



RENEWABLES PORTFOLIO STANDARD Quarterly Report



4th Quarter 2016



ACKNOWLEDGEMENTS

The 4th Quarter Renewables Portfolio Standard Report to the Legislature was prepared by energy division staff:

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I. ABOUT THE RPS AND THIS REPORT

California is aggressively bringing renewable generation online to meet its Renewables Portfolio Standard (RPS), one of the most ambitious renewable energy standards in the country.

California's RPS¹ requires retail sellers, investor-owned utilities (IOUs), electric service providers (ESPs) and community choice aggregators (CCAs) regulated by the California Public Utilities Commission (CPUC) to procure 50% of their annual retail sales from eligible renewable sources by 2020. Retail sellers must achieve interim RPS targets of 20% from 2011-2013, 25% by the end of 2016, 33% by the end of 2020, 40% by the end of 2024, 45% by the end of 2027, and 50% by the end of 2030.

While the RPS program is the primary vehicle for new utility-scale renewable energy development in California, there are also programs that stimulate development of customer-side renewable generation. The California Solar Initiative (CSI) and Self-Generation Incentive Program (SGIP) provide incentives for customers to install renewable distributed generation technologies that directly serve their on-site load.² Electricity generated from power systems installed under CSI and SGIP may contribute to meeting RPS targets provided they meet eligibility requirements established by the CEC.³ In addition, electricity generated by these facilities indirectly contributes to the RPS by reducing demand when serving customer load.

Pursuant to 2006 Budget Act Supplemental Report Item 8660-001-0462 the CPUC has prepared an update on the RPS program in every quarter since October 2006. On September 29, 2016, the Governor signed Senate Bill (SB) 1222 (Hertzberg, 2016) into law. The bill creates many changes to the CPUC's reporting process and eliminates the requirement for a quarterly RPS report to the Legislature. Consequently, this report will be the last quarterly RPS report to the Legislature. Additional information on SB 1222 can be found on p. 10 of this report.

This report focuses on California's three large IOUs, which provide approximately 68% of the state's electric retail sales: Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E).

¹ Codified in Public Utilities Code §§ 399.11 – 399.32, California's 20% RPS by 2020 was established in 2002 under Senate Bill (SB) 1078 (Sher) and modified in 2006 under SB 107 (Simitian). SB 2 of the First Extraordinary Session (SB 2 (1X)) (Simitian) (Stats. 2011, ch.1) expanded the mandate to a 33% RPS by 2020. SB 350 (De León) increased the mandate to 50% by 2030.

² More information on the CSI and SGIP can be found on the CPUC's website: <http://www.cpuc.ca.gov/PUC/energy/DistGen/>.

³ In the case of renewable customer generation, the system-owner owns the renewable energy credits (RECs), but could sell the RECs to retail sellers to contribute to their RPS targets.

II. EXECUTIVE SUMMARY

Status of RPS Procurement

- The RPS procurement target for 2015 is 23.3% of retail sales. On September 1, 2016 the large IOUs forecasted that they collectively served 27.6% of their retail electric load with RPS-eligible generation during 2015, exceeding the 2015 RPS procurement target.
- The second RPS compliance period (2014–2016) procurement requirement is approximately 23.3% of retail sales.⁴ The IOUs procured approximately 26% of retail sales in 2014, and anticipate procuring approximately 28% in 2015 and 31% across the three years of the second compliance period.
- Since 2003, 15,565 MW of renewable capacity achieved commercial operation under the RPS program. In 2016, 2,973 MW of renewable capacity has reached commercial operation. An additional 1,045 MW of renewable capacity is forecasted to achieve commercial operation in 2017.
- Since 2002, the CPUC has approved more than 435 RPS PPAs for over 23,705 MW of renewable capacity. As Table 1 below shows, the CPUC approved 28 contracts in 2016, representing a total of 1,815 MW of RPS capacity.

Highlights of Recent Events

- On April 15, 2016, the Commission issued a ruling to request comments on the implementation of SB 350. Specifically, the ruling requested stakeholder feedback on several changes to the RPS procurement requirements (see below). The Commission will be issuing additional rulings that address the remaining RPS-related elements of SB 350 that need to be implemented.

New compliance periods for years after 2020 (Pub. Util. Code Section 399.15(b)(1))

Changes to the procurement quantity requirements for the new compliance periods (Pub. Util. Code Section 399.15(b)(2))

New requirements for RPS-eligible short- and long-term contracts and/or using utility-owned generation (UOG) or other ownership agreements for compliance periods after 2020 (Pub. Util. Code Section 399.13(b))

Changes to excess procurement rules for all compliance periods beginning January 1, 2021 (Pub. Util. Code Section 399.13(a)(4)(B))

Changes to the rules governing excess procurement related to early compliance with the new requirements for long term contracts (Pub. Util. Code Section 399.13(a)(4)(B)(iii))

⁴During the second compliance period (2014-2016) the RPS obligation increases each year. In 2014 the Large IOUs must procure at least 21.7% of their retail sales from RPS eligible resources. The RPS procurement percentage increases to 23.3% in 2015 and 25.0% in 2016. Consequently, the average procurement percentage over second compliance period is approximately 23.3%.

- On September 4, 2016, all RPS obligated entities submitted RPS Compliance Reports to Energy Division staff. Energy Division staff will review retail seller's procurement claims and will determine which retail sellers were able to meet their RPS compliance obligations in the first compliance period (2011-2013). Once Energy Divisions staff have completed their review process, each retail seller will be sent a letter with a determination of compliance for the first compliance period.
- On September 27, 2016, the Commission issued a proposed Decision to implement provisions of the Governor's Proclamation of a State of Emergency (October 30, 2015) (Emergency Proclamation) related to tree mortality and Senate Bill 840. Specifically, the decision adds specific new features to the bioenergy feed-in tariff, or bioenergy market adjusting tariff (BioMAT), for the California renewables portfolio standard established by Senate Bill (SB) 1122 (Rubio) implemented in Commission Decision (D.) 14-12-081 and D.15-09-004. The additional provisions for the BioMAT program set out in this decision respond to the tree mortality emergency identified in the Emergency Proclamation, and to implement amendments made to Pub. Util. Code Section 399.20 by SB 840 (Trailer Bill, 2016). The Decision (D.16-10-025) was adopted at the October 27, 2016, Commission meeting.
- On October 16, 2016 the Commission approved Resolution 4805-E that implemented biomass provisions of Senate Bill 859 (Trailer Bill, 2016) and the Governor's Emergency Proclamation to address public safety and property from falling trees and wildfire. The resolution allocated a share of 125 MWs of biomass power procurement to the three large investor owned utilities as directed by SB 859, permitted the use of the RAM for this procurement, and directed a process for the allocation of these costs to all customers.
- On November 15, 2016, the Commission issued a proposed Decision adopting retail sellers' 2016 RPS procurement plans. Pursuant to the authority provided in Pub. Util. Code section § 399.13(a)(1), the Decision accepts, with some modifications, the draft 2016 RPS Procurement Plans, including the related solicitation protocols, filed by Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), San Diego Gas & Electric Company (SDG&E), direct access ESPs and CCAs. The Decision (D.16-12-044) was adopted at the December 15, 2016, Commission meeting.
- On November 15, 2016, the Commission issued a proposed Decision to implement the new compliance periods and procurement quantity requirements for the California renewables portfolio standard (RPS) program for years beginning in 2021 that are set by SB 350 (De León). Specifically, the Decision established that:
 - Compliance periods from 2021 through 2030 are as follows:
 - January 1, 2021 through December 31, 2024;
 - January 1, 2025 through December 31, 2027; and
 - January 1, 2028 through December 31, 2030.
 - Beginning with the compliance period 2031-2033, RPS compliance will be measured in three-year compliance periods, continuing indefinitely, unless changed by legislative action.

