar year 2009. The S-2 Monthly Excel template is identical to Supply Form S-2 in most respects including line numbering. The requested monthly energy data is explained by instructions for annual energy data to be entered on Supply Form S-2. The S-2 Monthly form does not include the lines for renewable energy accounting as shown the Supply Form S-2. Those few other key differences are explained below.

After entering data on the S-2 Monthly form, the column with 2009 or 2010 totals can be copied onto the column for 2009 or 2010 on the Supply Form S-2.

Line 1a For each month provide a forecast of 1-in-2 monthly energy demand. As stated, LSEs are required to use their best estimates about their future customers and their loads. These estimates may be greater than or less than the current obligation to serve end-use customers.

Supply Form S-3: Small POU Hourly Loads in 2008

Each publicly owned LSE with annual peak loads under 200 MW is asked to complete this form to report hourly loads in 2008. This new Supply Form S-3 is a much simplified version of Demand Form 1.6a. Small POUs are not required to complete any of the demand forms.

Report actual hourly demand (average energy consumption) in MW for each hour of each day. Begin with the hour that ended at 1 a.m. on January 1, 2008. The time basis should be Pacific Standard Time (PST) throughout the entire year.

Show the load measured at the balancing area take-out point.

For the "total requirements" LSEs in the California ISO balancing areas, the Scheduling Coordinator (Western) should report hourly load for each LSE separately (Trinity PUD, Lassen PUD, and others.)

The form is to be completed for each LSE. If an LSE serves load in more than one control area or in more than one transmission access charge (TAC) area (for loads in the California ISO balancing area), an S-3 form is to be completed for each transmission area. Identify the balancing area and (if appropriate) the TAC area at the top of the form.

Demand Form 1.6a asks larger distribution utilities to report distribution system losses, historical outages, and demand response/interruptible resources that were called on in each hour. Small POUs are not asked to report these data categories with due consideration for the size of loads, utility staffing levels, and the relative importance on system assessments and reliability planning.

In 2007, Form S-3 was used to request projections on New Capacity for Local Reliability. The older S-3 forms will not be used to request information from LSEs about needed new local capacity or QF contracts.

Supply Form S-4: QF Energy and Cost Projections

For the *2009 IEPR*, Energy Commission staff is not requesting information from the IOUs about contracts with QFs.

In 2005, Form S-4 was used to request projections on QF energy and costs. For the *2009 IEPR*, the S-4 will not be used to request information about QF contracts.

Supply Form S-5: Bilateral Contracts and Power Purchase Agreements

Scope and Purpose

All LSEs are asked to provide a few standard types of information regarding existing bilateral contracts or power purchase agreements that have been signed with suppliers of capacity and/or energy. This includes all contracts and agreements with a duration that exceeds 90 days. Do not include short-term contracts with durations of 90 days or less. Aggregations of supply contracts that individually are less than 10 MW are acceptable.

This information on Form S-5 is needed to assess the following characteristics of statewide supply and demand balances:

- Does the contract encumber in-state capacity or is it likely to do so?
- Does the contract encumber out-of-state capacity for service to California loads?
- Is the supplier in control of a physical resource or likely to be so?
- Under what circumstances, if any, may the energy or capacity associated with the contract be unavailable during peak hours?
- Under what general terms does the contract provide qualifying capacity for LSEs serving loads within the California ISO Balancing Authority Area (control area)?
- Under what general terms does the contract provide dependable capacity for LSEs serving loads in other balancing areas?

Information Format Requirements

All LSEs are asked to submit the required information on Electricity Supply Form S-5: Bilateral Contracts. A sample template is provided in Excel format. Some of the information

requested is categorical, and some is numeric. Several topics are primarily descriptive. A separate form is needed for each bilateral contract supplier (or seller in a power purchase agreement) that provides capacity in amounts over 10 MW.

An ESP may have many procurement contracts with the same supplier; these different contracts may specify a small MW share of output from the same generating unit. ESPs may aggregate such contracts for reporting on Form S-5, even though delivery periods and specific terms will vary among the individual contracts.

Some LSEs may have many supply contracts, numbering in the scores or hundreds, each of which provides less than 10 MW. To reduce reporting burdens on LSEs and to facilitate broad and general assessments by Energy Commission staff, such contracts may be aggregated for reporting on Form S-5. LSEs may aggregate reporting according to technology or fuel types, ownership, or performance attributes. Renewable energy contracts must be distinguishable from non-renewable supplies. Potential categories for aggregation include wind, solar, small hydro, and biofuels; natural gas-fired cogeneration; and contracts with options or multiple phases.

Aggregated reporting of individual sub-10 MW supply contracts must identify the number of contracts and the capacity sum. When many contracts are aggregated for reporting by a particular attributes, other attributes on the S-5 form may not be answerable or relevant. LSEs are asked to characterize performance requirements of these contracts in general terms as deemed appropriate (for example, 5 percent are dispatchable; 40 percent expire in 2012; 80 percent are deliverable in NP15, and 10 percent in ZP26; and so forth).

Contracts Covered and Not Covered by This Request

For every bilateral contract that specifies a supply of energy or capacity lasting more than 90 days duration, LSEs must provide the information described below and shown on Form S-5. There are four exceptions to this requirement:

- QF contracts
- DWR contracts
- Aggregations of supply contracts, each of which is less than 10 MW
- Contracts between California IOUs and non-LSE public utilities for the integration of hydro resources (for example, a PG&E hydropower contract with Nevada Irrigation District)

Line-by-Line Instructions

Supplier/Seller

Name the contracted supplier, producer, or seller of energy and/or capacity. This is usually the counterparty name on the contract or agreement.

Start Date

State the initial delivery date of the product(s) being purchased. If this is contingent upon future actions by parties, or market conditions, or other future events, this should be explained in notes appended to the form.

Expiration Date

Provide the date for final delivery of the product(s) being purchased. If this date is contingent upon future actions by parties, market conditions, or other future events before the contract's inception, this should be explained in notes appended to the form. Information regarding the ability of one party to unilaterally terminate the contract after its inception should be entered under Performance Requirements and Termination/Extension Clauses and Rights, or in notes appended to the form.

Contract/Agreement Capacity (MW)

For each contract or agreement, list the maximum qualifying capacity (preferred) or dependable capacity (for LSEs outside the California ISO balancing area). As a general expectation for LSEs in the California ISO balancing area, and unless specified elsewhere, this is the amount of product that will be available to the LSE during annual superpeak weekday hours (noon through 6:00 p.m.) during May through September. (Note: An estimate of qualifying capacity on these forms does not constitute a commitment to make that resource available to the California ISO.)

If the available MW varies across months of the year, days of the week, or hours of the day, this variation should be described under Availability below. If capacity that will be available to the LSE is determined somewhere other than the busbar nearest a named generator, name that location.

