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California Energy Commission

STAFF REPORT

Renewables Portfolio Standard Verification Methodology Report

California Energy Commission

Edmund G. Brown Jr., Governor

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California Energy Commission

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ABSTRACT

This *Renewables Portfolio Standard Verification Methodology Report* describes the methods California Energy Commission staff uses 1) to verify the eligibility of renewable energy procured by load-serving entities for each compliance period of California's Renewables Portfolio Standard; and 2) to determine the Portfolio Content Category classification of local publicly owned electric utilities' eligible renewable energy. In addition, this report describes the process Energy Commission staff follows to determine compliance of local publicly owned electric utilities with the Renewables Portfolio Standard. For each compliance period, results from the application of the verification analyses covered in this report will be issued separately for retail sellers and local publicly owned electric utilities. For retail sellers, a final verification report will be transmitted to the California Public Utilities Commission to be used for its compliance and enforcement activities; for local publicly owned electric utilities, verification results for each local publicly owned electric utility will be issued in a separate report.

Keywords: Renewables Portfolio Standard, RPS, Renewable Energy Credits, RECs, renewable attributes, annual procurement target, certification, verification, compliance, generation, local publicly owned electric utilities, POU, historic carryover, Western Renewable Energy Generation Information System, WREGIS, retail sellers

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EXECUTIVE SUMMARY

Established in 2002, California's Renewables Portfolio Standard (RPS) is one of the most ambitious renewable energy policies in the nation. Enacted by Senate Bill 1078 (Sher, Chapter 516, Statutes of 2002) with bipartisan support, and accelerated and expanded by subsequent legislation, California's RPS establishes increasingly progressive renewable energy procurement targets for the state's load-serving entities, requiring both retail sellers and local publicly owned electric utilities to increase their procurement of eligible renewable energy resources to 50 percent of retail sales by 2030.

Originally applicable to retail sellers, the RPS was expanded by Senate Bill X1-2 (Simitian, Chapter 1, Statutes of 2011, First Extraordinary Session) to include local publicly owned electric utilities starting in 2011.

California's RPS is administered by the California Energy Commission (Energy Commission) and the California Public Utilities Commission (CPUC). The Energy Commission is responsible for certifying RPS-eligible renewable energy resources, developing a tracking system to verify renewable energy procurement for all program participants, and overseeing compliance of the local publicly owned electric utilities. The CPUC is responsible for compliance and enforcement for the retail sellers.

As part of its responsibilities, the Energy Commission verifies the eligibility of renewable energy procured by load-serving entities, which include retail sellers, local publicly owned utilities, and all other entities serving retail sales of electricity in California that are obligated to participate in California's RPS, for each compliance period. This report describes the methods that Energy Commission staff uses 1) to verify the eligibility of renewable energy procured by load-serving entities for each RPS compliance period and 2) to determine the portfolio content category classification of local publicly owned electric utilities' eligible renewable energy. In addition, this report describes the process Energy Commission staff intends to follow to determine compliance of local publicly owned electric utilities with the RPS. For each compliance period, results from the application of the verification analyses described in this report will be issued separately for retail sellers and local publicly owned electric utilities. For retail sellers, a final verification report will be transmitted to the CPUC to be used for its compliance and enforcement activities; for local publicly owned electric utilities, verification results for each local publicly owned electric utility will be issued independently.

CHAPTER 1: Introduction

Renewables Portfolio Standard Legislation

Enacted with bipartisan support, California's Renewables Portfolio Standard (RPS) program was established in 2002 by Senate Bill (SB) 1078 (Sher, Chapter 516, Statutes of 2002) with the goal of increasing the percentage of renewable energy in California, and advancing the diversity, reliability, public health, and environmental benefits of the state's energy mix. In addition to requiring retail sellers to procure renewable energy to meet 20 percent of their retail sales by 2017, it required each governing body of a local publicly owned electric utility (POU) to implement and enforce an RPS that recognizes the Legislature's intent to encourage renewable resources.

In 2006, Senate Bill 107 (Simitian and Perata, Chapter 464, Statutes of 2006) advanced the state's RPS target, requiring retail sellers to increase renewable energy purchases by at least 1 percent of retail sales per year with a target of 20 percent renewable energy by 2010. The bill also required POUs to report to the California Energy Commission (Energy Commission) on the status of implementing the POUs' RPS programs and the progress made toward achieving their RPS goals.

In April 2011, Governor Edmund G. Brown Jr. signed Senate Bill X1-2 (SB X1-2) (Simitian, Chapter 1, Statutes of 2011, First Extraordinary Session), which adjusted the RPS target of 20 percent by 2010 to an average of 20 percent for 2011 through 2013; extended the long-term RPS target to 33 percent by 2020; and required the state's POUs to comply with similar RPS procurements requirements as retail sellers starting January 1, 2011. SB X1-2 also gave the Energy Commission and California Air Resources Board (ARB) new oversight responsibilities with respect to POUs. Specifically, it authorized the Energy Commission to adopt regulations specifying RPS enforcement procedures for POUs, including a public process for issuing notices of violation for noncompliance and for referring the violations to the ARB for assessment of penalties.

Most recently, the passage of Senate Bill 350 (De León, Chapter 547, Statutes of 2015) increased the RPS to 50 percent by 2030.

Roles and Responsibilities

The California Energy Commission and the California Public Utilities Commission (CPUC) jointly implement the RPS program.

The Energy Commission's legislatively mandated responsibilities are to:

- Certify eligible renewable energy resources under the RPS.
- Design and implement an accounting system to verify compliance with the RPS by retail sellers and POUs.

- Adopt regulations specifying RPS enforcement procedures for POUs, including a public process under which the Energy Commission is authorized to issue a notice of violation for noncompliance and to refer the violation to the ARB for assessment of penalties.

The Energy Commission's *Renewables Portfolio Standard Eligibility Guidebook* (RPS Eligibility Guidebook) specifies the criteria and process for certifying generating facilities as eligible renewable energy resources for the RPS. The RPS Eligibility Guidebook also includes reporting and verification requirements for all program participants.[1]

To design and implement an accounting system to verify compliance of all program participants, the Energy Commission worked with the Western Governors' Association to develop the Western Renewable Energy Generation Information System (WREGIS).[2] WREGIS is an independent renewable energy tracking system for the region covered by the Western Electricity Coordinating Council (WECC).[3] WREGIS issues and electronically tracks renewable energy credits (RECs, also known as WREGIS Certificates) representing renewable energy generation. Since 2008, the Energy Commission has used WREGIS for RPS reporting and verification. As part of its responsibilities, the Energy Commission verifies renewable electricity procurement for all RPS program participants.

The Energy Commission also determines POUs' compliance with the RPS.[4] The Energy Commission's *Enforcement Procedures for the Renewables Portfolio Standard for Local Publicly Owned Electric Utilities*[5] (RPS POU Regulations) establishes the rules and procedures by which the Energy Commission will assess a POU's procurement actions and determine whether those actions meet the RPS procurement requirements in the law. After the Energy Commission adopts each POU's verification report, it begins the process to determine if POUs are complying with the RPS procurement requirements for the compliance period in accordance with the RPS POU Regulations. An overview of the compliance process can be found in Chapter 5.

Energy Commission staff does not evaluate retail sellers' progress in meeting RPS procurement requirements. The CPUC is responsible for compliance and enforcement of retail sellers. The verification of renewable electricity procurement claims for retail sellers is conducted by the Energy Commission and provided to the CPUC to use in determining retail sellers' compliance with the RPS.

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1 California Energy Commission, *Renewables Portfolio Standard Eligibility Guidebook*, *Eighth Edition*. June 2015. http://www.energy.ca.gov/renewables/documents/index.html#rps.

2 More information about WREGIS can be found at https://www.wecc.biz/WREGIS/Pages/Default.aspx.

3 The Western Electricity Coordinating Council is the regional entity responsible for coordinating and promoting bulk electric system reliability in the Western Interconnection. https://www.wecc.biz/Pages/home.aspx.

4 Pub. Util. Code § 399.30, subd. (o) and (p).

5 The *Enforcement Procedures for the Renewables Portfolio Standard for Local Publicly Owned Electric Utilities. April 2016.* http://www.energy.ca.gov/portfolio/pou_rulemaking/index.html. These regulations are set forth in 20 CCR §§ 1240 and 3200 – 3208.