- For the compliance period 2021-2024, retail sellers must procure no less than 40 percent of their retail sales from eligible renewable energy resources.
- For the compliance period 2025-2027, retail sellers must procure no less than 45 percent of their retail sales from eligible renewable energy resources.
- For the compliance period 2028-2030, retail sellers must procure no less than 50 percent of their retail sales from eligible renewable energy resources.
- Progress toward compliance during intervening years of each compliance period from 2021 through 2030 will be treated using the same “straight-line” method.
- For each compliance period beginning with the 2031-2033 compliance period, each retail seller must procure not less than 50 percent of retail sales from eligible renewable resources, measured as an average over the compliance period.

The Decision (D.16-12-040) was adopted at the December 15, 2016, Commission meeting

III. PROGRESS TOWARDS A 50% RPS BY 2030

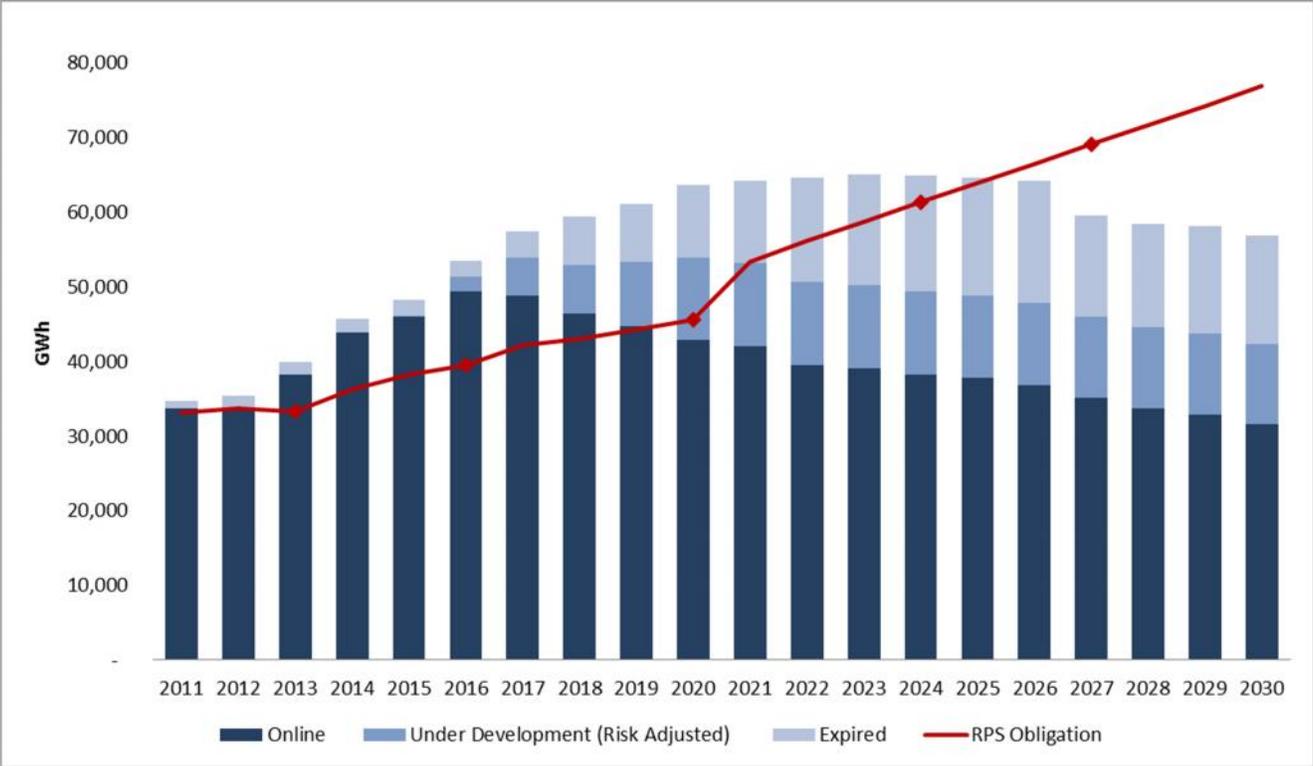
California is aggressively procuring renewable generation to ensure that 50% of retail sales are met with renewable energy resources by 2030. Figure 1 below shows progress toward meeting that mandate, on a risk adjusted basis.⁵ The IOUs reported meeting the 20% requirement for 2011-13 in their 2016 Final 33% RPS Compliance Reports.⁶ These reports forecast that the IOUs are on track to meet the RPS requirement of 25% renewables by 2016 and are well-positioned to meet the 33% requirement by 2020.

Figure 1 on the next page forecasts a surplus of renewable generation for compliance period 2014-16 and a deficit for compliance period 2017-20. It is important to note that the IOUs have the option to apply excess procurement from 2011-13 and 2014-16 compliance periods toward meeting RPS obligations in 2017-20 or beyond.

⁵ Generation forecasts from projects under development are risk adjusted to account for a certain degree of project failure. Failure rate assumptions are provided by the IOUs in their renewable net short calculation provided with the Annual 33% RPS Compliance Report submitted on September 1, 2016.

⁶ The California Energy Commission (CEC) is responsible for verifying RPS procurement claims for each compliance period. The CPUC relies on the CEC’s verification report to make a final determination of retail sellers’ RPS compliance positions. In Q1 2017, the CPUC will use retail sellers’ 2016 Final RPS Compliance Reports, which were filed following the CEC’s adoption of its *Renewables Portfolio Standard 2011-2013 Retail Sellers Procurement Verification* report to determine compliance for the first compliance period (2011-2013).