Scheduling Coordinator

For each contract or agreement, specify which party will serve as scheduling coordinator (which may not be specified for LSEs outside the California ISO balancing area).

Fuel Type

If the contract identifies a specific generating unit, identify the primary fuel used for generation. If dual fuels or hybrid fuels are used or likely to be used, identify the proportions expected to be used in meeting contract obligations.

Delivery Points

First, identify the balancing area and transmission zone to which energy can be delivered (for example, California ISO NP15). Second, name the point(s) at which energy can be delivered to substation or buss (for example, Tracy or Lugo substation). If there are multiple delivery points, indicate whether buyer or seller has the option.

Locational Attributes of Unit

First, identify the balancing area and transmission zone if the contract identifies a specific generating unit. Second, identify more specific locational attributes such as load pocket, sub-pocket, and city.

Contract/Agreement Product(s)

Indicate the commodity and service products for which delivery is being contracted. Examples include tolling agreement, forward energy purchase, seasonal energy exchange, qualifying capacity to meet resource adequacy requirements, a physical call (or put) option for capacity or energy, a financial call (or put) option, other market-contingent products, structured transactions (combining one or more product types, varying expiration dates, tiered prices, and so forth), and ancillary services.

Availability of Products

Indicate periods during which product will be available. Examples include:

7 x 16 (5,840 hours per year)

6 x 16 (Monday-Saturday, 6 a.m.-10 p.m., excluding the 6 NERC holidays)

Q3, 7 x 8 (third quarter, 7 days a week), 1:00 p.m. to 8:00 p.m.

Mos. 5-10, max 50 hrs/mo, (May-October, up to 50 hours per month)

100 MW off-peak (year-round, all hours not covered by 6 x 16)

Describe any limitations on the LSE related to scheduling or dispatch for the contract products during the contract period. Identify any contingent or residual obligations related to availability of contract products. For example, if the contract product is used for year-ahead resource adequacy reporting, to what extent must these products be made available to the California ISO?

Must-Take

If applicable, indicate must-take characteristics of the contract. Examples include:

Yes (for energy contract, all energy indicated jointly by MW and Availability)

Min 30,000 MWh monthly

Generating Units Specified

Name or describe all individual power plants and/or generating units identified in the contract. If the supplier will provide energy from a portfolio of resources, identify each resource and proportion of energy that each is likely to contribute on an annual basis.

Capacity of the Unit(s)

For each power plant identified in the contract, list the maximum qualifying capacity (preferred) or dependable capacity (for LSEs outside the California ISO balancing area). List

individual generating units whenever that distinction is relevant (for example, Contra Costa 6, NCPA I Units 1 and 2).

Availability of the Unit(s)

Describe any limitations on LSE scheduling or dispatch of the units during the contract period. If this is a unit-contingent contract, indicate what rights the buyer has to dispatch the unit(s).

Identify any contingent or residual obligations on the buyer related to availability of the unit(s). For example, if the generating units will be used for demonstrating year-ahead or month-ahead resource adequacy, to what extent must these units be made available to the California ISO? Enter "same as availability of contract products," if true.

Unit Contingent/LD Contract

LSEs are asked to distinguish between supplies from specifically named generating units and those supplies that are "portfolio" or "system power." If delivery is contingent upon the availability of a specific unit or units, enter "unit contingent" and name the indicated power plant or unit(s).

If supplies are required to be delivered from a portfolio of physical assets under the control of the counterparty, enter "portfolio" and provide an appropriate description or reference.

If the contract states a preference for a particular unit when it is available and requires the seller to provide backup power from unspecified sources, enter "unit contingent with firming" and describe the obligation on the seller.

If the contract allows the seller to optimize economic dispatch, or does not specify the generating sources to be used, enter "system power."

Definitions have been added under "unit contingent" to distinguish portfolio and system purchases.

Firm

Yes/No. "Yes" indicates that seller can only fail to provide replacement power under force majeure provisions or to avoid involuntary load curtailments in another balancing area.

"No" indicates non-delivery may occur for other reasons, such as market conditions or transmission congestion. Contracts without firm delivery requirements typically include provisions for liquidated damages.

Contract/Agreement Type

Enter the mechanism used to determine energy payments under the contract. This may be a fixed price contract ("Fixed"), a "Tolling agreement," an "Exchange Agreement" or some other type. If the supply is an energy exchange agreement, describe the return requirements in the Notes. In a small change from 2007, LSEs are not asked to identify if energy payments are indexed to a gas delivery point.

Transmission Contingent and Path

Please enter "contingent" if the seller was assumed to have control of transmission rights, or if the seller will be required to demonstrate such as a condition of the contract. If transmission will be provided by seller, specify typical paths.

If seller was not and will not be required to demonstrate control of capacity and transmission rights as a condition of the contract, enter "No."

Termination and Extension Rights

LSEs should indicate which party or parties have the right to unilaterally terminate or extend the contract (for reasons other than non-performance of the other party).

For termination rights, indicate the possible termination dates, notification requirements, and allowable circumstances. For example, "Seller may terminate on January 1 of each year beginning 1/1/2011 with 90 days prior notice."

For extension rights, indicate the possible extension dates, length of extension, notification requirements, and allowable circumstances. For example, "From 7/1/2010 until 1/1/2010, buyer may extend contract for six months with 30 days prior notice, provided that energy purchases have exceeded 80,000 MWh in each of the three preceding calendar quarters."

Performance Requirements

Indicate circumstances under which buyer can terminate contract for non-performance. For example, "Buyer may terminate contract for non-performance if wind energy delivered at the busbar fails to meet at least 80 percent of specified targets for each of three consecutive quarters. Thirty days notice is required."

Notes

Include any clarifying or explanatory statements required or considered appropriate.

Publicly Owned Utility Resource Adequacy

Summary and Context

AB 380 (Núñez, Chapter 367, Statutes of 2005), created Public Utilities Code Section 9620. It requires local POUs to undertake and accomplish certain resource adequacy protocols. AB 380 assigned the Energy Commission with responsibilities to oversee these activities and to periodically report to the Legislature via the biennial *IEPR*. To accomplish this requirement, the Energy Commission is authorized to collect resource adequacy data from individual POUs.

A generalized process to collect such data, implementing this aspect of AB 380, has been included in regulations that were adopted in mid-2007.[8] For the *2007 IEPR*, Energy Commission staff embarked on a collaborative project with POUs in advance of formal rulemaking. This cooperative and voluntary project was designed to quickly collect information from all POUs early in 2007. A statewide summary with a description of the continuing progress by each POU to remain resource adequate was published as a final staff report in May 2008 and is posted at: http://www.energy.ca.gov/2007publications/CEC-200-2007-016/CEC-200-2007-016-SF.PDF. This report will up updated for the *2009 IEPR* now underway.