Verification Process Overview

This *Renewables Portfolio Standard Verification Methodology Report* describes the methods Energy Commission staff uses to:

- Verify the RPS eligibility of the renewable energy facilities from which each reporting load-serving entity (LSE)[6] is claiming procurement.
- Verify, to the extent possible, that the amount of renewable electricity procurement claimed does not exceed the amount of renewable electricity generated by each eligible facility.
- Determine the amount of renewable electricity that may be attributed to multifuel facilities, including facilities using biomethane.
- Verify, to the extent possible, that procurement exclusively serves California's RPS and is not double-counted toward another renewable energy regulatory or market program.
- Identify eligible, ineligible, and withdrawn procurement claims for each LSE to provide the total amount of eligible procurement for each LSE.
- Determine the Portfolio Content Categories of each POU's eligible procurement claims.
- Provide the procurement requirement calculations for POUs.

In addition, this report discusses the use of the Energy Commission's Interim Tracking System (ITS), established before the development of WREGIS. WREGIS is now used to track renewable energy procurement in 14 western states, two Canadian provinces, and northern Baja California in Mexico.

6 For purposes of this report, "load-serving entity" includes both retail sellers and POUs.

CHAPTER 2:
Eligibility Verification Methods

This chapter describes the methods used to verify the eligibility of RPS claims reported annually by LSEs. The methods used in the verification of RPS claim eligibility can be grouped into three main verification processes: analyses of facility eligibility, generation eligibility, and claim eligibility. The facility eligibility verification process determines whether the RPS claim is based on generation from an RPS-certified facility. The generation eligibility verification process determines how much of the total generation of the facility is eligible to be claimed for the RPS. The last process, claim eligibility analysis, verifies that there is sufficient RPS-eligible generation from each facility to cover the RPS claims, and that the RPS claims are not being double-counted by other LSEs or in another program. These processes, and the methods used in each, are discussed in this chapter. The Energy Commission works closely with LSEs throughout the verification process to keep them informed of issues with their procurement claims and resolve the issues, if possible.

Starting in 2017, the Energy Commission will use the RPS Online System for RPS certification and verification reporting and analysis. Energy Commission staff, LSEs, and RPS-certified facilities will use the RPS Online System for data submittal and analysis.

Sources of Renewables Portfolio Standard Claims Data

For this report, the terms "renewable energy procurement claim," "RPS procurement claim," "RPS claim," and "procurement claim" refer to the amount of electricity or electricity products[7] a LSE claims it procured from a specific RPS-certified generation facility for the RPS. All LSEs must report their renewable electricity procurement claims to the Energy Commission so that the eligibility of the procurement claims can be verified. As of January 1, 2014, all procurement claims must be reported to the Energy Commission using WREGIS with the exception of claims that meet the requirements specified in the RPS Eligibility Guidebook to be reported directly to the Energy Commission as WREGIS Adjustments.

Western Renewable Energy Generation Information System (WREGIS)

As of 2011, the RPS program[8] requires LSEs to use the WREGIS tracking system to report procurement claims, if the electricity generation is tracked in WREGIS. WREGIS electronically tracks renewable energy credits (RECs), which represent renewable energy generation. For each megawatt-hour (MWh) of electricity generated and reported, WREGIS creates a unique electronic certificate (WREGIS Certificate, also known as a REC). WREGIS functions much like a banking system, with certificates initially deposited into the "active subaccount" of a generator.

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7 "Electricity product" means either electricity and the associated renewable energy credit generated by an eligible renewable energy resource or an unbundled renewable energy credit.

8 See *Renewables Portfolio Standard Eligibility Guidebook, Seventh Edition.* Section V.B.5.b: RPS Reporting for POUs (p. 90) http://www.energy.ca.gov/2013publications/CEC-300-2013-005/CEC-300-2013-005-ED7-CMF-REV.pdf.

Generators can transfer certificates between accounts, but the certificates can reside in only one account at any given time, thereby preventing possible double-counting of renewable energy generation as long as the certificates continue to be tracked in WREGIS.

Renewable generators, LSEs, and third parties from the western United States, western Canada, and parts of northern Mexico may participate in WREGIS. As a regional system, WREGIS is designed to verify that reported generation is counted only once in the geographic area covered by the WECC.

LSEs must authorize WREGIS to submit California RPS state/provincial/voluntary compliance reports (WREGIS reports) on their behalf to the Energy Commission. The WREGIS reports provide RPS claims data by month, listed by RPS-certified facility and fuel type that were assigned to a retirement subaccount specific to California's RPS, the reporting year, and for POUs, the portfolio content category for which the RECs are being claimed.[9]

Interim Tracking System

LSEs were allowed to report 2011 through 2013 generation not tracked in WREGIS using the Interim Tracking System (ITS) in specific circumstances for reporting test energy that was not tracked in WREGIS, correcting for prior period adjustments, and an extension of the deadline for POUs to use the WREGIS.[10] The ITS reporting form contains the same data as the WREGIS report; however, LSEs self-reported the data in the ITS as opposed to having the data metered and tracked in the WREGIS system. The Energy Commission has phased out the ITS reporting option and now requires RPS-eligible facilities to track their generation in WREGIS. As of January 1, 2014, LSEs must report all procurement claims through WREGIS.

Claim Corrections

LSEs may "withdraw" an RPS claim from the total procurement amount being claimed if it is determined to be ineligible during the verification process. If the claim was reported using the ITS, an LSE is allowed to submit a revised form to remove the ineligible claim. If the claim was reported using WREGIS, an LSE can "unretire" WREGIS certificates within 12 months of when the certificates were retired and submit a revised WREGIS report to the Energy Commission. In cases in which a RPS claim is determined to be ineligible but cannot be unretired through WREGIS and removed from the WREGIS report, the LSE is given the option to "withdraw" the claim from its total RPS procurement claims. Withdrawn claims are taken out of the verification process and are not counted toward the LSE's verified total RPS-eligible procurement amount.

When adjustments need to be made, WREGIS corrects for over- and under-allocation of RECs by adjusting the REC creation amount in future months or years. When WREGIS withholds creation of RECs to adjust for a past error, LSEs can request that the Energy Commission credit the

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9 LSEs are required to use the naming conventions for WREGIS retirement subaccounts specified in the *Renewables Portfolio Standard Eligibility Guidebook, Eighth Edition.* See Section VI.A.2: WREGIS Retirement Accounts (p. 62-63) http://www.energy.ca.gov/2015publications/CEC-300-2015-001/CEC-300-2015-001-ED8-CMF.pdf.

10 See *Renewables Portfolio Standard Eligibility Guidebook, Eighth Edition.* Section VI.A: Reporting Procurement Claims (p. 61) http://www.energy.ca.gov/2015publications/CEC-300-2015-001/CEC-300-2015-001-ED8-CMF.pdf.

withdrawn RECs in the actual generation year to avoid discounting the LSE twice. Moreover, an LSE may withdraw ineligible RECs retired in WREGIS for the year they are ineligible, and claim the RECs in the actual generation year. As a result, there may be instances when procurement claims in an LSE's WREGIS report differ from Energy Commission-verified data. In this way, although different from the WREGIS data, the Energy Commission is able to provide a more accurate reporting of the amount of generation procured by LSEs for RPS purposes.

Facility Eligibility Analysis

The first step in the Energy Commission's verification process is to determine if RPS claims are based on generation from RPS-certified generating facilities. The Energy Commission certifies generating facilities that meet the eligibility criteria specified in the RPS Eligibility Guidebook. To be RPS-certified, a facility must use an eligible renewable resource or fuel, satisfy resource-specific criteria, and be either located within the state or satisfy applicable requirements for out-of-state and out-of-country facilities.

Typically, a facility receives an RPS eligibility date based on when the respective application is submitted to the Energy Commission for precertification or certification.[11] The RPS eligibility date is the earliest month that generation from the facility is considered RPS-eligible. Procurement claims from the facility for generation prior to the month of the RPS eligibility date are ineligible for the RPS. A facility, or an authorized representative of a facility, may submit a request to the Energy Commission's Executive Director for an extension to the certification application deadline, which may allow the facility to have an earlier eligibility date if the extension is granted.[12]

During the verification, staff will mark RPS claims of generation that occurred before the eligibility date of a facility as ineligible and will notify the LSE. From 2011 through 2013, POUs were able to claim procurement from a facility prior to the RPS eligibility date if that date was December 31, 2013, or earlier. This provision was included in the RPS Eligibility Guidebook so that POUs and the facilities serving the POUs had time to register in WREGIS and apply for RPS certification, as they were brought into the statewide RPS program in 2011.[13]

Generation Eligibility Analysis

Energy Commission staff calculates the amount of generation that is RPS-eligible for facilities that use both renewable and nonrenewable fuel(s), including those using biomethane. If the generation of a facility was not tracked in WREGIS for any point during the calendar year, Energy Commission staff verifies the total RPS-eligible generation for that year.