Figure 1: IOU progress towards 50% renewables, actual and forecasted by year ^{7,8,9}

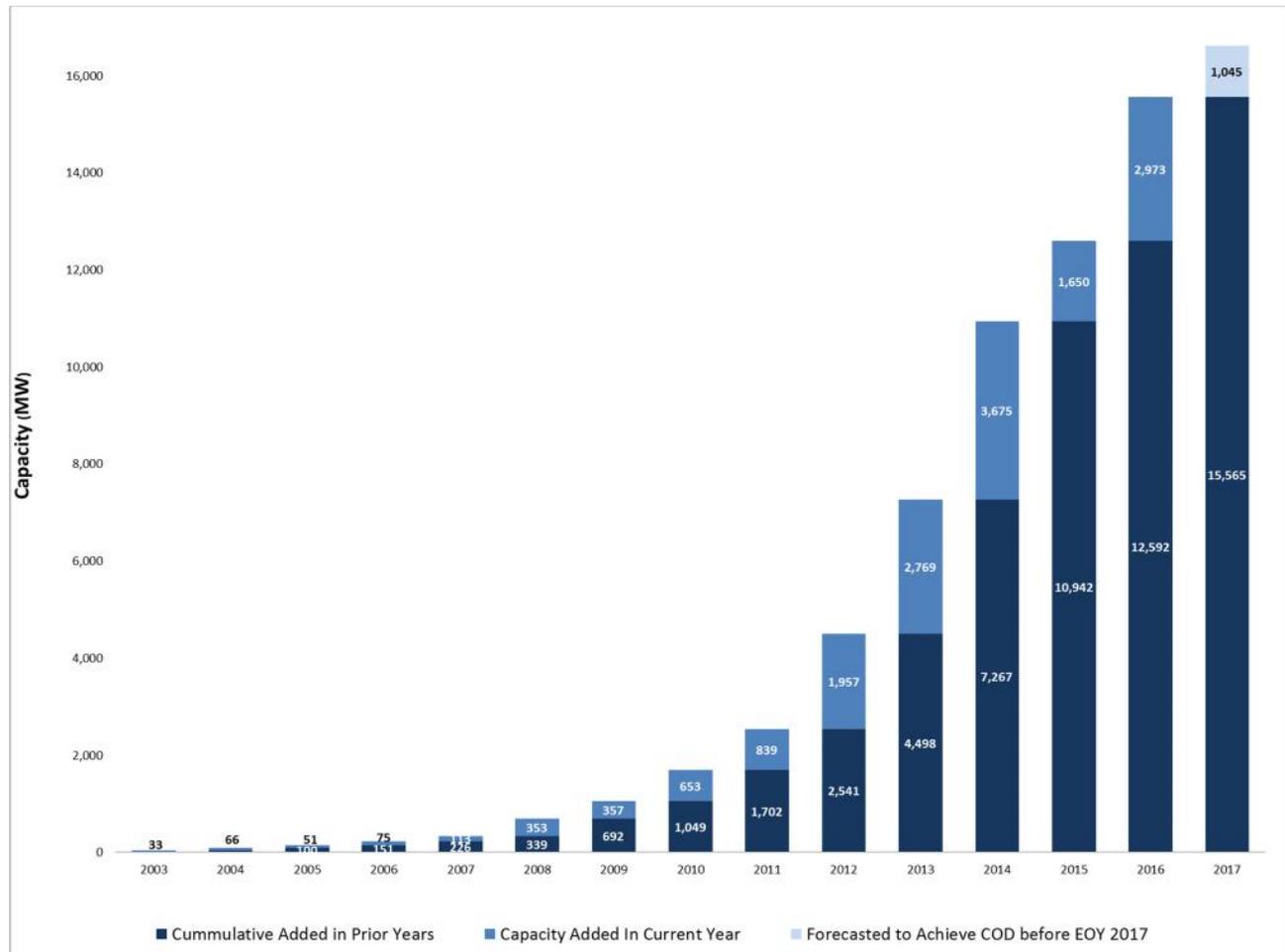


⁷ Data Source: Aggregated data from the large IOU’s 2016 Annual RPS Procurement Plans.
⁸ The RPS obligation varies to reflect targets of 20% from 2011-2013, 25% by the end of 2016, 33% by the end of 2020, 40% by the end of 2024, 45% by the end of 2027, and 50% by the end of 2030.
⁹ The “Expired” field in this chart represents the amount of generation associated with facilities that no longer have a PPA with one of the Large IOUs. Although this generation is not under contract there is a possibility that one of the Large IOUs will re-contract with these facilities.

CPUC APPROVED RENEWABLE CAPACITY ADDED IN 2016

Since 2003, 15,565 MW of renewable capacity achieved commercial operation under the RPS program. In 2016, 2,973 MW of renewable capacity has reached commercial operation. An additional 1,045 MW of renewable capacity is forecasted to achieve commercial operation in 2017.

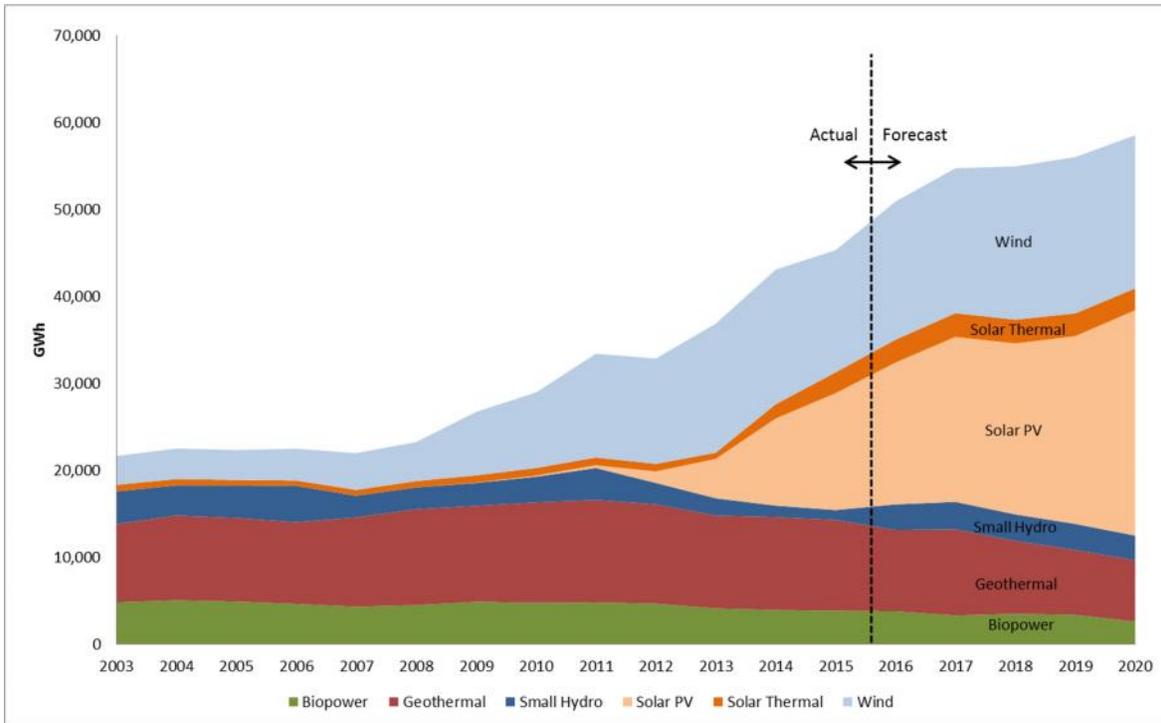
Figure 2: RPS capacity installed since 2003 by year



RPS RENEWABLE RESOURCE MIX

The mix of technologies bidding into and receiving power purchase agreements (PPAs) through RPS solicitations has shifted over the course of the RPS program. In 2015, wind contributed 31% and solar PV contributed 29.7%, supplying the majority of California’s renewable generation. The generation mix in 2020 is expected to reflect a considerable increase in generation from new solar PV. Solar PV generating facilities are forecasted to contribute 44.3% of the state’s total renewable generation by 2020. The figure below displays California’s actual and forecasted mix of renewable generation by technology type through 2020.

