DOCKETED

Docket Number:	16-RPS-02
Project Title:	Appeal by Los Angeles Department of Water & Power re Renewables Portfolio Standard Certification Eligibility
TN #:	213294
Document Title:	CEC RPS Implementation Phase 1 Decision 500-03-023F
Description:	N/A
Filer:	Pam Fredieu
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	8/31/2016 12:57:47 PM
Docketed Date:	8/31/2016

CALIFORNIA
ENERGY
COMMISSION

RENEWABLES PORTFOLIO STANDARD: DECISION ON PHASE I IMPLEMENTATION ISSUES

FINAL COMMISSION REPORT

JUNE 2003
500-03-023F

Gray Davis, *Governor*

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Table of Contents

INTRODUCTION

This report represents the California Energy Commission's decision on Phase I issues in the Renewables Portfolio Standard (RPS) proceeding. The report was adopted by the Energy Commission at its June 11, 2003 Business Meeting.

The Energy Commission established the RPS proceeding on March 5, 2003 in response to statutory requirements of Senate Bill 1078 (SB 1078, Sher, Statutes of 2002, Chapter 516) and Senate Bill 1038 (SB 1038, Sher, Statutes of 2002, Chapter 515), both signed by Governor Davis on September 12, 2002. These laws took effect January 1, 2003 and are codified in Public Utilities Code (PUC) sections 399.11 through 399.15, and sections 381, 383.5, and 445, respectively.

This report is divided into two sections. The introductory section summarizes the report development process and scope, including the legislative requirements of SB 1078 and SB 1038 for each of the Phase I issue areas. The Energy Commission's decisions and rationale are then presented for each issue area. Appendices include a list of participants in the RPS proceeding, excerpts of relevant statutory language from SB 1078 and SB 1038, and a glossary of terms.

Report Development Process

In SB 1078, the Energy Commission and the California Public Utilities Commission (CPUC) both have clearly defined roles in implementing the RPS and are also directed to work collaboratively on a number of implementation issues. In October 2002, the staffs from the two agencies began working together to develop a joint RPS Collaboration Workplan (Workplan).

On March 5, 2003, the Energy Commission issued Order No. 03-0305-04 authorizing the Renewables Committee (Committee) to work with the CPUC to implement the RPS program. The Committee then issued a March 14, 2003 order that initiated a proceeding to address issues identified in the Workplan. The order established administrative procedures for participating in the proceeding and included a copy of the Workplan, along with a proposed schedule of work products and decisions.

The RPS proceeding is divided into three broad phases. Phase 1 issues are those that can be resolved in the next several months, Phase 2 issues will be addressed by mid- to late 2003, and Phase 3 issues are expected to be resolved by the end of 2003. The report scope section below identifies the issues addressed in the report.

On March 25, 2003, the Energy Commission staff held a workshop to solicit input from stakeholders on Phase 1 issues. The workshop topics included defining eligible resources, determining what constitutes incremental geothermal, and deciding whether and to what extent out-of-state power should be eligible.

On April 25, 2003, the Committee issued a draft of this report that incorporated written and oral comments received at the staff workshop. The Committee then held a hearing on May 5, 2003 to receive public comments on the draft report.

Participants in both the staff workshop and the Committee hearing included trade organizations, environmental groups, consumer protection organizations, utilities, state and county government agencies, and marketers. A complete list of participants is included as Appendix A.

The Committee's final report was developed based on oral and written comments from the March 25, 2003 staff workshop and May 5, 2003 Renewable Committee Hearing, and on the expertise of collaborative staff and technical support contractors. The Committee would like to acknowledge the active and thoughtful participation of the parties in this proceeding and their contribution to developing the decisions contained in this report.

The report was adopted at the Energy Commission's regularly scheduled Business Meeting on June 11, 2003. The decisions contained in this report will be implemented through guidelines on Phase 2 issues, specifically certification of renewable energy resources and distribution of supplemental energy payments.

PUC section 385.5(h)(1) gives the Energy Commission the authority to develop guidelines to implement portions of the RPS under SB 1078. These guidelines are exempt from the formal rulemaking requirements of the Administrative Procedures Act. As a result, guidelines can be developed within months and can be modified as necessary to adapt to developments in the market. In addition, the Energy Commission can adjust the program as necessary to respond to market developments in a timely manner.