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11 The eligibility date is the date the Energy Commission deems the first application for a facility received. Generation is typically eligible back to the month containing this date. Refer to the current *Renewables Portfolio Standard Eligibility Guidebook* for additional information.

12 See Section VII. D. 3. Extensions of Certification Application Deadline in the *Renewables Portfolio Standard Eligibility Guidebook, Eighth Edition.* http://www.energy.ca.gov/2015publications/CEC-300-2015-001/CEC-300-2015-001-ED8-CMF.pdf.

13 See Section IV. B. 3. c. Grace Period Exception for Facilities Serving Local Publicly Owned Electric Utilities in the *Renewables Portfolio Standard Eligibility Guidebook, Seventh Edition* (p. 78-79) http://www.energy.ca.gov/2013publications/CEC-300-2013-005/CEC-300-2013-005-ED7-CMF-REV.pdf.

Sources of Generation Data

The Energy Commission collects and reviews generation data for RPS-certified facilities from various sources as part of the verification process. RPS-certified facilities that use a nonrenewable fuel or report monthly generation amounts outside WREGIS must submit data annually. These data are due to the Energy Commission by April 1 (or the next business day) each year.

In addition, Energy Commission staff collects generation data from the U.S. Energy Information Administration's (EIA) website. The EIA website provides annual generation information for generation facilities with a capacity greater than 1 megawatt (MW).[14] Staff uses these generation data in its multifuel process and overclaim analysis, as explained in later sections.

The generation and fuel use data reported are compared with the EIA data to ensure accuracy. If the generation and fuel use data reported varies from the EIA data by more than 5 percent, staff requests an explanation from the facility owner. Explanations may include, but are not limited to, unit conversion errors, missing periods of reporting in the EIA data, EIA data that included on-site load, and estimated generation and fuel use amounts being reported to the EIA. As a result of this comparison, facilities may submit revised information to correct any reporting errors.

Multifuel Analysis

RPS-certified multifuel facilities using nonrenewable energy resources to generate electricity may count 100 percent of the electricity generated as RPS-eligible if it satisfies certain provisions of the RPS Eligibility Guidebook. The amount of RPS-eligible generation for each multifuel facility is determined by calculating the percentage of nonrenewable fuel used, and determining if it is equal to or below the de minimis,[15] which is 2 percent nonrenewable fuel, or allowable nonrenewable fuel use percentage,[16] which is either 5 percent or 25 percent nonrenewable fuel depending on the facility's RPS certification.

When staff identifies procurement claims as exceeding the de minimis or allowable nonrenewable fuel usage, it notifies the facility owners and provides them with the multifuel data analysis to illustrate the issue. If the facility owners dispute the results, additional documentation will be requested and considered. If, after further analysis, the procurement claims still exceed the de minimis or allowable nonrenewable fuel usage, staff will determine those procurement claims ineligible.

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14 Annual generation data from the U.S. EIA can be downloaded from www.eia.doe.gov/cneaf/electricity/page/eia906_920.html.

15 See Section III. B. 2. De Minimis Quantity of Nonrenewable Energy Resources in the *Renewables Portfolio Standard Eligibility Guidebook, Eighth Edition*. http://www.energy.ca.gov/2015publications/CEC-300-2015-001/CEC-300-2015-001-ED8-CMF.pdf.

16 See Section III. B. 3. Other Nonrenewable Energy Resource Allowances in the *Renewables Portfolio Standard Eligibility Guidebook, Eighth Edition*. http://www.energy.ca.gov/2015publications/CEC-300-2015-001/CEC-300-2015-001-ED8-CMF.pdf.

Biomethane Analysis

Energy Commission staff uses an additional verification process to verify procurement claims from facilities using biomethane delivered through the natural gas transportation pipeline system.[17] A description of the biomethane analysis is below.

Verification Requirements for Biomethane Claims

As of March 2007, the RPS Eligibility Guidebook established the following requirements for the use of biomethane delivered through the natural gas pipeline system:

1. The gas must be produced from an RPS-eligible resource, such as biomass or digester gas.
2. The gas must be injected into a natural gas pipeline system that is either within the WECC region or interconnected to a natural gas pipeline system in the WECC region that delivers gas into California.
3. The energy content of the gas produced and supplied to the transportation pipeline system must be measured monthly and reported annually, illustrated by month. Reporting shall be in units of energy (for example, 1 million British thermal units [MMBtu]), based on metering of gas volume and adjusted for measured heat content per volume of each gas. In addition, the total amount of gas used at the RPS-eligible facility must be reported in the same units measured over the same period, and the electricity production must be reported in MWh.
4. The gas must be used at a facility that has been certified RPS-eligible. As part of the application for certification, the applicant must attest that the RPS-eligible gas will be nominated to that facility or nominated to the LSE-owned pipeline serving the designated facility.

In the RPS verification, Energy Commission staff calculates the RPS-eligible energy produced from biomethane using the requirements listed above.

The RPS Eligibility Guidebook requires that the RPS-certified facility, or the biomethane supplier, enter into contracts for the delivery or storage of the biomethane gas with every pipeline or storage facility operator transporting or storing the gas from the injection point to California (or to the RPS-certified facility if the RPS-certified facility is located outside California). This reporting prevents nonrenewable natural gas from being counted as RPS-eligible.

Program participants claiming generation from biomethane facilities must provide the Energy Commission with both physical and contractual verification data. The physical verification data includes the amount and pipeline quality of gas that comes from the biomethane source. The contractual verification data include invoices for the injected biomethane and documentation establishing the physical path for biomethane delivery. Staff confirms that the biomethane used

17 For this report, "biomethane" or "pipeline biomethane" refers to biogas that has been upgraded or otherwise conditioned to meet the gas quality standard applicable to the natural gas transportation pipeline system and is delivered to the generating facility using the natural gas transportation pipeline system in accordance with the RPS Eligibility Guidebook.

at an RPS-certified facility meets RPS Eligibility Guidebook requirements by requesting, as applicable, the following information from the RPS-certified facility or the LSE claiming the procurement of generation from the facility:

1. The pipeline delivery path of the biomethane from the gas source to the RPS-certified facility supported by pipeline network maps, nomination reports with a description of the pipeline path, and other supporting documents.
2. Copies of delivery and storage contracts for each pipeline section of the delivery path, as well as the contract for the purchase of the biomethane.
3. Monthly energy content and volume meter data for the gas injected in the pipeline at the source as well as for the gas taken from the pipeline at the generating facility. Invoices cannot be substituted for meter data.
4. Invoices for the purchases of biomethane.
5. If the biomethane was stored for later use at the facility, contracts for storage with the pipeline operators and monthly storage statements for this gas.

Verification Process for Biomethane Claims

Energy Commission staff works closely with LSEs on analyzing procurement claims of biomethane-based generation. Staff analyzes all biomethane amounts on an energy basis of MMBtu and all electrical generation in units of MWh.

Energy Commission staff reviews gas delivery contracts to verify the contracted delivery requirement is met. This analysis is conducted to confirm that only the biomethane fuel that was purchased, delivered, and used by the RPS-certified facility is eligible for the RPS. Staff also examines the monthly invoices of the RPS-certified facility to ensure the purchaser of the biomethane.

Next, staff analyzes the physical verification data by comparing the biomethane fuel purchase invoices, pipeline injection reports, and pipeline nomination reports showing delivery amounts on a monthly basis. The lesser value for each month from these three sources is taken as the verifiable biomethane fuel amount for the month. Only the lesser of the injected, delivered, or invoiced amounts on a monthly basis is accepted to ensure that no nonrenewable fuel is inadvertently counted as RPS-eligible.