The narrative information requests described in this section on POU resource adequacy apply to all POUs. POUs are asked to provide information planning and procurement protocols that are designed and intended to ensure resource adequacy. This year, for the first time, all California POUs are asked to complete the S-1 and S-2 supply forms for historical years 2007 and 2008. All POUs are also asked to complete S-1 Monthly and S-2 Monthly supply forms for 2010. As part of this demonstration of procurement for supply adequacy, all California POUs are also asked to complete a Supply Form S-5 for each bilateral contract or power purchase agreement listed on Supply Form S-1 Monthly for 2010.

Energy Commission data regulations exempt "small" load-serving entities (LSEs) from most of the data reporting requirements associated with the biennial *IEPR*.[9] Small LSEs are exempt from filing 10-year resource plans that show supply and demand balances. This exemption, however, depends on an expectation that small LSEs will provide the resource adequacy data and information requested by the Energy Commission.

Background and Previous Data Collection

Resource adequacy activities have been underway in California since the California ISO's initial proposal surfaced as part of its Market Design 2002 (MD02) in early 2002. A broader proposal from FERC surfaced in 2003, which ignited strong opposition from northwestern and southeastern states and from congressional representatives. FERC agreed to allow states to establish resource adequacy requirements.

The CPUC established key dimensions of a resource adequacy program for investor-owned utilities (IOUs) and electric service providers (ESPs) under its jurisdiction in D.04-01-050, D.04-10-035, D.05-10-042, D.06-06-064, and D.06-07-031. The California ISO established some elements of these requirements as tariff requirements for POUs within its balancing area, established through its Interim Reliability Requirements Program (IRRP) which was approved by FERC order dated May 12, 2006.

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[8] California Code of Regulations, Title 20, Article 2, Section 1346 on Electricity Resource Adequacy.

[9] California Code of Regulations, Title 20, Article 2, Section 1350 on Exemptions.

Because there were some questions about the CPUC's authority to establish resource adequacy requirements for ESPs, legislative proposals concerning resource adequacy surfaced in 2005. AB 380 was adopted, confirming CPUC jurisdiction over all LSEs (including ESPs) that operate in IOU distribution service areas. A companion provision established an oversight role for the Energy Commission regarding POU resource adequacy activities.

Once AB 380 was signed into law in 2005, the previous collaborative efforts between Energy Commission staff and the California Municipal Utilities Association (CMUA) again proved beneficial by facilitating Energy Commission staff data requests to POUs in 2006 and 2007.[10]

Beginning in February 2006, resource adequacy requirements became functional for the IOUs and ESPs in the California ISO balancing area. Filing requirements applying to POUs were approved in May 2006, and the first month-ahead filings by POUs became due almost immediately. All types of LSEs in the California ISO balancing area must now meet the same basic month-ahead and year-ahead filing requirements. However, POUs retain some discretion under the California ISO's IRRP tariff, appropriately, in three areas:

- For establishing their own planning reserve margin (if different than a 15 percent planning reserve margin).
- For adopting other counting conventions for qualifying capacity (if different than those specified in the IRRP tariff).
- For choosing a demand forecast methodology.

Consequently, there is still a diversity of approaches to resource adequacy among different classes of LSEs in the California ISO balancing area. The Energy Commission specifically asks each POU to identify its planning reserve margin and to describe capacity resource counting conventions that differ from the definitions and standards presented elsewhere in these instructions.

All POUs who operate in the California ISO balancing area are expected to have completed their final 2009 "year-ahead" local and system resource adequacy filings by October 31, 2008. These filings show how forecasted loads will be met during the five months of May through September 2009. The IRRP filings by POUs were a new requirement after FERC approved changes to the California ISO tariff in May 2006.

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[10] In February 2006, the Executive Director sent a formal data request to each of the 13 POUs with ≥200 MW peak demand that had provided information for the *2005 IEPR* proceeding requesting updates of loads and resources for 2006. All 13 responded, and these data were used informally as part of the Summer 2006 Outlook, giving greater confidence that resources existed to cover peak loads, plus planning reserves. In June 2006, staff worked with CMUA to obtain summer 2007 peak-load forecasts from all POUs in the California ISO balancing area. These data were used to segregate California ISO LCR estimates into those portions that were CPUC-jurisdictional versus other, and as part of the method to allocate total import capability for 2009 among all LSEs in the California ISO balancing area.

Scope and Purpose

This request to POUs aims to elicit narrative information about their strategies and plans to remain resource adequate. From these filings, the Energy Commission will report on elements that have become standard and explicit, along with elements that are significantly diverse or implicit.

All POUs, without regard to the balancing areas in which they serve load, are directed by AB 380 to "…prudently plan for and procure resources that are adequate to meet its planning reserve margin and peak demand and operating reserves, sufficient to provide reliable electric service to its customers." This statute recognizes that locally managed public utilities have some variability and discretion about what constitutes reliable and affordable electric service for their local customers. This relatively autonomous responsibility includes decisions about what planning strategies and procurement options are appropriate for implementing a desired level of customer service. Several large and small POUs in California are located in eight balancing areas outside the California ISO balancing area.[11]

Mid-size LSEs (annual peak greater than 200 MW) and large LSEs (greater than 1,000 MW) are being asked to provide 10-year resource plans covering 2009 through 2018. The 10-year resource plan filings of mid-size and large POUs will be compatible and comparable in all respects with the one-year resource adequacy filings from small POUs. In effect, these projections can be summarized to provide a statewide snapshot of POU loads and resources for 2010, along with some long-term assessments of supply trends for the mid-size and large POUs.

Assessments and evaluations of information collected from POUs will involve:

- Review of the near-term supply/demand balances for each POU, for the aggregated supply/demand balances of all POUs, and for each POU-centric balancing area.
- Review of the various planning reserve margins, procurement targets, and other criteria that each POU has set for itself to assure future resource adequacy.
- Review of the requirements on each POU that derive from its location within the California ISO balancing area or within another balancing area that has different requirements.
- Review of the options and flexible arrangements that may be available to each POU for maintaining reliability under adverse or unexpected contingencies.

Perhaps the most useful results from these reviews will be an identification of the most important and most common planning and procurement criteria used by POUs to have

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[11] These eight other balancing areas and their associated publicly owned utilities are SMUD (SMUD, Roseville, Redding, Modesto Irrigation District, and some WAPA loads), Turlock (Turlock and Merced irrigation districts), LADWP (LADWP, Burbank and Glendale), Imperial Irrigation District, PacifiCorp (Surprise Valley), Sierra Pacific (Truckee Donner PUD), Nevada Power (Needles), and the Desert Southwest region of Western (Ah Ha Macav).

adequate resources for their end-use customers. A summary of these assessments will be included, as a staff report in support of the *2009 IEPR*. These four "information-oriented" tasks will be the basis of a more nuanced assessment of POU resource adequacy activities. More specifically, this assessment will examine how explicit and detailed POU plans are for the seamless transition from load forecasting to procurement to scheduling and finally to the operating day. The assessment will also examine how some uncertainties and risks are accepted and managed, while other risks may be considered unacceptable (with plans to diminish or eliminate the risk).