Figure 3: Renewable resource mix, actual and forecasted by year ¹⁰



Biopower is a combination of all biomass and biogas procurement.

¹⁰ Data Source: IOUs’ Annual 33% Compliance Reports (September 1, 2016). Figure 3 only depicts existing IOU renewable contracts. It does not account for facilities that may be online and may receive new contracts after their current contracts expire.

RPS CONTRACTING ACTIVITIES IN 2016

Since 2002, the CPUC has approved more than 435 RPS PPAs for over 23,705 MW of renewable capacity. As Table 1 below shows, the CPUC approved 28 contracts in 2016, representing a total of 1,815 MW of RPS capacity.

Table 1: IOU RPS-eligible Power Purchase Agreements submitted and/or approved in 2016 ^{11,12,13}

		PGE		SCE		SDGE		Total	
		Number of Contracts	MW	Number of Contracts	MW	Number of Contracts	MW	Number of Contracts	MW
Q1	Submitted	2	0	7	546	3	20	12	566
	Pending	1	0	8	1,218	2	20	11	1,238
	Approved	2	0	6	456	2	0	10	456
Q2	Submitted	2	0	1	0	1	0	4	0
	Pending	0	0	3	573	1	0	4	573
	Approved	3	0	6	645	2	20	11	665
Q3	Submitted	0	0	0	0	0	0	0	0
	Pending	0	0	0	0	0	0	0	0
	Approved	0	0	3	573	1	0	4	573
Q4	Submitted	2	29	4	195	1	25	7	249
	Pending	1	0	1	128	0	0	2	128
	Approved	1	29	3	67	1	25	5	121

¹¹ Data Source: IOU submissions to the RPS Contract Database (December 15, 2016)

¹² In Q1 and Q2 of 2016 PG&E, SCE and SDG&E each submitted Advice Letters to modify specific components of their Renewable Auction Mechanism (RAM) Program for the sixth RAM Solicitation. These Advice Letters did not have any capacity value associated with them.

¹³ "Submitted" refers to the number of RPS PPAs that were filed to the CPUC in a given quarter. "Pending" refers to how many advice letters were awaiting approval at the end of a given quarter.

RPS BIOENERGY CONTRACTING ACTIVITIES IN 2016

As stated in above in the “Highlights of Recent Events” (at p. 3), the Commission has implemented the orders of the Governor’s Proclamation of a State of Emergency (October 30, 2015), SB 840, and SB 859 through Commission Decision (D.)16-10-025 and two resolutions, i.e., E-4770 (BioRAM I) and E-4805 (BioRAM II), which require the large IOUs procure biomass generation.

As of December 31, 2016, the large IOUs have collectively executed six contracts to meet the BioRAM procurement requirements established in E-4770 and E-4805. Table 2 below shows each of the IOUs individual targets for BioRAM I and BioRAM II (as established by E-4770 and E-4805 respectively) and their progress in meeting program mandates.

Table 2: IOU BioMass Procurement Requirements and Contracts Executed in 2016

IOU	Requirements (MW)			MW Executed
	E-4770	E-4805	Total	
PG&E	20	43	63	65
SCE	20	44	64	67
SDG&E	10	9	19	24
Total	50	96	146	156

SUMMARY OF SB 1222 (HERTZBERG) AND IMPACT ON RPS REPORTING PROCESS

On September 29, 2016, the Governor signed SB 1222 (Hertzberg) into law. At a high level, SB 1222 created sweeping changes to the CPUC's reporting requirements. Specifically, the bill changes several due dates for CPUC specified reports, changes the contents of specified reports, reassigns reporting requirements and eliminates reports.

SB 1222 has direct impact on the RPS program's reports and their timing. Prior to SB 1222, the CPUC was responsible for producing several RPS reports including:

- Pub. Util. Section 913.3 Report - Pub. Util. Section 913.3 requires the CPUC to provide an annual report to the Legislature on the investor-owned utilities' (IOUs) direct and indirect costs and costs avoided (savings) with the RPS program and distributed generation programs. Due annually on May 1st.
- Padilla Report (Pub. Util. Section 913.4 Report) - Senate Bill 836 (Pub. Util. Code § 913.4) requires the CPUC to report to the Legislature "the costs of all electricity procurement contracts for eligible renewable energy resources, including unbundled renewable energy credits, and all costs for utility-owned generation approved by the Commission." Due annually on May 1st.
- RPS Quarterly Report (Pub. Util. Section 913.5 Report) - The CPUC issues a report on the RPS program every quarter pursuant to the 2006 Budget Act Supplemental Report Item 8660-001-0462. This report focuses on RPS procurement progress of California's three large IOUs: Pacific Gas and Electric (PG&E), Southern California Edison (SCE), and San Diego Gas & Electric (SDG&E). Due each quarter.
- RPS Biennial Reports (Pub. Util. Section 913.6 Report) - The CPUC, in consultation with the California Energy Commission (CEC), must report to the Legislature by January 1 of every even-numbered year on all of the following: (a) the progress and status of RPS procurement, (b) the status of permitting and siting RPS resources and transmission facilities, (c) the projected ability of each electrical corporation to meet the RPS requirements pursuant to the cost limitations established by Section 399.15(d), and (d) barriers to, and recommendations for, achieving the RPS requirements. Due on February 1st in every even year.

As a result of SB 1222, the CPUC will produce two main reports for the Legislature that encompass most of the reporting requirements included in the reports listed above. The first report will report on RPS costs and expenditures (still called the Padilla Report) and be produced on May 1st.¹⁴ The second report will focus on retail sellers' progress towards meeting the mandates of the RPS program, and will be due annually on November 1st.¹⁵

¹⁴ Pursuant to Pub. Util. Code Section 913.3 as amended by SB 1222.

¹⁵ Pursuant to Pub. Util. Code Section 913.4 as amended by SB 1222.

ATTACHMENT: THE FIRST RPS QUARTERLY REPORT TO THE LEGISLATURE

The CPUC started issuing RPS Quarterly Reports to the Legislature in October of 2006 as directed by the 2006 Budget Act, and since 2006 the CPUC has produced 36 quarterly reports (including this report).

Because this is the last Quarterly Report to the Legislature, Energy Division has decided to include a copy of the first RPS Quarterly Report to the Legislature (dated October 2006). Please see the attached Appendix A to review the first RPS Quarterly Report to the Legislature.