After determining the total RPS-eligible amount of biomethane delivered to the RPS facility for the year or the contracted time frame (based on the monthly analysis described above), the data can be compared to the total amount of fuel used at the facility to determine the ratio of renewable fuel used at the facility during the specified period. The ratio of the total RPS-eligible amount of biomethane for the year and the total amount of fuel consumed at the RPS-certified facility for the same year is multiplied by the total electrical output of the RPS-certified facility for the same year to derive the total amount of RPS-eligible generation produced that year, as shown in the following equation:

$$RPS\ Eligible\ Generation = \frac{RPS\ Eligible\ Biomethane\ (MMBtu)}{Total\ Fuel\ Use\ At\ RPS\ Certified\ Facility\ (MMBtu)} \times Total\ Generation\ (MWh)$$

Only the generation that corresponds to the eligible renewable fuel used at the facility is counted as RPS-eligible. Using monthly RPS claims helps account for any WREGIS REC creation issues in which the number of RECs created in one month could be lower than the amount of verified RPS-eligible gas that was delivered to the RPS-certified facility in that same month. Such accounting adjustments may occur in WREGIS, and the lower amount is later adjusted in a subsequent WREGIS REC creation cycle, resulting in REC amounts that may not mirror the monthly biomethane delivered amounts. However, requiring RPS claims to match the amount of RPS-eligible gas amount delivered in a particular month is not necessary as long as the total RPS-eligible biomethane amount does not exceed the amount of verified RPS-eligible biomethane delivered to the facility in a particular year or contracted time frame.

Claim Eligibility Analysis

The claim eligibility analysis is used to determine if there is sufficient RPS-eligible generation from each facility to cover the RPS claims from that facility, and that the RPS claims are not being double-counted. Energy Commission staff coordinates with energy agencies in other states and the voluntary REC market to help ensure against double-counting. Energy Commission staff will primarily use the RPS Online System for the claim eligibility analysis beginning in 2017.

Overclaim Analysis

Staff performs an overclaim analysis to ensure that LSEs are not claiming more procurement from a facility in a given year than the facility generates in that year. This analysis is particularly important for facilities that self-report generation data, although staff has and may continue to perform an overclaim analysis on facilities that are tracked in WREGIS.

Depending on the type of facility generation data available, the Energy Commission will conduct one of two analyses to determine possible overclaims. If a facility submits generation data to the Energy Commission, this information is used to compare eligible generation from the facility for that year with the total procurement claims being made by LSEs for that vintage year from the facility. If the claims exceed generation for a given year, supporting information is requested. Overclaim issues may be resolved after the review of meter data and invoices if the meter data and invoices show a total annual generation amount equal or greater to the total claim.

If a facility is not required to submit generation data to the Energy Commission, staff may perform an overclaim analysis for the facility using annual generation data from an external source, such as the EIA. However, an overclaim analysis is not critical, since the generation of a facility is metered and tracked in WREGIS, with WREGIS ensuring no RECs are double-counted or over-allocated. Although LSEs report procurement claim data through WREGIS, staff may request supporting documentation from the LSE if the claims exceed generation by a nontrivial amount. These differences may occur for reasons such as rounding errors when comparing data sources that use different energy units (for example, MWh versus kWh). Staff reviews supporting documentation, such as invoices or meter data. If there is sufficient supporting documentation, the claim is deemed eligible.

Public Utilities Code Section 399.21 (a)(7) allows LSEs to retire RECs up to 36 months after the RECS are generated, which means LSEs may retire RECs in years other than the vintage year. The overclaim analysis is more complicated now than during the pre-2011 RPS program because RECs generated in the same year from the same facility may be retired in different reporting years.[18] Staff addresses this issue by compiling claims based on the vintage year of the REC instead of the year that it was reported. This approach can only take into account RECs reported during the current and previous compliance periods, as there may be RECs that were generated in a previous or current compliance period that will not be reported until a future year. Energy Commission staff will continue to recalculate the overclaim analysis in the future as additional RECs are reported and will update the verification results if issues are found with claims reported as RPS-eligible.

Claim Vintage Analysis

Section 3202 (c) of the RPS POU Regulations states, "A POU may not use a REC associated with electricity products to meet its RPS procurement requirements unless it is retired within 36 months from the initial month of the generation of the associated electricity."

The "initial month of generation" is the vintage month, as reported in WREGIS. Staff determined the retirement date either by the Action Date[19] in WREGIS or, for RECs reported in the ITS, the date when the REC was first reported to the Energy Commission. To ensure expired RECs (which exceed the 36-month retirement requirements) are not counted by POUs, Energy Commission staff verifies the number of months from the initial month of generation, beginning with the first month following the vintage month, to the month in which the REC was retired. For example, a REC generated in January 2011 must have been retired no later than January 31, 2014. In situations where a REC is retired, subsequently unretired, and then retired again, staff will use the first retirement date.

POU procurement claims that are based on RECs retired more than 36 months after the month of the associated electricity generation are ineligible for the RPS. The CPUC conducts this analysis for retail sellers.

Double-Counting Analysis

Energy Commission staff works to ensure the environmental attributes associated with renewable electricity generated and claimed as part of the state's RPS are not double-counted toward other state RPS programs or used in the voluntary REC market.

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18 "Reporting year" refers to a particular year within a compliance period for which the annual generation has already occurred and for which the RECs are being retired and used for RPS compliance. The reporting year is the year for which the retired RECs are reported and, on an annual basis, should typically represent the calendar year preceding the reporting due date. Retail sellers reported 2011and 2012 claims in August 2013 and 2013 RPS claims in July 2014.

19 "Action Date" refers to the date that a REC is retired within WREGIS.

Coordinating With Other State Programs

The Energy Commission collaborates with the other States within the WECC to confirm RECs are not double-counted. The claims for California's RPS program that are tracked and reported through WREGIS are not double-counted in other States' RPS programs which also require the use of WREGIS to track RPS data. For claims reported outside WREGIS, Energy Commission staff provides a list of the ITS claims to the other States' RPS program staff.

Coordinating With the Voluntary Renewable Energy Credit Market

Energy Commission staff coordinates with Green-e Energy[20] (Green-e), a voluntary REC retail market, to verify that RPS claims are not being counted in the voluntary REC market.

Green-e staff provides a list of all generating facilities in the Western Electricity Coordinating Council that participate in the Green-e program. The list provides information on facilities that are certified by Green-e, including facility location, fuel type, nameplate capacity, and, if available, EIA ID or qualifying facility (QF) ID number.

Energy Commission staff uses the list of Green-e-certified facilities to determine which facilities are also RPS-certified. Once staff identifies facilities as both Green-e- and RPS-certified, staff identifies if these facilities have RPS claims reported for the verification period. Staff determines the total procurement claim amount of these facilities and then compares this with the total generation, which is either reported to the Energy Commission or acquired from the EIA. The percentage difference between the generation amount and the total procurement claim amount is calculated for each facility. If the result shows that the total claim for the facility is more than the generation amount by 5 percent or more, the facility has an overclaim.

Because the transaction data for Green-e are confidential, Energy Commission staff provides a table listing of all identified overclaims for Green-e staff's review. Green-e then notifies the Energy Commission of instances where the purchasing entity that acquired the Green-e-certified generation is the same entity claiming the generation for the RPS. For these claims, the Green-e-certified claim is no longer included in the total procurement calculation for the RPS, and the overclaims are resolved.

After this analysis, if there are facilities that have an overclaim issue, Energy Commission staff contacts the utility representatives to obtain documentation confirming that the LSE purchased their claimed RECs. The documentation from each LSE is reviewed and compared to the RPS procurement claims. If the documentation shows that the LSE procured the generation, then the overclaim is resolved. Staff shares the results of this analysis with Green-e to confirm that the data resolve the issues for them as well.

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20 Green-e Energy, a program of the Center for Resource Solutions, is an independent consumer protection program for the sale of renewable energy in the voluntary retail market; see www.green-e.org. Green-e Energy does not require the use of WREGIS.

Finalizing Verified Data

For both retail sellers and POUs, draft preliminary tables with verification eligibility results for each compliance period are posted on the Energy Commission website for public comment. Comments received on the draft tables are considered and incorporated as appropriate.

For retail sellers, the Energy Commission completes a "verification report" of the RPS eligibility results of all retail sellers' procurement claims. This report is adopted by the Energy Commission and transmitted to the CPUC for use in its RPS compliance process.