Requests for Narrative Information

Medium and large POUs are asked to provide a detailed description of all resource adequacy and long-term reliability requirements that balancing area authorities or planning entities have identified as applicable to the LSE. This especially includes locally adopted standards and ordinances meant to ensure adequate electricity resources are available to the utility. A standard to have "adequate" resources must be qualified, specified, and somehow limited by practical considerations, since absolute supply adequacy for all contingencies is not physically possible. Similarly, an extremely high standard of resource adequacy may not be deemed prudent or affordable.

Narrative descriptions about POU resource adequacy obligations and standards should include all the following:

- Terms of existing tariffs and agreements that identify the specific nature of resource adequacy requirements that an LSE must satisfy.
- Planning reserve margins for capacity or energy, and any other elements of standardized evaluations that address the balance between forecasted loads and available resources.
- Operating reserve requirements established by the Western Electricity Coordinating Council, balancing areas, and other authorities as they affect and determine resource adequacy obligations.
- Any unit commitment and dispatch obligations imposed by balancing area authorities or other entities operating interconnected electric transmission systems, and a description of how the LSE meets these obligations with generation it owns or controls.
- Deliverability restrictions, dispatchability provisions, or transmission contingencies that affect the LSE's ability to rely upon specific resources, and a description of how these limitations might affect reliability of service.
- The strategy that the LSE intends to achieve and, once accomplished, maintain the level of resource adequacy it has determined to be appropriate for its customers.

POUs within the same balancing area are encouraged to consult and coordinate with each other and to consult with balancing area authorities on all relevant topics.

In the narrative filings by POUs on this topic, links to Web-published documents may be provided where the requested information is already available. The filings should identify particular sections or pages that address the obligations and standards listed above.

More specific questions about resource adequacy may be directed to Jim Woodward at jwoodwar@energy.state.ca.us or (916) 654-5180.

Appendix 1

How to Request Confidentiality

The Executive Director of the Energy Commission has responsibility for determining what information submitted with an application for confidentiality will be deemed confidential. Parties who seek such a designation for data they submit must make a separate, written request that identifies the specific information and provides a discussion of why the information should be protected from release, the length of time such protection is sought, and whether the information can be released in aggregated form.

Certain categories of data provided to the Energy Commission, when submitted with a request for confidentiality, will be automatically designated as confidential and do not require an application. The types of data that are eligible and the process for obtaining this confidential designation are specified in California Code of Regulations, Title 20, Section 2505(a)(5). Note that the Energy Commission has its own regulations distinct from those governing the CPUC, and CPUC determinations on confidentiality are not applicable to data submitted to the Energy Commission.

Parties should be aware that some confidential data may be disclosed after aggregation according to CCR, Title 20, 2507(d) or (e). Both historic and forecast energy sales data may be disclosed if reported at the following levels:

- For individual ESPs, data may be aggregated at the statewide level by major customer sector.
- For the sum of all ESPs, data aggregated at the service area, planning area, or statewide levels by major customer sector.
- For the total sales of the sum of all electric retailers, data may be aggregated at the county level by major generator, utility, and electric service provider groups as these groups are defined by the U.S. Census Bureau in their North American Industry Classification System (NAICS) tables.

Data that are not included in these categories, but that the filer believes are entitled to confidential treatment, should be submitted when due along with an application for confidential designation so that the Executive Director can review the information and make a determination about its confidential status. To do this, please carefully read and follow the instructions below.

What a Confidentiality Application Must Have

The application for confidentiality must include three attributes:

- A hard copy of the application must be submitted to the Executive Director:

  Melissa Jones, Executive Director
  California Energy Commission
  1516 Ninth Street MS-39
  Sacramento, CA 95814-5504
- The information being provided to the Energy Commission must be submitted electronically in Word, Excel or Adobe files and on a common media format such as CD-ROM or DVD-ROM. This information should be marked electronically and externally as Docket #09-IEP-1B. The confidential data categories must be clearly and properly labeled. Note, each IEPR topic area has its own sub-docket; electricity resource plans are filed in sub-docket "B".

Table 1: 2009 IEPR Sub-dockets

09-IEP-1A	General/Scope
09-IEP-1B	Electricity Resource Plans
09-IEP-1C	Electricity Demand Forecasts
09-IEP-1D	Transmission Planning
09-IEP-1E	Cost of Generation
09-IEP-1F	Energy Efficiency/Demand Response
09-IEP-1G	Renewables
09-IEP-1H	Distributed Generation
09-IEP-1J	Natural Gas Supply, Demand, Price
09-IEP-1K	Transportation Fuels and Infrastructure
09-IEP-1L	Nuclear Issues
09-IEP-1M	Research and Development
09-IEP-1N	Land Use Issues

- A signed "penalty of perjury certification" must be included in hard copy and electronic format. Suggested standard language is as follows:

  I certify under penalty of perjury that the information contained in this application for confidential designation is true, correct, and complete to the best of my knowledge. I also certify that I am authorized to make the application and certification on behalf of (ABC Utility or Corporation).

In addition, an application for confidentiality may be deemed incomplete and returned to the applicant if the application does not contain the following information:

- Identification of the information being submitted, including title, date, size (for example, pages, sheets, MB), and docket number.
- Description of the data or information for which confidentiality is being requested (for example, particular contract categories, specific narratives, and periods).
- A clear description of the length of the time series of data and the period for which confidentiality is being sought, with an appropriate justification, for each confidential data category request.
- Applicable provisions of the California Public Records Act (Government Code Section 6250 et seq.), and/or other laws, for each confidential data category request.
- A statement attesting that a) the specific records to be withheld from public disclosure are exempt under provisions of the Government Code, or b) the public interest in non-disclosure of these particular facts clearly outweighs the public interest in disclosure.
- On Excel forms provided with data that may be determined to be confidential, identification of specific cells using yellow fill that are consistent with the confidentiality application.

What Happens if an Application Is Incomplete

Applications deemed incomplete in these three respects will not be docketed by Energy Commission staff. If an application is deemed incomplete, the application will be returned, and the information will be placed in a confidential "suspense" file. The filer will be notified by mail and e-mail about deficiencies in the application. The applicant has 14 calendar days to correct defects in the application and return an amended application to the Energy Commission.

After 14 days, all information associated with a still incomplete-application for confidentiality (based on the three attributes listed above) will be deemed publicly disclosable and will be docketed accordingly.

Determinations and Additional Information

The Executive Director signs confidentiality determination letters. The applicant has 14 calendar days to appeal this decision.

An applicant can request confidentiality at any time. The Energy Commission strongly encourages filers to provide data and any confidentiality requests concurrently.