The highlights of the report include (text in italics provided to contextualize figures relative to 2016 figures):

- 57 contracts for renewable power have been approved by the CPUC since 2002, and 6 more are pending. *As of 2016, the CPUC more than 436 RPS PPAs for over 23,705 MW of RPS eligible capacity. The CPUC approved 28 PPAs in 2016 alone.*
- In 2005, renewable sources accounted for 17.7%, 13.5%, and 5.5% of total retail electricity sales for Southern California Edison (SCE), Pacific Gas and Electric (PG&E), and San Diego Gas and Electric (SDG&E), respectively. *As of 2015, RPS sources counted for 24.3%, 29.5%, and 35.2% of total retail electricity sales for SCE, PG&E, and SDG&E, respectively.*

IV. RECENT AND UPCOMING EVENTS

Timing	Deliverable	Notes
October 2016	Determination of Retail Seller compliance for the first compliance period (2011-13)	Energy Division staff will review the 2016 Final RPS Compliance Reports that were submitted on September 1, 2016, and determine which retail sellers were able to meet the RPS requirement of the first compliance period (2011-13). Energy Division staff will notify retail sellers of their RPS compliance status for the first compliance period once the review process is complete.
October 2016	Decision establishing guidelines for the RPS BioMAT program from SB 840 (Trailer Bill , 2016)	The decision adds specific new features to the bioenergy feed-in tariff, or bioenergy market adjusting tariff (BioMAT), for the California renewables portfolio standard established by Senate Bill (SB) 1122 (Rubio) implemented in Commission Decision (D.) 14-12-081 and D.15-09-004.1
December 2016	Decision implementing a portion of RPS compliance rules from SB 350 (De Leon, 2016)	Decision to implement the new compliance periods and procurement quantity requirements for the California renewables portfolio standard (RPS) program for years beginning in 2021.
December 2016	Decision accepting retail sellers 2016 RPS Plans	The Decision accepts, with some modifications, the draft 2016 RPS Procurement Plans, including the related solicitation protocols, filed by Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), San Diego Gas & Electric Company (SDG&E), direct access ESPs and CCAs.
December 2016	Integrated Resource Planning workshop	Energy Division staff hosted a workshop on Integrated Resource Planning scenario development. At the workshop, staff presented a proposal for the scenarios to be modeled in 2017 along with an overview of the proposed modeling platform. The workshop was developed based on the feedback received over the course of two series of webinars conducted by Energy Division staff earlier in 2016 to foster transparency and facilitate the ability of staff to develop a proposal for implementing the IRP process in 2017.

Appendix A

October 2006 RPS Report to the Legislature

California Public Utilities Commission



Progress of

The California Renewable Portfolio Standard

As Required by the Supplemental Report of the 2006 Budget Act



Report to the Legislature

October 2006

Summary

The Supplemental Report of the 2006 Budget Act (Report) Item 8660-001-0462 requires the California Public Utilities Commission (CPUC) to report to the Legislature by October 1, 2006 on the progress of the Renewables Portfolio Standard (RPS).¹ The Report states:

“In order to evaluate the progress of the state’s investor-owned electric utilities in complying with the Renewables Portfolio Standard (RPS) pursuant to Public Utilities Code section 387, PUC shall report to the Legislature on or before October 1, 2006, and quarterly thereafter, on the following:

- a. Progress by California’s investor-owned utilities (IOUs) in meeting RPS goals, as defined in Section 387 or as modified by subsequent Commission rulings that accelerate the statutory goals;
- b. For each investor-owned electric utility, an implementation schedule to achieve the RPS goals, including all substantive actions that have been taken or will be taken to achieve the program goals;
- c. A work plan, schedule, and status report for all substantive procurement, transmission development, and other activities that the Commission has undertaken or plans to undertake to ensure that the state’s investor-owned electric utilities achieve the goals and requirements of the RPS.”

As detailed in the report that follows, the CPUC is aggressively implementing the Renewables Portfolio Standard (RPS), and the state’s investor-owned utilities (IOUs) are making substantial progress in their efforts to comply with the program.

- 57 contracts for renewable power have been approved by the CPUC since 2002, and 6 more are pending.
- In 2005, renewable sources accounted for 17.7%, 13.5%, and 5.5% of total retail electricity sales for Southern California Edison (SCE), Pacific Gas and Electric (PG&E), and San Diego Gas and Electric (SDG&E), respectively².
- Reporting and compliance details, determination of transmission needs, and other crucial program elements continue to be addressed through the CPUC’s investigation and rule-making processes.

RPS Legislation and Implementation

The CPUC began laying the groundwork for RPS implementation in 2001, in compliance with Public Utilities Code Section 701.3, and in advance of Assembly Bill 57 and Senate Bill 1078 becoming law. The Commission opened a formal proceeding in October 2001 to establish policies and cost recovery mechanisms for generation procurement and renewable resource development. Among other things, the Commission directed the IOUs to submit

¹Statutory authority for the RPS and renewable procurement is contained in Public Utilities Code Sections 387, 390.1, 454.5 (b), and Article 16 commencing with Section 399.11.

² This doesn’t reflect contracts signed but not yet online.

procurement proposals on how the Commission should comply with existing renewables mandates. Public Utilities Code Section 701.3 required the Commission to ensure that renewable resources would be included in the mix of new generation facilities serving the state. The IOUs filed their first post-energy crisis procurement proposals at the end of November 2001.

Concurrently, the Legislature was developing two bills to guide utility procurement. Assembly Bill 57 returned the IOUs to the electricity procurement business. The bill required the IOUs to resume procurement for their customers by no later than January 1, 2003, and required the IOUs to increase renewables procurement by one percent each year until renewable resources account for 20 percent of each IOU's retail sales.

Senate Bill 1078 requires all load-serving entities (LSEs) – IOUs, Community Choice Aggregators (CCAs), and Electric Service Providers (ESPs), with certain exceptions – to meet essentially the same renewable procurement goals as AB 57, but sets a deadline of 2017 for achieving a 20 percent renewable portfolio and establishes a detailed process and standards for renewable procurement.³ SB 1078 requires the Commission to develop and adopt several key RPS program components, many by June 30, 2003.

The Commission began provisional implementation of the RPS in 2002. In three consecutive decisions issued in August, October, and December 2002, the Commission established an interim renewable procurement process, directed each IOU to file a short-term procurement plan (to meet the 1% goal through 2003) and a status report of interim renewables procurement, adopted a schedule to develop the key RPS components, and approved the IOUs short-term procurement plans. By the end of 2002, the IOUs were financially stable, creditworthy, and ready to make resource commitments. The utilities resumed procurement on January 1, 2003 under their CPUC- approved short-term plans.

The Commission issued individual rulings and/or decisions which addressed the most critical procurement RPS-related issues.

2002

- **Authorized PG&E, SCE and SDG&E to begin transitional procurement** (D.02-08-071)
- **Adopted a regulatory framework** under which the utilities resumed full procurement responsibilities on Jan 1, 2003 (D.02-10-062)
- **Approved the utilities' 2003 procurement plans** (D.02-12-074)

2003

- **Established Inter-Agency Collaboration and Workplan** (February 3, 2003 Ruling): describes how the tasks assigned to the Commission and the CEC intersect, and how the two agencies will collaborate to achieve the RPS goal.
- **Determined methodology for calculating penalties** (D.03-06-071): Failure to satisfy the annual procurement targets will result in an automatic penalty of 5 cents per

³ The Joint Agency Energy Action Plan and later SB 107 accelerated the RPS target year from 2017 to 2010.

kWh. Failure to meet the 20% renewable procurement obligation will result in additional automatic penalties.