For POUs only, procurement claims verified as RPS-eligible are analyzed to determine if the claims meet the requirements of the portfolio content categories for which they were claimed, in accordance with the process in Chapter 3. The Energy Commission will adopt a verification report for each POU, containing the results of the POU's RPS-eligibility and portfolio content category analyses, procurement requirement calculations, and a determination if the POU met their RPS procurement requirements.

CHAPTER 3:
Portfolio Content Category Classification

In addition to meeting the RPS procurement targets, Public Utilities Code Sections 399.16 and 399.30 (c)(3) require that POUs procure a "balanced portfolio of eligible renewable energy resources" consistent with three portfolio content categories, as described below and further defined in Section 3203 of the RPS POU Regulations. To ensure that a balanced portfolio is achieved, POUs must comply with the portfolio balance requirements, which set minimum and maximum levels of electricity products for specific portfolio content categories.

The Energy Commission verifies that procurement of electricity products is classified into the correct portfolio content category, when applicable, to calculate whether POUs have met the portfolio balance requirements.

This chapter provides an overview of the portfolio content categories for procurement claims and the specific verification methods used by the Energy Commission to verify the classification of procurement claims into either a portfolio content category or as "count in full."

Definition of Categories

The RPS statute and Section 3202 of the RPS POU Regulations draw a distinction between procurement contracts and ownership agreements for the procurement of electricity products executed before June 1, 2010, and contracts and ownership agreements executed on or after this date. POUs are required to procure electricity products for the RPS under one of two conditions:

> 1) They were procured under contracts or ownership agreements executed before June 1, 2010, and satisfy the conditions of Public Utilities Code Section 399.16(d) (referred to as "count-in-full procurement") in accordance with Section 3202(a)(2) of the RPS POU Regulations.
>
> 2) They were procured under contracts or ownership agreements executed on or after June 1, 2010, and satisfy one of the three portfolio content categories specified in Public Utilities Code Section 399.16(b) in accordance with Section 3202(a)(1) of the RPS POU Regulations.

The three portfolio content categories are:

1. **Portfolio Content Category 1 (PCC 1 or Category 1)**

   PCC 1 RECs must be procured bundled[21] from a facility that has its first point of interconnection with a California Balancing Authority (CBA), a distribution facility used

21 "Bundled" is defined by section 3201 of the RPS POU Regulations as an electricity product that includes both the electricity and the associated renewable energy credits from an eligible renewable energy resource.

to serve end users within a CBA, or the electricity product must be scheduled into a CBA on an hourly or subhourly basis without substituting electricity from another source in accordance with Section 3203(a) of the RPS POU Regulations.

2. **Portfolio Content Category 2 (PCC 2 or Category 2)**
   PCC 2 RECs must be procured bundled and scheduled into a CBA, and firmed and shaped with incremental electricity in accordance with Section 3203(b) of the RPS POU Regulations.

3. **Portfolio Content Category 3 (PCC 3 or Category 3)**
   PCC 3 RECs are all electricity products that do not meet the criteria of PCC 1 or PCC 2, including the procurement of unbundled RECs, in accordance with Section 3203(c) of the RPS POU Regulations.

The electricity products procured under contracts or ownership agreements executed after June 1, 2010, must be classified in the appropriate PCC in accordance with Section 3202(a)(1) of the RPS POU Regulations.

Count in Full

Electricity products procured under contracts or ownership agreements executed before June 1, 2010 from a facility that met the RPS Eligibility Guidebook requirements in place at that time to be RPS-certified, in accordance with Section 3202 (a)(2) of the RPS POU Regulations, are considered "count in full" and are not included in the calculation of the portfolio balance requirements. For electricity products generated by a facility that is not interconnected to a CBA to qualify as "count in full," the electricity product must have been procured bundled, and the procurement contract must have included delivery terms. Electricity products qualifying as "count in full" are categorized as PCC 0 when retired in WREGIS, to distinguish them from PCC 1, 2, or 3.

Other Pre-June 2010 RECs

Electricity products procured under contracts or ownership agreements executed before June 1, 2010 from a facility that did not meet the RPS Eligibility Guidebook requirements in place at that point in time to be RPS-certified are still classified into the portfolio content categories, but are not included in the calculation of the portfolio balance requirements. Electricity products qualifying as either pre-June 2010 PCC 1 or pre-June 2010 PCC 3 are classified as either PCC 1 or PCC 3 when retired in WREGIS and are labeled during the verification as "pre-June 2010" based on the associated contract's execution date.

Historic Carryover

Under SB X1-2, a POU that administered its own RPS program and exceeded its own RPS procurement targets in place before January 1, 2011, was able to claim renewable electricity procurement that exceeded its RPS procurement targets and apply it toward the current statewide RPS program for subsequent years as "historic carryover procurement."

In accordance with Section 3206 (a)(5) of the RPS POU Regulations, a POU that procured electricity from qualifying renewable energy resources from January 1, 2004, through December, 31, 2010, that was in excess of its 2004-2010 RPS procurement targets may apply that excess amount to its procurement requirements in any future compliance period. While this historic carryover procurement may count toward a POU's RPS procurement target under SB X1-2, the historic carryover procurement is not categorized into a portfolio content category and does not count toward the portfolio balance requirements.

Publicly Owned Utilities Exempt from Portfolio Content Categories

The Energy Commission recognizes that POUs that serve customers that are located within California, but not interconnected to a CBA, are uniquely situated and entitled to different treatment. It is impractical for these POUs, when procuring electricity from eligible renewable energy resources located within their balancing authority to satisfy customer load, to comply with the portfolio balance requirements. Doing so would require these utilities to schedule procured electricity from within their balancing authority area away from their own customer load to meet the RPS procurement requirements. Therefore, POUs that are not interconnected to a CBA do not classify their procurement of electricity products into the portfolio content categories; instead, they categorize them as either "count in full," bundled, or unbundled.

As of 2016, there are two POUs that are interconnected to a balancing authority outside California: The City of Needles and Truckee Donner Public Utility District, and one POU that is not interconnected to any balancing authority: Kirkwood Meadows Public Utility District.

Contract Analysis

POUs are required to submit documentation of electricity product procurement contracts and ownership agreements, including master agreements and amendments that may be relevant, for all RPS claims. Staff reviews this documentation to ensure that any electricity products procured are correctly classified into a PCC or as "count in full" based on:

1. Contract or ownership execution date.
2. Contract or ownership agreement amendment execution date, when applicable.
3. Contract or ownership agreement end date.
4. Scheduling and delivery terms, when applicable.
5. Whether electricity products were procured as a bundled product.

PCC 1 and PCC 2 Verification of Scheduled Delivery for Facilities Not Interconnected to a CBA

For procurement claims of PCC 1 and PCC 2 electricity products from RPS-certified facilities not interconnected to a CBA, staff verifies that procurement satisfies the scheduling requirements under the RPS POU Regulations.

To demonstrate that an electricity product procured from a facility that is not interconnected to a CBA meets the requirements for PCC 1 or PCC 2, the POU is required to submit e-Tag data. There are two processes for submitting e-Tag data for the verification of scheduled claims, one

that is used when e-Tags are tracked in WREGIS and another that is used when e-Tags are not available in WREGIS. The first of these processes is reporting e-Tag data through WREGIS on the CA e-Tag Report.[22] The CA e-Tag Report pulls data from e-Tags that are imported into WREGIS, which contain information used to verify the scheduling requirement. The second process is used only when e-Tags are not available in WREGIS.[23] The POU must report to the Energy Commission the data contained on the e-Tag, which includes the same information as reported in the CA e-Tag Report such as the start and stop date, the generator (source point), point of delivery (load or sink point), the total MWh on the e-Tag, as well as the amount matched to the specified RPS ID or WREGIS certificate serial number.

Energy Commission staff analyzes the e-Tag information provided to ensure that the source or "point of receipt" was located outside a CBA and within the WECC; the final sink/load center or "point of delivery" was located in a CBA; the amount of electricity scheduled was sufficient to cover the RPS claim amount for the entire year; and the scheduled amount of electricity on the e-Tag is not contributed to another POU.

Energy Commission staff will request POUs to provide randomly selected e-Tags as a way to audit the e-Tag information provided. Through this process, if staff identifies reporting issues such as identical e-Tags listed more than once, or duplicate e-Tags reported with the same "Total MWh" and "Used MWh," staff will work with POUs to resolve the issues though e-Tag form corrections and the submittal of additional e-Tags.