More specific questions about confidentiality may be directed to Kerry Willis at kwillis@energy.state.ca.us or (916) 654-3967.

Appendix 2: Supply Forms

Electricity Resource Planning Form S-1 Capacity Resource Accounting Table (CRATs)

Filing LSE:
UDC for ESPs:
Date:
Contact Name:
Contact Number:

Year 2009 annual peak capacity numbers below are illustrative.

Gray pattern cells do not need to be completed by LSEs in 2009.
Yellow pattern cells will be used by LSEs to apply for confidentiality.

Bold font cells sum automatically.
Dark green font cells require data inputs.

Applies To:	line	**Capacity Resource Accounting Table Form S-1**	Sum of lines	**2007**	**2008**	**2009**	**2010**	**…2018**
		PEAK LSE LOAD CALCULATIONS (MW):						
All	1a	Forecast Total Peak-Hour 1-in-2 Demand				10,000		
ESPs	1b	Peak Load: Existing ESP Contracts						
ESPs	1c	Peak Load: New and Renewed ESP Contracts						
IOU	2a	Departing CCA and Municipal Load (-)				(100)		
POU	2b	Arriving and New Municipal Load (+)						
IOU/POU	3	Uncommitted Energy Efficiency (-)				(100)		
IOU/POU	4	Demand Response / Interruptible Programs (-)				(100)		
IOU/POU	5	Self-Generation (Total, Non-CSI) (-)				(100)		
All	6	California Solar Initiative (-)				(10)		
IOU	7	Direct Access Loads (-/+)				(1,000)		
All	8	Subtotal: Adjustments to Peak-Hour Demand	Sum of lines 2 thru 7			**(1,410)**		

Applies To:	line	Capacity Resource Accounting Table Form S-1	Sum of lines	2007	2008	2009	2010	…2018
All	9	**Adjusted Peak-Hour Demand: End-Use Customers**	Sum lines 1a + 8			**8,590**		
All	10	Coincidence Adjustment (-)				(50)		
All	11	**Coincident Peak-Hour Demand**	Sum lines 9 + 10			**8,540**		
All	12a	Required Planning Reserve Margin (for example, 15%)	Line 11 * 1.15			1,281		
All	12b	Credit for Imports That Carry Their Own Reserves (-)	Firm import * 5%					
IOU/POU	13	Firm Sales Obligations						
All	14	**Firm LSE Peak-Hour Resource Requirement**	11 + 12a -12b +13			**9,821**		
		EXISTING AND PLANNED RESOURCES						
		Utility-Controlled Fossil Resources:						
IOU/POU	15a	Total Dependable Fossil Capacity				**2,000**		
IOU/POU	15b	Unit 1 (List each fossil resource.) *[fossil import]*				800		
IOU/POU	15c	… *[existing fossil]*				750		
IOU/POU	15d	Unit N *[new fossil]*				450		
		Utility-Controlled Nuclear Resources:						
IOU/POU	16a	Total Dependable Nuclear Capacity				**1,000**		
IOU/POU	16b	Unit 1 (List each nuclear resource unit.)				500		
IOU/POU	16c	Unit 2				500		
		Utility-Controlled Hydroelectric Resources:						
IOU/POU	17a	Total Dependable Hydroelectric Capacity (Actual /1-in-5)				**1,000**		
IOU/POU	17b	Total: Hydro Plants Over 30 MW (Actual /1-in-5)				900		
IOU/POU	17c	Total: Hydro Plants 30 MW or less (Actual /1-in-5)				100		

Applies To:	line	Capacity Resource Accounting Table Form S-1	Sum of lines	2007	2008	2009	2010	…2018
		Utility-Controlled Renewable Resources:						
IOU/POU	18a	Total Renewable Capacity				**100**		
IOU/POU	18b	Unit 1 (fuel) (List each non-hydro resource.)				50		
IOU/POU	18c	…				30		
IOU/POU	18d	Unit N (fuel)				20		
		DWR Contractual Resources:						
IOU	19a	Total Capacity From DWR Contracts				**1,000**		
IOU	19b	Contract A				400		
IOU	19c	…				350		
IOU	19d	Contract N				250		
		Qualifying Facility (QF) Contractual Resources:						
IOU	20a	Total QF Capacity				**1,000**		
IOU	20b	Biofuels				100		
IOU	20c	Geothermal				300		
IOU	20d	Small Hydro				50		
IOU	20e	Solar				50		
IOU	20f	Wind				50		
IOU	20g	Natural Gas				400		
IOU	20h	Other				50		
		Renewable Energy Contractual Resources:						
All	21a	Total Capacity From Renewable Energy Contracts				**1,000**		
All	21b	Renewable DG Supply				50		
All	21c	Contract A				450		
All	21d	…				350		
All	21e	Contract N				150		

Applies To:	line	Capacity Resource Accounting Table Form S-1	Sum of lines	2007	2008	2009	2010	…2018
		Other Bilateral Contractual Resources:						
All	22a	Total Capacity From Other Bilateral Contracts				**750**		
All	22b	Non-Renewable DG Supply				50		
All	22c	Contract A				300		
	22d	Contract B				250		
	22e	Contract C				100		
All	22f	Contract N				50		
All	23	Short-Term and Spot Market Purchases						
		Capacity Balance Summary:						
All	24	Total: Existing and Planned Capacity	"a" lines 15 to 22 + 23			**7,850**		
All	14	Firm LSE Peak-Hour Resource Requirement	repeats line 14			**9,821**		
All	25	(Resource Need) or Resource Surplus	line 24 - line 14			**(1,971)**		
		Additional Needs for Capacity:						
All	26	Generic Renewable Resources						
All	27	Generic Non-Renewable Resources						
All	28	Specified Planning Reserve Margin	as used for line 12			15%		
				MW	**MW**			
	line	**Historic Actual LSE Non - Coincident Peak Load:**		**Year 2007**	**Year 2008**			
All	27	Annual Peak Load - Actual Metered Deliveries	line 9 + line 13	**0.0**	**0.0**			
All	28	Date of Peak Load for Annual Peak Deliveries						
All	29	Hour Ending (HE) for Annual Peak Deliveries						
All	30	Interruptible Load that was called on during that hour (+)						
All	31	Adjusted Annual Peak Load	line 27 + line 30	**0.0**	**0.0**			

Electricity Resource Planning Form S-1 Monthly for 2009 or 2010 Capacity Resource Accounting Table (CRATs)

Filing LSE:
UDC for ESPs:
Date:
Contact Name:
Contact Number:

Jan 2010 peak capacity numbers below are illustrative.

Dark green font cells require data inputs.

Yellow pattern cells will be used by LSEs to apply for confidentiality.

Bold font cells sum automatically.