- **Developed flexible compliance rules** (D.03-06-071)

2004

- **Opened proceeding to streamline transmission needs determination** (R.04-01-026)
- **Established a long-term procurement framework** (D.04-01-050): Endorsed a hybrid market structure for generation, consistent with the preferences stated in the Energy Action Plan (EAP).
- **Adopted Least Cost/Best Fit Bid Ranking** (D.04-07-029): This is the process whereby the LSE employs transparent, Commission-approved criteria to the analysis of bids, and balances the need for “portfolio fit” against cost minimization objectives.
- **Established a Market Price Referent** (MPR) (D.04-06-015): The (MPR) represents the levelized cost (cents/kWh) of a long-term contract with a combined cycle gas turbine generator, and serves as a pricing benchmark for RPS contracts. Contracts priced at or below the MPR are deemed per se reasonable and are recoverable in utility rates. If a portion of the contract price is above the MPR, that portion may be eligible for CEC supplemental energy payments (SEPs), subject to SEP availability. The CPUC calculates a new set of MPRs for every RPS solicitation.
- **Set Standard Contract Terms and Conditions** (D.04-06-014): Parties deliberated extensively in 2003 to develop standard terms and conditions for use in RPS procurement contracts.
- **Adopted a methodology to estimate transmission cost adders** (D.04-06-013): In order to enable the least cost/best fit selection of resources, the LSE must be able to approximate the final cost of upgrading the transmission system to bring renewable power to load.
- **Established a process for planning and building the first phase of Tehachapi transmission** (D. 04-06-010): Directed formation of Tehachapi Transmission Study Group; ordered SCE to file an application for first phase of transmission upgrades to access wind energy in the Tehachapi region.

2005

- **Approved RPS short-term procurement and RFOs** (requests for offers) (D.05-07-039)
- **Streamlined MPR process** and increased transparency of calculation (D.05-12-042)
- **Set scope of RPS jurisdiction over LSEs:** ESPs, CCAs, and SMJUs (small, multi-jurisdictional utilities). (D.05-11-025)
- **Open Investigation to facilitate development of transmission to access renewables** (05-09-005): To assess how current transmission planning, project development and cost recovery processes can be modified to accommodate the unique characteristics of renewable energy, refine the methodology used by IOUs to assess transmission impacts of renewable projects in the bid-ranking and selection process.

2006

- **Conditionally approved procurement plans for 2006 RPS solicitations** (D.06-05-039)
- **Opened new proceeding –continuation of R.04-04-026 – to address ongoing issues in RPS implementation** (06-05-027): Rules for participation of ESPs, CCAs, small utilities, and SMJUs; coordination with related programs (i.e. California Solar Initiative); use of unbundled and/or tradable renewable energy credits (RECs) for RPS compliance.

The IOUs Are Making Measurable Progress In Meeting The RPS Goals.

Each IOU must prepare a renewable energy procurement plan for CPUC review and approval. The Commission presumes that utilities are able to use their business judgment in running their solicitations, unless their plans threaten to impair the effectiveness of the RPS program. The plan must include the following:

- An assessment of demand and supply to determine the optimal mix of renewable resources.
- Use of compliance flexibility mechanisms established by the Commission.
- A bid solicitation.

The utilities' initial interim RPS solicitations occurred in 2003, followed by solicitations in 2004, 2005 and 2006. The Commission approved 57 contracts from the 2002 and 2003 interim solicitations and the 2004 and 2005 RPS solicitations, and 6 submitted contracts are under consideration by the Commission. Table 1 provides more detail for each utility, as follows:

Table 1: Approved Contracts, by Utility

Solicitation Year	PG&E	SCE	SDG&E
2002	4 contracts (119 MW)	6 contracts (273 MW) ⁴	15 contracts (238 MW) ⁵
2003	3 contracts (44 MW)	8 contracts (664 MW)	1 contract (40 MW) ⁶
2004	5 contracts (236 MW) ⁷	0 contracts	6 contracts (580 MW)
2005	5 contracts (71 MW)	4 contracts (37 MW)	0 contracts
Total	17 contracts (470 MW)	18 contracts (974 MW)	22 contracts (858 MW)

⁴ 1 of these contracts (5 MW) was later canceled.

⁵ 5 of these contracts (64 MW) were later canceled.

⁶ 1 of these contracts (40 MW) was later canceled.

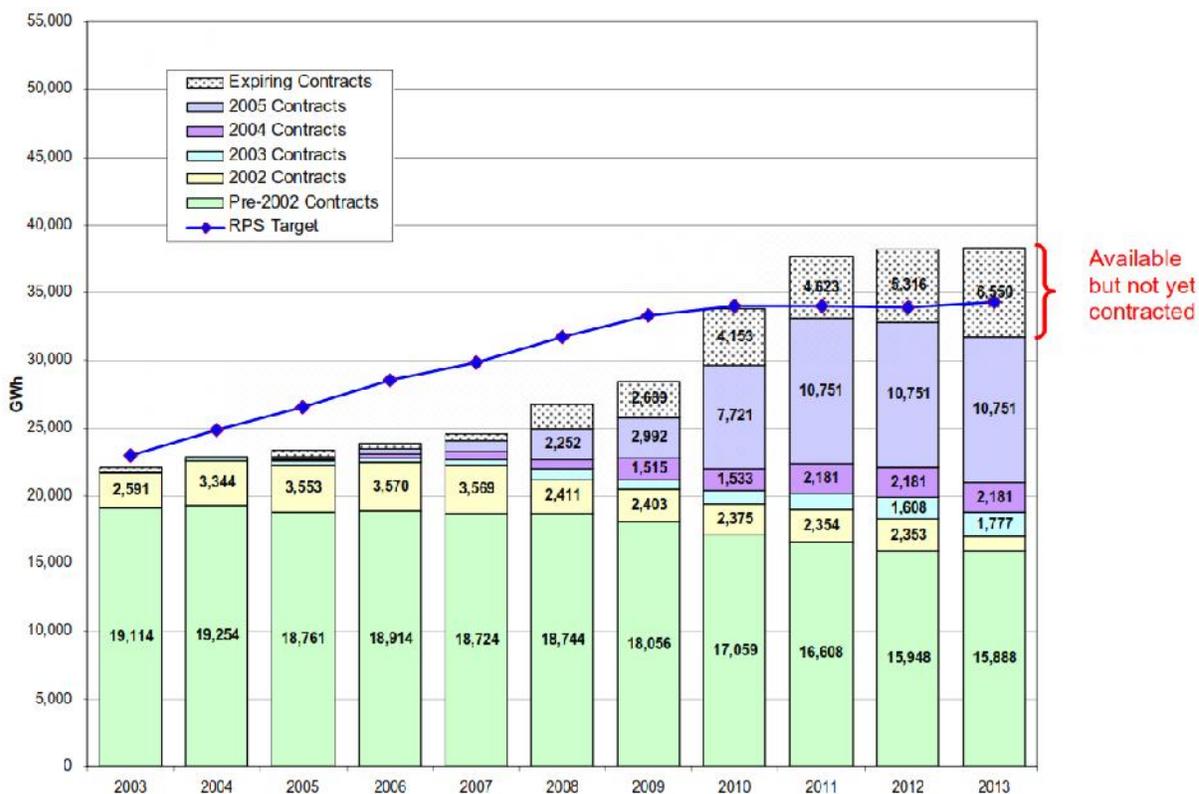
⁷ 1 of these contracts (38 MW) was replaced in 2004 by a contract for 28-43 MW.