Hourly Analysis for PCC 1 Claims

For procurement claims of PCC 1 electricity products from facilities not interconnected to a CBA, the generation must be scheduled into a CBA within the hour. To demonstrate that this requirement was satisfied, POUs are required to submit the hourly meter data and hourly scheduled amount for each hour that is claimed as PCC 1procurment, in addition to the CA e-Tag Report. The amount eligible for PCC 1 is calculated by taking the lesser amount of the hourly meter or schedule amount. The eligible hourly PCC 1 amounts are then summed for the entire calendar year, and compared with the POU's total PCC 1 procurement claims from the same facility and vintage year. If the procurement claims are equal to or less than the eligible PCC 1 amount, the entire claim may qualify as PCC 1. However, if the procurement claim exceeds the eligible PCC 1 amount, then the procurement claim amount in excess of the eligible PCC 1 amount will be reclassified as either PCC 2 or PCC 3.

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22 WREGIS updated its "Matched e-Tag Summary Report" to a format designed by Energy Commission staff. The new CA e-Tag Report became available on October 26, 2015, and is the new required report for submitting e-Tag data from WREGIS.

23 WREGIS provides information to verify scheduled delivery of energy into a CBA from out-of-state facilities. This service, which uses data from e-Tags to report scheduling information, became available in WREGIS in early 2009. However, WREGIS stakeholders identified a technical issue that precludes POUs from accessing the e-Tag in WREGIS if third-party importers schedule delivery into a CBA. Since these technical issues are beyond the control of the POU, Energy Commission staff allow submission of e-Tag information using an alternative method. For additional information, refer to the *Renewables Portfolio Standard Eligibility Guidebook, Seventh Edition* p. 64-65, http://www.energy.ca.gov/2013publications/CEC-300-2013-005/CEC-300-2013-005-ED7-CMF-REV.pdf.

E-Tag Analysis for PCC 2 Claims

To verify that a sufficient amount of electricity scheduled into a CBA was matched with the PCC 2 procurement claims using the submitted data, Energy Commission staff sums the total annual amount of e-Tag MWh used as reported for each POU, and then compare that amount to the total annual PCC 2 procurement claim reported by each POU. This analysis ensures that a sufficient amount of scheduled substitute electricity was matched with the POU's PCC 2 procurement claims.

Finalizing Verified Classification Results

After Energy Commission staff have completed their verification of portfolio content category classifications, they will share the preliminary results with the respective POU for review and comment. Staff considers and incorporates comments received on the draft tables as appropriate and allows POUs to submit additional supporting documentation, as needed. Any remaining issues with the PCC classifications are included in the POU's verification results for that compliance period and will be considered by the Energy Commission at a business meeting.

CHAPTER 4:
Procurement Requirement Calculations

The RPS includes two major requirements that each POU must meet for each compliance period: the RPS procurement target and the portfolio balance requirement.

This chapter describes the method used to determine the two RPS procurement requirements for POUs for each compliance period. This chapter also lists special exemptions to the procurement requirements for qualifying POUs, the verification process for retail sales, the calculation of excess procurement, and a process for the withdrawal of surplus RECs.

Procurement Target

Public Utilities Code Section 399.30 requires POUs to procure a minimum quantity of eligible renewable energy resources for multiyear compliance periods. The method for calculating the RPS procurement targets through 2020 are defined in Section 3204 (a) of the RPS POU Regulations.

The procurement target is calculated in whole MWhs by multiplying annual retail sales by the annual soft target, rounded down to the closest MWh, and then summed with all other years of the compliance period. The soft target is the amount equivalent to the percentage of retail sales for a single year within a compliance period that is used to calculate the RPS procurement target for that compliance period. For example, the soft target for 2014 is equal to 20 percent of retail sales for that year.

Table 1: Procurement Target Calculations by Compliance Period

Compliance Period	Procurement Target
Compliance Period 1 (2011-2013)	2011 retail sales * 20% + 2012 retail sales * 20% + 2013 retail sales * 20%
Compliance Period 2 (2014-2016)	2014 retail sales * 20% + 2015 retail sales * 20% + 2016 retail sales * 25%
Compliance Period 3 (2017-2020)	2017 retail sales * 27% + 2018 retail sales * 29% + 2019 retail sales * 31% + 2020 retail sales * 33%

Source: The *Enforcement Procedures for the Renewables Portfolio Standard for Local Publicly Owned Electric Utilities. April 2016.* http://www.energy.ca.gov/portfolio/pou_rulemaking/index.html. Also refer to 20 CCR § 3204 (a)(1)-(3).

Portfolio Balance Requirements

The portfolio balance requirements are the minimum and maximum percentages that POUs are required to meet when procuring electricity products through contracts or ownership agreements executed on or after June 1, 2010, to apply toward the RPS procurement requirements, as provided in Public Utilities Code Section 399.16 (c).

Public Utilities Code Section 399.16 (c)(1)-(2) specifies the following portfolio balance requirements for PCC 1 and PCC 3:

Table 2: Portfolio Balance Requirements for PCC 1 and PCC 3 by Compliance Period

Compliance Period	PCC 1 Minimum	PCC 3 Maximum
Compliance Period 1 (2011-2013)	50%	25%
Compliance Period 2 (2014-2016)	65%	15%
Compliance Periods beginning 2017	75%	10%

Source: The *Enforcement Procedures for the Renewables Portfolio Standard for Local Publicly Owned Electric Utilities. April 2016.* http://www.energy.ca.gov/portfolio/pou_rulemaking/index.html. Also refer to 20 CCR § 3204 (c)(1)-(9).

The PCC 1 minimum is applied to the portion of electricity products procured pursuant to a contract or ownership agreement executed on or after June 1, 2010, that is applied toward the RPS procurement target for the given compliance period. The calculation of the portfolio balance requirement for PCC 1 is:

> (PCC 1 Minimum) * [(Lesser of: Target or Total RECs retired) – (Count in Full, Pre-June 2010 RECs Applied to Target, and Historic Carryover)]

The PCC 3 limitation is applied to the portion of electricity products procured pursuant to a contract or ownership agreement executed on or after June 1, 2010, that is applied toward the RPS procurement target for the given compliance period. The calculation of the portfolio balance limitation for PCC 3 is:

> (PCC 3 Maximum) * [(Lesser of: Target or Total RECs retired) – (Count in Full, Pre-June 2010 RECs Applied to Target, and Historic Carryover)]

Publicly Owned Utilities With Special Exemptions

The RPS POU Regulations delineates specific exemptions that may result in different procurement requirements for qualifying POUs.

Trinity River Hydroelectric Exemption

Section 3204 (a)(6) of the RPS POU Regulations provides that a POU that receives all of its electricity under a preference right adopted and authorized by the United States Congress under Section 4 of the Trinity River Division Act shall be deemed to comply with its RPS procurement requirements. A qualifying POU must submit documentation to show that it meets

the criteria of Section 3204 (a)(6) but is not otherwise required to submit any annual or compliance period reports.

Public Owned Utilities With Qualifying Hydroelectric Generation

Section 3204 (a)(7) of the RPS POU Regulations provides that a POU meeting specified criteria is required to procure only eligible renewable energy resources to meet the electricity demands unsatisfied by its hydroelectric generation in any given year. For each compliance period, a qualifying POU is required to demonstrate that it meets the criteria by providing the Energy Commission documentation showing it receives at least an average of 67 percent of its electricity demand in the seven years preceding each compliance period from qualifying hydroelectric generation.

If a qualifying POU can show that it meets the criteria for the exemption, the procurement target is determined annually, instead of on a compliance period basis, and the POU is exempt from the portfolio balance requirement. If a POU has electricity demand unsatisfied by its qualifying hydroelectric generation in any given year, the procurement target is the lesser of either:

1. The portion of the POU's electricity demand unsatisfied by the POU's qualifying hydroelectric generation; or
2. The soft target corresponding to that year.

To determine a qualifying POU's procurement target for any given year, the POU must report electricity demand, instead of retail sales, and qualifying hydroelectric generation.