Applies To:	line	Capacity Accounting Table Form S-1 Monthly	Sum of lines	Jan-10	Feb-10	…Dec-10
		PEAK LSE LOAD CALCULATIONS (MW):				
All	1a	Forecast Total Peak-Hour 1-in-2 Demand		10,000		
ESPs	1b	Peak Load: Existing ESP Contracts				
ESPs	1c	Peak Load: New and Renewed ESP Contracts				
IOU	2a	Departing CCA and Municipal Load (-)		(100)		
POU	2b	Arriving and New Municipal Load (+)				
IOU/POU	3	Uncommitted Energy Efficiency (-)		(100)		
IOU/POU	4	Demand Response / Interruptible Programs (-)		(100)		
IOU/POU	5	Self-Generation (Total, Non-CSI) (-)		(100)		
All	6	California Solar Initiative (-)		(10)		
IOU	7	Direct Access Loads (-/+)		(1,000)		
All	8	Subtotal: Adjustments to Peak-Hour Demand	Sum of lines 2 thru 7	**(1,410)**		
All	9	**Adjusted Peak-Hour Demand: End-Use Customers**	Sum lines 1a + 8	**8,590**		
All	10	Coincidence Adjustment (-)		(50)		
All	11	**Coincident Peak-Hour Demand**	Sum lines 9 + 10	**8,540**		
All	12a	Required Planning Reserve Margin (for example, 15%)	Line 11 * 1.15	1,281		
All	12b	Credit for Imports That Carry Their Own Reserves (-)	Firm import * 5%			
IOU/POU	13	Firm Sales Obligations				
All	14	**Firm LSE Peak-Hour Resource Requirement**	11 + 12a -12b +13	**9,821**		

Applies To:	line	Capacity Accounting Table Form S-1 Monthly	Sum of lines	Jan-10	Feb-10	…Dec-10
		EXISTING AND PLANNED RESOURCES				
		Utility-Controlled Fossil Resources:				
IOU/POU	15a	Total Dependable Fossil Capacity		**2,000**		
IOU/POU	15b	Unit 1 (List each fossil resource.) *[fossil import]*		800		
IOU/POU	15c	… *[existing fossil]*		750		
IOU/POU	15d	Unit N *[new fossil]*		450		
		Utility-Controlled Nuclear Resources:				
IOU/POU	16a	Total Dependable Nuclear Capacity		**1,000**		
IOU/POU	16b	Unit 1 (List each nuclear resource unit.)		500		
IOU/POU	16c	Unit 2		500		
		Utility-Controlled Hydroelectric Resources:				
IOU/POU	17a	Total Dependable Hydroelectric Capacity (Actual /1-in-5)		**1,000**		
IOU/POU	17b	Total: Hydro Plants Over 30 MW (Actual /1-in-5)		900		
IOU/POU	17c	Total: Hydro Plants 30 MW or less (Actual /1-in-5)		100		
		Utility-Controlled Renewable Resources:				
IOU/POU	18a	Total Renewable Capacity		**100**		
IOU/POU	18b	Unit 1 (fuel) (List each non-hydro resource.)		50		
IOU/POU	18c	…		30		
IOU/POU	18d	Unit N (fuel)		20		
		DWR Contractual Resources:				
IOU	19a	Total Capacity From DWR Contracts		**1,000**		
IOU	19b	Contract A		400		
IOU	19c	…		350		
IOU	19d	Contract N		250		

Applies To:	line	Capacity Accounting Table Form S-1 Monthly	Sum of lines	Jan-10	Feb-10	…Dec-10
		Qualifying Facility (QF) Contractual Resources:				
IOU	20a	Total QF Capacity		**1,000**		
IOU	20b	Biofuels		100		
IOU	20c	Geothermal		300		
IOU	20d	Small Hydro		50		
IOU	20e	Solar		50		
IOU	20f	Wind		50		
IOU	20g	Natural Gas		400		
IOU	20h	Other		50		
		Renewable Energy Contractual Resources:				
All	21a	Total Capacity From Renewable Energy Contracts		**1,000**		
All	21b	Renewable DG Supply		50		
All	21c	Contract A		450		
All	21d	…		350		
All	21e	Contract N		150		
		Other Bilateral Contractual Resources:				
All	22a	Total Capacity From Other Bilateral Contracts		**750**		
All	22b	Non-Renewable DG Supply		50		
All	22c	Contract A		300		
	22d	Contract B		250		
	22e	Contract C		100		
All	22f	Contract N		50		
All	23	Short-Term and Spot Market Purchases				

Applies To:	line	Capacity Accounting Table Form S-1 Monthly	Sum of lines	Jan-10	Feb-10	…Dec-10
		Capacity Balance Summary:				
All	24	Total: Existing and Planned Capacity	"a" lines 15 to 22 + 23	**7,850**		
All	14	Firm LSE Peak-Hour Resource Requirement	repeats line 14	**9,821**		
All	25	(Resource Need) or Resource Surplus	line 24 - line 14	**(1,971)**		
		Additional Needs for Capacity:				
All	26	Generic Renewable Resources				
All	27	Generic Non-Renewable Resources				
All	28	Specified Planning Reserve Margin	as used for line 12	15%		

Electricity Resource Planning Form S-2 Energy Balance Resource Accounting Table

Filing LSE:
UDC for ESPs:
Date:
Contact Name:
Contact Number:

Year 2009 annual energy numbers below are illustrative.

Gray pattern cells do not need to be completed by LSEs in 2009.
Yellow pattern cells will be used by LSEs to apply for confidentiality.

Bold font cells sum automatically.
Dark green font cells require data inputs.

Applies To:	line	Energy Balance Table Form S-2	Sum of lines	2007	2008	2009	2010	…2018
		ENERGY DEMAND CALCULATIONS (GWh)						
All	1a	**Forecast Total Energy Demand / Consumption**				50,000		
ESPs only	1b	ESP Energy Demand: Existing Contracts						
ESPs only	1c	ESP Energy Demand: New and Renewed Contracts						
IOU	2a	Departing CCA and Municipal Load (-)				(500)		
POU	2b	Arriving and New Municipal Load (+)						
IOU/POU	3	Uncommitted Energy Efficiency (-)				(500)		
IOU/POU	4	Demand Response / Interruptible Programs (-)				(500)		
IOU/POU	5	Self-Generation (Total, Non-CSI) (-)				(500)		
IOU/POU	6	California Solar Initiative (-)				(25)		
IOU	7	Direct Access Loads (-/+)				(5,000)		
All	8	Subtotal of Adjustments to Energy Demand	Sum lines 2 thru 7	**0**	**0**	**(7,025)**		
All	9	Adjusted Energy Demand / Consumption	line 1a + line 8			**42,975**		
IOU/POU	10	Firm Sales Obligations				0		
All	11	Firm LSE Energy Requirement	line 9 + line 10	0	**0**	**42,975**		