Report Scope

This report presents the Energy Commission's decisions on Phase I implementation issues: eligible renewable resources, incremental geothermal, and out-of-state power. It does not address related issues such as eligibility for supplemental energy payments (SEPs), a certification process for in-state renewable energy resources, the definition of "new" or "repowered" facilities, or an interim tracking and verification process for renewable generation. These issues will be addressed during Phase 2 of the RPS proceeding.

Phase 2 will also address the eligibility of renewable energy credits (RECs) and any associated certification issues. On April 7, 2003, the CPUC Administrative Law Judge (ALJ) Allen announced a preliminary decision that RECs may be considered as an accounting mechanism. The ALJ, however, stated that instituting a tradeable REC system is too complicated and contentious to be resolved by June 30, 2003, the early

phase of the RPS implementation process. The Energy Commission agrees and will consider holding a workshop specifically on REC issues, coordinating with the CPUC because of its overlapping authorities in this area.

Phase 3 includes developing a final tracking and verification process, as well as working with the CPUC to address other issues such as resource diversity, competitive sufficiency, RPS implementation for electric service providers and community choice aggregators, and eligibility of distributed generation technologies.

Statutory Requirements

SB 1078 establishes an RPS program that requires retail electricity sellers, such as investor-owned utilities (IOUs), to increase the renewable content of their electricity deliveries by at least one percent of retail sales per year over a baseline level to be determined by the CPUC. Retail sellers must meet a target of 20 percent renewable content in their electricity portfolio by December 31, 2017.

SB 1038 continues implementation authority for and revises the structure and funding allocation of the Energy Commission's Renewable Energy Program. Part of this revised structure links payments made to new renewable electricity generating facilities to the RPS structure under development, with the goal of increasing the amount of renewable generation serving California.

SB 1078 permits the 20 percent renewable content requirement to be met with both existing and new renewable energy resources. The quantity of eligible renewable energy resources procured in 2001 determines a baseline of renewable procurement for retail sellers. Above this baseline, retail sellers face a required additional procurement of renewable energy resources. The CPUC is responsible for setting the baseline and required additional procurement; any discussion in this report of baseline and required additional procurement is provided as background and should not be considered a determination by the Energy Commission.

The Energy Commission's specific responsibilities under SB 1078 include the following:

- certifying eligible renewable energy resources, including those generating out-of-state;

- establishing criteria to determine "incremental" output from existing geothermal resources, i.e. the amount of generation that can be counted toward a retail seller's required additional procurement rather than an adjustment to its baseline;

- designing and implementing an accounting system to verify compliance with the renewables portfolio standard by retail sellers; and

- allocating and awarding SEPs to help cover above-market costs of generating renewable electricity.

Statutory requirements for Phase 1 issues are described below. Issues to be addressed in Phase 1 are eligible renewable energy resources, establishing the criteria for determining incremental geothermal generation, and eligibility of out-of-state power. Pertinent sections of the statutory language are provided in Appendix B.

Eligible Renewable Energy Resources

SB 1078 describes what renewable energy resources qualify towards meeting the state's 20 percent renewables target. It defines an "eligible renewable energy resource" as a facility that meets the definition of "in-state renewable electricity generation technology" as provided in SB 1038. Such a facility must meet the following criteria:

- use any of the following: biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion using a non-combustion thermal process, landfill gas, ocean wave, ocean thermal, tidal current, and any additions or enhancements to the facility using that technology; and

- be located in California or near the border with the first point of connection to the Western Electricity Coordinating Council (WECC) transmission system located within California.

The Energy Commission recognizes that SB 1038 and SB 1078 further affect the eligibility of certain renewable energy resources — small hydro, geothermal, biomass, solid waste conversion, and municipal solid waste combustion facilities — for adjusting a retail seller's baseline and satisfying its required additional procurement.

Existing small hydro facilities that were owned by or under contract to an IOU when SB 1078 was passed are eligible only for establishing the baseline of an IOU. Geothermal facilities that began operation before September 26, 1996 are eligible only for purposes of adjusting a retail seller's baseline, except for output certified by the Energy Commission as incremental geothermal production. Municipal solid waste (MSW) combustion facilities are also eligible only for the purpose of adjusting a retail seller's baseline, but only if they are located in Stanislaus County and were operational before September 26, 1996. These restrictions are covered in more detail later in the report.

New small hydro, biomass, and MSW facilities are eligible for required additional procurement if they meet specific criteria. New small hydro facilities must not require new or increased appropriation or diversion of water, while new biomass facilities must certify to the Energy Commission that they use certain fuel types obtained in an approved manner. New MSW facilities must use a non-combustion conversion process that meets an explicit list of operating criteria.