Of these contracts approved since 2002, 767 MW of capacity were online as of August 1, 2006. Pursuant to RPS legislation, the Commission uses actual deliveries, not signed contract capacity, as the metric to determine RPS compliance. The CEC determines the amount of actual final deliveries. In 2005, the utilities' actual renewable deliveries totaled 23,826 GWh.

- PG&E – 13.5 % (9,801 GWh)
- SCE – 17.7% (13,195 GWh)
- SDG&E – 5.5% (830 GWh)

Figure 1 illustrates forecasted RPS deliveries by solicitation year. The chart includes deliveries from projects under the 2005 solicitation that have been short-listed by the IOUs and are either still under negotiation or pending approval at the CPUC. Note that it is reasonable to assume that the expiring contracts (dotted area on the chart) will be resigned by one of the IOUs.

Figure 1
IOU Renewable Procurement
Annual Projections - With 2005 Short Listed Bids



The IOUs Are Following the Aggressive RPS Implementation Schedule Adopted by the Commission

Many implementation dates are set by the CPUC, and as such are common among all IOUs. Some issues, and therefore implementation schedules, are IOU-specific. We first provide the general implementation schedule, and then more utility-specific details below.

The IOUs are still negotiating contracts from the 2005 solicitations. The majority of contracts will be filed with the CPUC by November 2006.

On December 7, 2005, PG&E, SCE and SDG&E filed supplements to their respective 2005 long-term Plans. On December 22, 2005, PG&E, SCE and SDG&E filed their 2006 RPS Plans and draft RFOs. The IOUs issued their 2006 RPS solicitations in July 2006, and expect to issue 2007 solicitations in 1st Quarter 2007. All three utilities will file long-term procurements plans at the end of November 2006, and will host public workshops in early December 2006 to present the plans. The plans will cover all procurement activities, including RPS, from 2007 to 2016.

In August 2006, each IOU filed a Transmission Cost Ranking Report with the CPUC, which presents how transmission costs are considered in the utility bid evaluation and ranking process.

Utility-Specific Implementation Details

PG&E

PG&E estimates that its 2006 APT (annual procurement target – the total amount of renewable energy it must procure in 2006) is about 10,942 gigawatt-hours (GWh). In its 2006 solicitation, PG&E seeks additional renewable energy contracts equal to about 1% to 2% of its retail sales volume - approximately 700 to 1,400 GWhs per year.

In 2007, PG&E will require more capacity to meet its reserve margin requirements, and additional peaking energy resources to meet its net energy requirements. After 2007, PG&E requires additional dispatchable peaking and shaping resources to meet energy and capacity requirements for all subperiods. PG&E is especially interested in projects that offer deliveries no later than early 2008.

PG&E seeks offers for four specific renewable products: (a) as-available, (b) baseload, (c) peaking, or (d) dispatchable. PG&E will also consider two types combination products: (a) peaking and as-available, or (b) peaking plus other firm deliveries in any combination.⁸

In 2006, PG&E proposes to accept bids from all eligible renewable resources, resulting in the acceptance of bids with delivery points anywhere in California, in addition to the CAISO delivery points authorized in D.05-07-039.

⁸ D-04-12-048, p. 2: “In our direction to the Investor-Owned Utilities (IOUs) [PG&E, SCE and SDG&E] regarding the procurement of resources to meet identified needs, and in recognition of the substantial amount of procurement to be undertaken as a result of our resource adequacy decisions, we make a number of significant findings. First, following the “loading order” contained in the Joint Agency Energy Action Plan (EAP) is the highest priority, meaning that energy efficiency and demand-side resources should be employed first. When these opportunities are captured, renewable generation is to be procured to the fullest extent possible - whenever an IOU issues a Request for Offer/Proposal (RFO/RFP) for generation resources, it must justify its selection of fossil generation over renewable generation offers. In other words, selection of renewable generation is the rebuttable presumption guiding IOU generation procurement.”

PG&E 2006 RPS Solicitation Schedule

- PG&E issues RFO: June 30, 2006
- Notice of Intent to Bid Due: July 10, 2006
- Pre-Bid Conference: July 20, 2006
- Deadline for Submission of Bids: September 8, 2006
- PG&E submits Shortlist to CPUC: October 20, 2006
- Execution of Final Agreements (tentative): Q4 2006 - Q1 2007

SCE

SCE estimates its APT for 2006 is 14,220 GWh. SCE favors renewable project able to deliver power by December 31, 2008, and will not consider any proposals with an initial start date after January 1, 2013.

After completing its 2005 procurement, SCE intends in 2006 to contract for the balance of renewable power necessary to achieve 20% renewables by 2010. SCE believes it will achieve 20% renewable power in 2010 if it successfully procures to its highest overall procurement needs scenario in 2010. SCE estimates it will be above 20% in 2010 if it achieves its low case overall procurement needs.

For generating facilities located in SCE's service territory, SCE says the only acceptable delivery point is the CAISO's SP-15 Zone. For facilities outside SCE's service territory, SCE will consider proposals with a delivery point outside of SP-15, but within the CAISO control area.

SCE 2006 RPS Solicitation Schedule

- SCE releases RFO: July 14, 2006
- Proposal conference: August 10, 2006
- Notice of Intent To Bid: August 18, 2006
- Proposals due: September 22, 2006
- SCE notifies sellers selected for SCE Final Short List: November 17, 2006
- Submits contracts to CPUC for review and approval: December 12, 2006

While transmission is a concern among all the IOUs, coordination of projects, contracts and open access transmission within the SCE service territory is particularly complicated. One of the most promising areas for new renewable power is the Tehachapi area in Southern California, which has approximately 4,500 megawatts of wind energy potential. The Commission formed the Tehachapi Collaborative Working Group to develop a proposed Transmission Plan of Service for the area. Multiple project phases are necessary. SCE's Tehachapi implementation schedule is as follows:

- Draft EIR (environmental impact review) released for Segment 1: July 2006
- Final EIR to be released: late October 2006

- SCE in-service date: January 2009
- Draft EIR released for Segments 2 and 3: August 2006
- Final EIR released: December 2006
- SCE in-service date: May 2009
- SCE applies to build Phase 2: March 2007⁹
- SCE applies to build Phase 3: June 2007

SDG&E

SDG&E states that its 2006 APT is 741 GWh. SDG&E expects to exceed its 2006 APT, and will bank APT surpluses for future compliance.

SDG&E will consider products which start deliveries in 2007, 2008, 2009 or 2010. SDG&E prefers in-basin renewable resources.