Publicly Owned Utilities Not Interconnected to a California Balancing Authority

As discussion in Chapter 3, there are two exemptions for POUs that are not interconnected to a CBA: 1) for a POU that is interconnected to a balancing authority outside California, and 2) for a POU that is not interconnected to any balancing authority. POUs in either situation are exempt from the portfolio balance requirements, based on Section 3204 (a)(8) and Section 3204 (a)(9) of the RPS POU Regulations.

Publicly Owned Utilities With Special Retail Sales Calculations

Section 3204 (a)(5) of the RPS POU Regulations provides that for a qualifying POU the percentage of total retail sales upon which the RPS procurement target is calculated is based on the POU's average annual retail sales over the seven years preceding the end of each year within that compliance period. To qualify, a POU must:

1. Be a joint powers authority of districts established pursuant to state law on or before January 1, 2005.
2. Furnish electric services other than to residential customers.
3. Be formed under the Irrigation District Law (Division 11 [commencing with section 20500] of the Water Code.

Retail Sales

Retail sales, for POUs, are defined in Section 3201(cc) of the RPS POU Regulations as sales of electricity by a POU to end-use customers and their tenants, measured in MWh. This does not include energy consumption by a POU, electricity used by a POU for water pumping, or electricity produced for onsite consumption (self-generation) that was not sold to the customer by the POU.

Retail sales that are reported in greater detail than whole MWhs are rounded down to the closest whole MWh before being used in the calculation of the procurement target.

Energy Commission staff compares the annual retail sales reported to the Energy Commission with the retail sales reported on the annual EIA 861 report. When the EIA 861 report does not have retail sales to compare for a POU, the retail sales reported in the annual power source disclosure reporting is used. If the difference between annual retail sales and the EIA 861 Report or Power Source Disclosure is greater than 5 percent, an explanation is required. Most issues are caused by EIA's definition of retail sales, which does not exclude POU onsite consumption. POUs may submit corrected retail sales amounts in cases of reporting errors.

Excess Procurement

Section 3206 of the RPS POU Regulations specifies optional compliance measures that may be adopted by a POU, including excess procurement, which is the number of RPS-eligible RECs claimed by a POU that exceeds its procurement target for the specific compliance period. Excess procurement can be used in any future compliance period to meet that compliance period's procurement requirements. Subdivision 3206 (a)(1) specifies criteria for excess procurement and describes the restrictions on excess procurement associated with PCC 3 electricity products and procurement under contracts of less than 10 years in duration.

Excess procurement is calculated by summing the total number of RECs retired for the compliance period and subtracting:

1. The RECs applied toward the RPS procurement target.
2. Any PCC 3 RECs in excess of the PCC 3 maximum, as calculated for the portfolio balance requirements.
3. Any RECs that are procured after June 1, 2010, associated with contracts less than 10 years in duration and retired toward the compliance period.

For POUs that are exempt from the portfolio balance requirements, the calculation cannot use the number of PCC 3 RECs when calculating maximum of PCC 3 RECs allowed because these POUs do not classify their RECs into the portfolio content categories. Instead, the calculation uses the number of unbundled RECs, procured after June 2010, that exceed an amount equal to the PCC 3 limitation.

Resolution to Withdraw Surplus RECs

In March 2016, the Energy Commission adopted Resolution 16-0309-4A, which established a process for the Energy Commission's Executive Director to allow POUs with surplus RECs, in

specific circumstances, to withdraw the RECs from one compliance period and use them in the next compliance period.

CHAPTER 5:
POU Compliance Process Overview

The Energy Commission will adopt a verification report for each POU for each compliance period. The verification report will contain the results of the POU's RPS-eligibility and portfolio content category analyses, the procurement requirement calculations, and will determine if the POU has met the RPS requirements. After each report is adopted, it will be determined if the POU is in compliance with the RPS requirements for the compliance period in accordance with the RPS POU Regulations, which establish the rules and procedures by which the Energy Commission will determine whether a POU's procurement actions meet the RPS procurement requirements in the law.

The Energy Commission will evaluate optional compliance measures applied by each POU as a part of the compliance determination. Recognizing the constraints POUs may face in procuring sufficient renewable energy resources, SBX1-2 established three optional compliance measures POUs could apply if they cannot meet their RPS procurement requirements:

1. Cost limitations, which limit what the POU will pay for renewable generation to avoid disproportionate rate impacts.
2. Delay of timely compliance, which excuses all or a portion of the POU's RPS shortfall due to circumstances outside the POU's control.
3. Portfolio balance requirement reduction, which allows a POU to reduce its minimum procurement requirement of PCC 1 electricity products if a PCC 1 shortfall is due to one or more circumstances outside the POU's control, as defined for the delay of timely compliance.

The RPS POU Regulations specify how a POU must adopt optional compliance measures, as well as how the Energy Commission must be notified of any such action taken. Further, the RPS POU Regulations describe what action the Energy Commission will take if a POU applies an optional compliance measure that does not conform with the RPS statute or the RPS POU Regulations.

If a POU decides to adopt and apply an optional compliance measure, it may submit to the Energy Commission a description of the applied optional compliance measures, along with all documentation that supported the POU in adopting and applying the measure(s). In determining a POU's compliance with the RPS procurement requirements, the Executive Director may consider the application of optional compliance measures only if they comply with Public Utilities Code Section 399.30, the RPS POU Regulations, and any applicable order or decision adopted by the Energy Commission pertaining to the RPS. The Energy Commission's evaluation of optional compliance measures is done as part of its compliance determination, which follows the issuance of the verification reports for each POU, and thus, is not addressed in this report.

Compliance Process

One of the Energy Commission's responsibilities is to determine compliance of POUs with the Renewables Portfolio Standard. The RPS POU Regulations establish the rules and procedures by which the Energy Commission will assess a POU's procurement actions and determine whether those actions meet the RPS procurement requirements. After a POU's final verification results for a given compliance period are adopted by the Energy Commission, staff will provide a compliance recommendation for each POU to the Executive Director based on the verification results and an evaluation of optional compliance measures applied by the POU.

The Executive Director will make a compliance determination for each POU for the compliance period based on the staff recommendation. The Executive Director will issue a letter to each POU documenting the RPS compliance determination. If the Executive Director determines a POU is not in compliance with the RPS requirements, a complaint will be issued to the POU and adjudicated by the Energy Commission in accordance with Section 1240 of the RPS POU Regulations. If the Energy Commission determines the POU did not comply with the RPS, a Notice of Violation will be prepared and forwarded along with supporting documentation to the ARB, which is responsible for determining if a penalty should be imposed. .

APPENDIX A:
Verification Limitations

The ITS restricts the extent to which the Energy Commission can cross-reference California RPS claims with REC claims made on the voluntary market and in other states. As discussed in Chapter 2, Energy Commission staff coordinates with staff from the energy agency in Oregon to cross-reference California RPS procurement with RPS claims made in their state. In addition, staff's ability to protect against double-counting is limited by reporting requirements and availability of data in each state. The transition from the ITS to WREGIS has significantly reduced the risk of double-counting claims.

Energy Commission staff has limited information about specific purchases in which RECs are sold separately from the associated electricity. In other regulatory and nonregulatory markets, generators, marketers, or brokers may sell unbundled RECs (where the renewable and environmental attributes associated with the generated electricity are sold as a separate commodity from the energy itself) to individuals, companies, utilities, or other organizations. The Energy Commission does not track these voluntary transactions but collaborates with Green-e Energy. As a result, not all RPS claims are cross-checked with unbundled RECs sold in the voluntary market, since Green-e Energy does not certify the entire voluntary REC market.

The robustness of the ITS is also limited by the quality of the generation data provided. In some cases, the generation data used for the analysis in this report are self-reported and not independently verified by third parties. WREGIS addresses this limitation because it tracks renewable energy transactions throughout the WECC and is supported mostly by metered generation data from qualified reporting entities, rather than self-reported generation data.

While the Energy Commission recognizes the limitations of the ITS, it should be noted that the verification reports reflect staff's review of claims reported by LSEs and checked against RPS claims in other states, and entities participating in the voluntary REC market. The method and results have benefited from public input, and staff believes they are as accurate as possible.

The Energy Commission is developing an online RPS certification and verification database, which the Energy Commission and LSEs will use for data submittal and analysis after the anticipated release in early 2017.