Applies To:	line	Energy Balance Table Form S-2	Sum of lines	2007	2008	2009	2010	…2018
		EXISTING AND PLANNED RESOURCES						
		Utility-Controlled Fossil Resources:						
IOU/POU	12a	Total Fossil Energy Supply		**0**	**0**	**8,000**		
IOU/POU	12b	Unit 1 (List each fossil resource.) *[fossil import]*				4,000		
IOU/POU	12c	… *[existing fossil]*				2,000		
IOU/POU	12d	Unit N *[new fossil]*				2,000		
		Utility-Controlled Nuclear Resources:						
IOU/POU	13a	Total Nuclear Energy Supply		**0**	**0**	**8,000**		
IOU/POU	13b	Unit 1 (List each nuclear resource unit.)				4,000		
IOU/POU	13c	Unit 2				4,000		
		Utility-Controlled Hydroelectric Resources:						
IOU/POU	14a	Total Hydroelectric Energy Generation (Actual / 1-in-2)		**0**	**0**	**1,000**		
IOU/POU	14b	Total Energy: Hydro Plants Over 30 MW (Actual /1-in-2)				900		
IOU/POU	14c	Total Energy: Hydro Plants 30 MW or less (Actual /1-in-2)				100		
IOU/POU	14d	Hydroelectric Energy in Dry-Year Conditions (1-in-5)				850		
IOU/POU	14e	Hydroelectric Energy in Wet-Year Conditions (1-in-5)				1,150		
		Utility-Controlled Renewable Resources:						
IOU/POU	15a	Total Utility-Controlled Renewable Energy		**0**	**0**	**1,000**		
IOU/POU	15b	Unit 1 (fuel) (List each non-hydro resource.)				400		
IOU/POU	15c	…				350		
IOU/POU	15d	Unit N (fuel)				250		
		DWR Contractual Resources:						
IOU	16a	Total Energy Supply From DWR Contracts		**0**	**0**	**1,000**		
IOU	16b	Contract A				300		
	16c	Contract B				100		
	16d	Contract C				50		
IOU	16e	….				300		
IOU	16f	Contract N				250		

Applies To:	line	Energy Balance Table Form S-2	Sum of lines	2007	2008	2009	2010	…2018
		Qualifying Facility (QF) Contractual Resources:						
IOU	17a	Total Energy Supply From QF Contracts		**0**	**0**	**4,000**		
IOU	17b	Biofuels				300		
IOU	17c	Geothermal				1,200		
IOU	17d	Small Hydro				400		
IOU	17e	Solar				450		
IOU	17f	Wind				400		
IOU	17g	Natural Gas				1,200		
IOU	17h	Other				50		
		Renewable Energy Contractual Resources:						
All	18a	Total Energy Supply From Renewable Contracts		**0**	**0**	**6,000**		
All	18b	Renewable DG Supply				200		
All	18c	Contract A				3,500		
All	18d	…				1,500		
All	18e	Contract N				800		
		Other Bilateral Contracts:						
All	19a	Total Energy Supply From Other Bilateral Contracts		**0**	**0**	**500**		
All	19b	Non-Renewable DG Supply				100		
All	19c	Contract A				150		
All	19d	…				125		
All	19e	Contract N				125		
All	20	Short Term and Spot Market Purchases				2,500		
		Energy Balance Summary:						
All	21	Total: Existing and Planned Energy	"a" lines 12 to 19 + 20	**0**	**0**	**32,000**		
All	11	Total LSE Energy Requirement	repeat line 11	**0**	**0**	**42,975**		
All	22	**(LSE Energy Need) or Surplus**	line 22 minus line 11			**(10,975)**		

Applies To:	line	Energy Balance Table Form S-2	Sum of lines	2007	2008	2009	2010	…2018
		ADDITIONAL NEEDS FOR ENERGY						
All	23	Generic Renewable Energy				3,000		
All	24	Generic Non-Renewable Energy				8,125		
All	25	Total Generic Resources to be Added				**11,125**		
		RENEWABLE ENERGY ACCOUNTING						
All	26a	Utility-Controlled Renewable Resources	line 14c + line 15a	**0**	**0**	**1,100**		
IOU	26b	QF Renewable Contract Resources	Sum 17b thru 17f	**0**	**0**	**2,750**		
All	26c	Renewable Energy Contractual Resources	repeat line 18a	**0**	**0**	**6,000**		
All	26d	Generic Renewable Energy	repeat line 23	**0**	**0**	**3,000**		
All	26e	Total State-Defined Eligible Renewable Energy	Sum 26a thru 26d	**0**	**0**	**12,850**		
All	26f	Other LSE-Defined Renewable Energy						
All	26g	Total Actual / Expected Renewable Energy	line 26e + line 26f	**0**	**0.0%**	**12,850**		
All	26h	Renewable Energy as a Percentage of End-Use Demand	line 26g / line 9	**#DIV/0!**	**#DIV/0!**	**29.9%**		
All	27	Total Retail Sales				38,100		
All	28	Renewable Energy as a Percentage of Retail Sales	line 26g / line 27	**#DIV/0!**	**#DIV/0!**	**33.7%**		
		Biomass Energy Accounting:						
IOU	29a	Biofuels (QF Contractual Resources)	repeats line 17b	**0**	**0**	**300**		
All	29b	Other Biomass Energy				10		
All	29c	Total Biomass Energy	line 29a + line 29b	**0**	**0**	**310**		

Electricity Resource Planning Form S-2 Monthly for 2009 or 2010 Energy Balance Resource Accounting Table

Filing LSE:
UDC for ESPs:
Date:
Contact Name:
Contact Number:

Jan 2010 energy numbers below are illustrative.

Dark green font cells require data inputs.

Yellow pattern cells will be used by LSEs to apply for confidentiality.

Bold font cells sum automatically.

Applies To:	line	Energy Balance Table Form S-2 Monthly	Sum of lines	Jan-10	Feb-10	Mar-10	Apr-10	…Dec-10
		ENERGY DEMAND CALCULATIONS (GWh)						
All	1a	**Forecast Total Energy Demand / Consumption**		50,000				
ESPs only	1b	ESP Energy Demand: Existing Contracts						
ESPs only	1c	ESP Energy Demand: New and Renewed Contracts						
IOU	2a	Departing CCA and Municipal Load (-)		(500)				
POU	2b	Arriving and New Municipal Load (+)						
IOU/POU	3	Uncommitted Energy Efficiency (-)		(500)				
IOU/POU	4	Demand Response / Interruptible Programs (-)		(500)				
IOU/POU	5	Self-Generation (Total, Non-CSI) (-)		(500)				
IOU/POU	6	California Solar Initiative (-)		(25)				
IOU	7	Direct Access Loads (-/+)		(5,000)				
All	8	Subtotal of Adjustments to Energy Demand	Sum lines 2 thru 7	**(7,025)**				
All	9	Adjusted Energy Demand / Consumption	line 1a + line 8	**42,975**				
IOU/POU	10	Firm Sales Obligations		0				
All	11	Firm LSE Energy Requirement	line 9 + line 10	**42,975**				