SDG&E 2006 RPS Solicitation Schedule

- RFO issued: July 17, 2006
- Last date for bid submission: September 1, 2006
- Develop Final Short List: October 10, 2006
- Complete negotiations and sign contract: December 4, 2006

SDG&E indicates that additional transmission is necessary to deliver power produced by geothermal and solar resources to load. In response to a Commission order, the Imperial Valley Study Group studied transmission adequacy in the Salton Sea region. SDG&E filed the group's report with the CPUC in October 2005.

SDG&E states in its 2006 RPS Plan that contracts for resources in the Imperial Valley without adequate transmission capability will be contingent upon SDG&E obtaining approval to build the Sunrise Powerlink, a new 500 kilovolt (kV) line from Imperial Valley to the San Diego area. SDG&E filed an initial application for CPUC approval for Sunrise in December 2005, and then deferred application submittal until June 2006. The CAISO Board approved the project in August 2006. SDG&E indicates it will meet its 20% RPS goal by 2010 if Sunrise is approved and constructed. Although SDG&E's RPS eligible deliveries were only 5.5% of total retail sales in 2005, it has the lowest overall electricity sales of the 3 IOUs (approximately 1/5 of the sales of either PG&E or SCE), and its significant renewable procurement thus translates into large percentage gains.

In addition to the Tehachapi and Sunrise Powerlink transmission projects, the ISO and FERC are independently reviewing a third RPS-related transmission project in Southern California. The proposed Lake Elsinore Advanced Pumped Storage (LEAPS) project would add a 500 MW pumped storage project, and interconnect a 500 kV transmission line to SCE

⁹ CAISO board to consider revised plan of service for approval in December 2006. SCE currently determining effects on application filing schedule.

and SDG&E transmission lines, which could increase SDG&E's ability to import additional energy from the SCE area. The project could be operational by 2009.

CPUC RPS Workplan

The CPUC coordinates long-term procurement planning, ensures resource adequacy, and implements the EAP within one "umbrella" proceeding: R.06-02-013. On September 25, 2006, the Commission directed the utilities to file comprehensive long-term procurement plans by November 20, 2006. The plans are to include a comprehensive description of activities the IOUs will undertake to meet the short-term RPS goal of 20% by 2010, and the long-term goal of achieving 33% renewable procurement by 2020. Attachment A provides a summary of 2006 RPS activities underway, and a preliminary schedule for aspects of the new long-term integrated resource planning cycle.

Attachment A

The Commission's 2006 Workplan Addresses Procurement and Transmission Resources to Ensure the IOUs Meet the RPS Goals for 2010 and Beyond

Focus Area 1: RPS Solicitation Process			
Task 1: 2006 Solicitations	Entity	Timeframe	Status
Approve IOU procurement plans	CPUC	July 2006	√
Commence IOU solicitations/Issue RFO	IOU	July 2006	√
Deadline for bids	Bidders	Sept 2006	√
Bid evaluation	IOUs	Sept 2006	
Calculate/issue proposed MPR	CPUC ED	Oct 2006	
Adopt 2006 MPR	CPUC	Nov 2006	
Submit bids short list to CPUC	IOUs	Nov 2006	
Approve contracts via multiple resolutions	CPUC	Nov-Jan	
Approve amended contracts (those needing CEC SEPs) via multiple resolutions	CPUC		
Task 2: Determine RPS Reporting/Compliance Guidelines and Applicable Years (Note final compliance determinations cannot be made for 2004 until 2008, or for 2005 until 2009, due to flexible compliance rules.)	Entity	Timeframe	Status
Staff report to propose reporting and compliance rules	CPUC ED	Feb 2006	√
Staff workshop	CPUC ED	Mar 2006	√
Compliance reports filed– data from 2003-2005	IOUs	Aug 2006	√
Updated compliance reports filed	IOUs	Oct 2006	
Proposals to implement Bioenergy Action Plan filed	IOUs	Oct 2006	
Final decision to determine reporting/compliance	CPUC ALJ	Nov 2006	
Final decision on R/C rules	CPUC	Dec 2006	
Proposals for flexible compliance in 2010	IOUs	Jan 2007	
Ruling to approve format and schedule	CPUC ALJ	Feb 2007	
Updated compliance reports filed	IOUs	Mar 2007	
Initial LSE compliance reports filed	LSEs	Mar 2007	

Hearings, if necessary	ALJ	April 2007	
Proposed decision issued	ALJ	May 2007	
Final decision adopted	CPUC	Aug 2007	
Updated LSE compliance reports filed	LSEs	TBD	
LSE compliance determination	CPUC	TBD	
Task 3: Refine Post-2006 Contract Solicitation & Selection Process			
Staff workshop and report on "Lessons Learned"	CPUC ED	Oct 2006	
Meet quarterly with developers and IOUs to assess claims of non-participation/gaming	CPUC ED	Oct 2006	
Proposal to standardize assessment of project viability	CPUC ED	Nov 2006	
Issue proposed decision to assess impediments and refine process	CPUC ALJ	Dec 2007	
Final decision adopted	CPUC	Jan 2007	
Task 4: ESP/CCA Participation			
Program design	CPUC	Oct 2006	√
Program implementation	CPUC	Q1 2007	
Focus Area 2: Streamline RPS Transmission			
Authorize IOU backstop cost recovery under §399.25	D06-06-034	June 2006	√
Revise CPUC review process for TX permitting	CPUC	Sept 2006	
Address/resolve ISO queue issues	CPUC	Sept 2006	
Assess Transmission Ranking Cost Reports	CPUC	Oct 2006	
Resolve temporary/early interconnection			
Task 1: Address Area-Specific Transmission Needs			
Tehachapi Phase 1			
Antelope-Pardee initial draft environmental impact review(EIR)		Mar 2006	√
Draft EIR		July 2006	√
Final draft EIR		Oct 2006	
Approve CPCN (certificate of public convenience and necessity)		Dec 2006	
Antelope Vincent & Tehachapi-Pardee			
Draft EIR		Aug 2006	√
Final EIR		Dec 2006	
Approve CPCN		Jan 2007	
Tehachapi Working Group Report #2	Multiple	April 2006	√

Designate CPUC Tehachapi Project Manager	CPUC	June 2006	√
Joint CPUC/ISO workshop #1		Aug 2006	√
Issue draft Tehachapi Plan of Service (POS)	ISO	Oct 2006	
Approve Tehachapi POS	ISO	Dec 2006	
Sunrise			
Application for CPCN (Permit To Construct)	SDG&E	June 2006	√
Focus Area 3: Market design			
Task 1: Confidentiality of RPS Information (R. 05-06-040)	CPUC		√
Adopt interim rules	CPUC	June 2006	√
Adopt final rules	CPUC	April 2007	
Task 2: Tradeable RECs	CPUC		
Issue Proposed Decision	CPUC	Q3/Q4 2007	
Adopt Final Decision	CPUC	Q3/Q4 2007	
Focus Area 4: 33% By 2020			
Task 1: RPS Resource Planning			
Issue long-term procurement plans (2007-2016)	IOUs	Nov 2006	
Process to evaluate and approve LTPP	CPUC	TBD	
Task 2: Study emerging RPS technologies	CPUC	TBD	