Glossary

ARB	—	California Air Resources Board.
CBA	—	California balancing authority – means a balancing authority primarily located in California with more than 50 percent of its end-use electric load physically located within the political boundaries of California. This includes balancing authority areas operated by the California Independent System Operator Corporation, Los Angeles Department of Water and Power, Balancing Authority of Northern California, Imperial Irrigation District, and Turlock Irrigation District.
CPUC	—	California Public Utilities Commission – an agency that regulates privately owned public utilities in California, including electric power, telecommunications, natural gas, and water companies. Energy Commission staff and CPUC staff have special status to work collaboratively and participate in confidential deliberations concerning decision-making on the implementation of the Renewables Portfolio Standard.
e-Tag	—	Consistent with 20 CCR section 3201 (o), an electronic record that contains the details of a transaction to transfer energy from a source point to a sink where the energy is scheduled for transmission across one or more balancing authority area boundaries. For purposes of this definition, "source point" refers to the generation source of the energy, and "sink" refers to the balancing authority in which the electric load is located. Previously referred to as a "NERC e-Tag."
EIA	—	U.S. Energy Information Administration – part of the U.S. Department of Energy, and responsible for collecting and analyzing energy information. EIA programs cover data on coal, petroleum, natural gas, electric, renewable and nuclear energy.
ITS	—	Interim Tracking System – the process that the Energy Commission used to verify RPS procurement claims during the development of the Western Renewable Energy Generation Information System. This process used available generation data to check against procurement claims and account for renewable energy procurement claims on the voluntary market and other renewable energy reporting programs, such as those in other states, and also used energy delivery documentation to verify Renewables Portfolio Standard claims from out-of-state generating facilities.
kWh	—	Kilowatt hour – the most commonly used unit of measure for describing the amount of electricity consumed over time. It means 1

kilowatt (1,000 watts) of electricity supplied for one hour. A typical California household consumes about 500 kWh in an average month.

LSE — Load-serving entity – an entity that provides electric service to end users and wholesale customers. This includes investor owned utilities, local publicly owned electric utilities, community choice aggregators, and electric service providers.

MMBtu — One million British thermal units (BTU) – a measure of the energy content in fuel, and is used in the power, steam generation, heating and air conditioning industries.

MW — Megawatt – 1,000 kilowatts. One megawatt is about the amount of power required to meet the peak demand of a large hotel.

MWh — Megawatt hour – a unit of measure describing the amount of electricity consumed over time. It means 1 megawatt of electricity supplied for one hour. In 2014, two typical California households consume a combined total of about 1 MWh in an average month, and one household consumes about 0.56 MWh per month according to average monthly consumption data reported to the EIA.

PCC — Portfolio Content Category - refers to one of three categories of electricity products procured from an eligible renewable energy resource, as specified in 20 CCR Section 3203.

POU — Local publicly owned electric utility – as defined in Public Utilities Code section 224.3, a municipality or municipal corporation operating as a "public utility" furnishing electric service as provided in section 10001 of the Public Utilities Code, a municipal utility district furnishing electric service formed pursuant to Division 6 (commencing with section 11501 of the Public Utilities Code), a public utility district furnishing electric services formed pursuant to the Public Utility District Act set forth in Division 7 (commencing with section 15501 of the Public Utilities Code), an irrigation district furnishing electric services formed pursuant to the Irrigation District Law set forth in Division 11 (commencing with section 20500) of the Water Code, or a joint powers authority that includes one or more of these agencies and that owns generation or transmission facilities, or furnishes electric services over its owners' or its members' electric distribution system.

REC — Renewable Energy Credit/Certificate – as defined in Public Utilities Code Section 399.12, Subdivision (h)(1), a certificate of proof, issued through the accounting system established by the Energy Commission under Section 399.25, that one unit of electricity was generated and delivered by an eligible renewable energy resource. As specified in

Section 399.12, Subdivision (h)(2), a REC includes all renewable and environmental attributes associated with the production of electricity from an eligible renewable energy resource, except for an emissions reduction credit issued under Section 40709 of the Health and Safety Code and any credits or payments associated with the reduction of solid waste and treatment benefits created by the use of biomass or biogas fuels. As specified in Section 399.12, Subdivision (h)(3), electricity generated by an eligible renewable energy resource attributable to the use of nonrenewable fuels, beyond a de minimis quantity, as determined by the Energy Commission, shall not result in the creation of a REC.

As defined by CPUC Decision D.08-08-028, a REC for compliance with the California RPS is "a certificate of proof, issued through the Western Renewable Generation Information System [sic], that one megawatt-hour of electricity was generated by an RPS-eligible renewable energy resource and delivered for consumption by California end-use retail customers. A REC includes all renewable and environmental attributes associated with the production of electricity from the eligible renewable energy resource, including any avoided emission of pollutants to the air, soil or water; any avoided emissions of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, or any other greenhouse gases that have been determined by the United Nations Intergovernmental Panel on Climate Change, or otherwise by law**,** to contribute to the actual or potential threat of global climate change; and the reporting rights to these avoided emissions, such as Green Tag reporting rights. A REC does not include any emissions reduction credit issued pursuant to § 40709 of the Health and Safety Code or any credits or payments associated with the reduction of solid waste or treatment benefits created by the utilization of biomass or biogas fuels. A REC also does not include any energy, capacity, reliability or other power attributes of the generation; any tax credits or other financial incentives in the form of credits, reductions, or allowances associated with the generation that are applicable to a state or federal income taxation obligation; any fuel-related subsidies or ″tipping fees″ or local subsidies received by the generator for the destruction of particular preexisting pollutants or the promotion of local environmental benefits; or emission reduction credits (whether issued pursuant to § 40709 of the Health and Safety Code or any other authority) that are encumbered or used by the generator for compliance with local, state, or federal operating and/or air quality permits.

In accordance with Public Utilities Code Section 399.21, Subdivision

(a)(4), no REC may be created based on any electricity generated pursuant to any contract with a California retail seller or a local publicly owned electric utility executed before January 1, 2005, unless the contract contains explicit terms and conditions specifying the ownership or disposition of the RECs. In accordance with Public Utilities Code Section 399.21, Subdivision (a)(4), a REC may not be created based on any electricity generated pursuant to a contract with a qualifying facility pursuant to the Public Utility Regulatory Policies Act of 1978 that was executed after January 1, 2005. A REC cannot be created with respect to electricity generated by an eligible renewable energy resource attributable to the use of nonrenewable fuels, beyond a de minimis quantity as determined by the CEC."

Retail seller — As defined in Public Utilities Code section 399.12, subdivision (j), is an entity engaged in the retail sale of electricity to end-use customers located within the state. Retail sellers include electrical corporations, community choice aggregators (as defined in Public Utilities Code section 331.1), and electric service providers (as defined in Public Utilities Code section 218.3). Retail sellers do not include local publicly owned electric utilities, entities employing cogeneration technology or producing power consistent with Public Utilities Code section 218(b), or the Department of Water Resources acting within its capacity pursuant to Division 27 of the Water Code (commencing with section 80000).

RPS — California's Renewables Portfolio Standard – as established in Public Utilities Code Section 399.11, et seq. and defined in Public Utilities Code Section 399.12, Subdivision (i), is the specified percentage of electricity generated by eligible renewable energy resources that a retail seller or local publicly owned electric utility is required to procure under Public Utilities Code Section 399.11 et seq. Under the RPS, a retail seller or local publicly owned electric utility must increase its total procurement of eligible renewable energy resources so that 50 percent of its retail sales are procured from eligible energy resources no later than December 31, 2030.

SB — Senate Bill –legislation that originated in the California State Senate.

Vintage — The month and year that a megawatt hour of energy was generated.

WECC — Western Electricity Coordinating Council – the electricity coordinating council as defined in Public Utilities Code Section 399.12 (k). WECC is one of several regional electric reliability councils with delegated authority under the North American Electric Reliability Corporation and the regional entity responsible for coordinating and promoting

bulk electric system reliability in the Western Interconnection serving all or part of the 14 western states and portions of Mexico (in northern Baja California) and Canada (in British Columbia and Alberta). The western states include Arizona, California, Colorado, Idaho, Montana, Nebraska, Nevada, New Mexico, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming.

WREGIS — Western Renewable Energy Generation Information System – an independent, renewable energy tracking system implemented for the region covered by the WECC. WREGIS electronically tracks RECs (WREGIS Certificates) representing renewable energy generation and, beginning with 2008 data, is used for RPS reporting and verification by the Energy Commission.