Applies To:	line	Energy Balance Table Form S-2 Monthly	Sum of lines	Jan-10	Feb-10	Mar-10	Apr-10	…Dec-10
		EXISTING AND PLANNED RESOURCES						
		Utility-Controlled Fossil Resources:						
IOU/POU	12a	Total Fossil Energy Supply		**8,000**				
IOU/POU	12b	Unit 1 (List each fossil resource.) *[fossil import]*		4,000				
IOU/POU	12c	… *[existing fossil]*		2,000				
IOU/POU	12d	Unit N *[new fossil]*		2,000				
		Utility-Controlled Nuclear Resources:						
IOU/POU	13a	Total Nuclear Energy Supply		**8,000**				
IOU/POU	13b	Unit 1 (List each nuclear resource unit.)		4,000				
IOU/POU	13c	Unit 2		4,000				
		Utility-Controlled Hydroelectric Resources:						
IOU/POU	14a	Total Hydroelectric Energy Generation (Actual / 1-in-2)		**1,000**				
IOU/POU	14b	Total Energy: Hydro Plants Over 30 MW (Actual /1-in-2)		900				
IOU/POU	14c	Total Energy: Hydro Plants 30 MW or less (Actual /1-in-2)		100				
IOU/POU	14d	Hydroelectric Energy in Dry-Year Conditions (1-in-5)		850				
IOU/POU	14e	Hydroelectric Energy in Wet-Year Conditions (1-in-5)		1,150				
		Utility-Controlled Renewable Resources:						
IOU/POU	15a	Total Utility-Controlled Renewable Energy		**1,000**				
IOU/POU	15b	Unit 1 (fuel) (List each non-hydro resource.)		400				
IOU/POU	15c	…		350				
IOU/POU	15d	Unit N (fuel)		250				

Applies To:	line	Energy Balance Table Form S-2 Monthly	Sum of lines	Jan-10	Feb-10	Mar-10	Apr-10	…Dec-10
		DWR Contractual Resources:						
IOU	16a	Total Energy Supply From DWR Contracts		**1,000**				
IOU	16b	Contract A		300				
	16c	Contract B		100				
	16d	Contract C		50				
IOU	16e	….		300				
IOU	16f	Contract N		250				
		Qualifying Facility (QF) Contractual Resources:						
IOU	17a	Total Energy Supply From QF Contracts		**4,000**				
IOU	17b	Biofuels		300				
IOU	17c	Geothermal		1,200				
IOU	17d	Small Hydro		400				
IOU	17e	Solar		450				
IOU	17f	Wind		400				
IOU	17g	Natural Gas		1,200				
IOU	17h	Other		50				
		Renewable Energy Contractual Resources:						
All	18a	Total Energy Supply From Renewable Contracts		**6,000**				
All	18b	Renewable DG Supply		200				
All	18c	Contract A		3,500				
All	18d	…		1,500				
All	18e	Contract N		800				

Applies To:	line	Energy Balance Table Form S-2	Sum of lines	Jan-10	Feb-10	Mar-10	Apr-10	…Dec-10
		Other Bilateral Contracts:						
All	19a	Total Energy Supply From Other Bilateral Contracts		**500**				
All	19b	Non-Renewable DG Supply (total, existing)		100				
All	19c	Contract A		150				
All	19d	…		125				
All	19e	Contract N		125				
All	20	Short Term and Spot Market Purchases		2,500				
		Energy Balance Summary:						
All	21	Total: Existing and Planned Energy	"a" lines 12 to 19 + 20	**32,000**				
All	11	Total LSE Energy Requirement	repeat line 11	**42,975**				
All	22	**(LSE Energy Need) or Surplus**	line 22 minus line 11	**(10,975)**				
		ADDITIONAL NEEDS FOR ENERGY						
All	23	Generic Renewable Energy		3,000				
All	24	Generic Non-Renewable Energy		8,125				
All	25	Total Generic Resources to be Added		**11,125**				

ELECTRICITY RESOURCE FORM S-3
RECORDED LSE HOURLY LOADS FOR 2008
For Publicly Owned LSEs with Annual Peak Loads under 200 MW
Complete this form if your annual peak demand is less than 200 MW and you are therefore not submitting demand forms.

This form is to be filled in for each LSE in each control area and TAC area (for loads in the CAISO) in which an LSE serves load.
Scheduling coordinators reporting load for multiple LSEs should report load for each entity separately.

Report actual hourly demand in calendar year 2008, in megawatts, for each hour of the day.
Beginning with the hour that ended at 1 a.m. on January 1, 2008.
Show the load measured at the balancing authority load take-out point.
The time basis should be Pacific Standard Time (PST) throughout the entire year.
Scheduling Coordinators should report demand for each utility within a SCID separately.
Identify the Transmission Access Charge (TAC) Area (for load in the CAISO), or the control area in which the load is located.

Note: This form is a truncated version for printing and review purposes.
Printing the entire form will use 197 pages and is not recommended.

LSE Name:	
SCID:	
Balancing Authority Area / TAC AREA:	

Date (PST)	Hour (PST)	Recorded Demand at Take Out (MW)
1/1/2008	1	
1/1/2008	2	
1/1/2008	3	
1/1/2008	4	
1/1/2008	5	
1/1/2008	6	
1/1/2008	7	
1/1/2008	8	
1/1/2008	9	
1/1/2008	10	
1/1/2008	11	
1/1/2008	12	
1/1/2008	13	
1/1/2008	14	
1/1/2008	15	
1/1/2008	16	
1/1/2008	17	
1/1/2008	18	
1/1/2008	19	
1/1/2008	20	

Electricity Resource Planning
Form S-5
Bilateral Contracts and Power Purchase Agreements

Filing LSE:	
Date:	
Contact:	
Contact Number:	

Yellow pattern cells will be used by LSEs to apply for confidentiality.

Supplier / Seller:	

Start Date:	

Expiration Date:	

Contract / Agreement Capacity:	

Scheduling Coordinator:	

Fuel Type:	

Delivery Point(s):	*[control area and transmission zone]*
	[more specific info such as substation & buss]

Locational Attributes of Unit(s):	*[control area and transmission zone]*
	[load pocket location and more specific attributes]

Contract / Agreement Product(s):	

Availability of Products:	

Must Take:	

Generating Unit(s) Specified:	

Capacity of the Unit(s):	

Availability of the Unit(s):	

Unit Contingent / LD Contract:	

Firm:	

Contract / Agreement Type:	

Transmission Contingent & Path:	

Termination & Extension Rights:	

Performance Requirements:	

Notes:	(1)
	(2)