Determining Incremental Geothermal Generation

SB 1078 provides that geothermal facilities that began operation before September 26, 1996 are only eligible for the RPS to adjust a retail seller's baseline, except for output certified by the Energy Commission as incremental geothermal production. SB 1078 requires the Energy Commission to certify incremental geothermal production using criteria to measure production that "recognizes the declining output of existing steamfields and the contribution of capital investments in the facility or wellfield."

SB 1078 separates geothermal energy into three categories for purposes of RPS eligibility:

1. Energy from geothermal facilities that began operation after September 26, 1996 is not restricted by SB 1078, and therefore is eligible either as part of a retail seller's baseline or to meet a retail seller's required additional procurement.

2. Some energy from geothermal facilities that began operation before September 26, 1996 is not "incremental production," and therefore is eligible for increasing a retail seller's baseline, but does not count toward meeting a retail seller's required additional procurement.

3. The remaining energy from geothermal facilities that began operation before September 26, 1996 is "incremental production," and therefore is eligible either as part of a retail seller's baseline or to meet the retail seller's required additional procurement.

The Energy Commission is required to determine the amount of geothermal energy that falls into the third category.

Eligibility of Out-of-State Power

SB 1078 defines the term "eligible renewable energy resource" to include facilities that meet the definition of "in-state renewable generation technology" as defined in SB 1038. SB 1038 in turn provides that an "in-state renewable generation technology" must be "located in the state or near the border of the state with the first point of interconnection to the Western Electricity Coordinating Council (WECC) transmission system located within this state."

SB 1038 further states that the Energy Commission may determine that a new renewable generation facility that does not meet the definition of "in-state renewable electricity generation technology" solely because it is located out-of-state may still be eligible for SEPs provided that the facility meets the following criteria:

1. it is located so that it is or will be connected to the WECC transmission system, and

2. it is developed with guaranteed contracts to sell its generation to end-use customers located in California IOU service territories while it receives SEPs.

DECISIONS

This section provides the Energy Commission's decisions, along with the rationale, on eligible renewable energy resources, incremental geothermal, and out-of-state power.

Eligible Renewable Energy Resources

Definition of "Renewable:" The definition of "eligible renewable energy resource" given in SB 1078 and the definition of "in-state renewable electricity generation technology" given in SB 1038 will be used to determine the general RPS eligibility of renewable energy resources. In addition, the renewable fuel or source used to generate electricity, as opposed to the specific electric generation technology, should guide determinations about RPS eligibility. However, the Energy Commission recognizes that fuel-specific qualifications for small hydro, biomass, MSW and geothermal must be considered in evaluating RPS eligibility.

Small Hydroelectric: The Energy Commission will develop specific criteria in consultation with the State Water Resources Control Board and the Department of Fish and Game to determine whether a new small hydro facility seeking RPS and/or SEP eligibility involves a new or increased appropriation or diversion of water. The criteria should address what data will be used to establish the starting point, such as flow data from a particular year or from an average of several years, as well as the time intervals used to calculate the starting point (e.g., annual, monthly, or hourly).

The criteria should also address whether projects that change the timing, but not the quantity, of water released during a given time period are "new or increased appropriations or diversions." The State Water Resources Control Board and the Department of Fish and Game will be consulted in establishing these criteria, which will then be developed and subject to public comment in Phase 2 of the RPS proceeding. The Energy Commission may also need to consult with water and wildlife agencies in neighboring states and with federal agencies with respect to small hydro facilities located out-of-state or on federal land.

The Energy Commission will also require new small hydro applicants for RPS eligibility to certify annually, under penalty of perjury, that their project will not result in a "new or increased appropriation or diversion" as the Energy Commission has interpreted that term in decisions and guidelines. Upon request, applicants for and recipients of RPS eligibility will be required to document that their self-certification is true and correct. Failure to provide such documentation when requested, and/or failure of such documentation to demonstrate that certification is true and correct, will result in

immediate suspension of RPS eligibility. The Energy Commission will develop self-certification procedures in Phase 2 of the RPS proceeding.

Biomass: The Energy Commission will require new biomass applicants for RPS eligibility to certify annually, under penalty of perjury, that the fuel use for their facility meets the criteria in SB 1038. Upon request, applicants for and recipients of RPS eligibility will be required to provide specified documentation that their self-certification is true and correct. Failure to provide such documentation when requested, and/or failure of such documentation to demonstrate that certification is true and correct, will result in immediate suspension of RPS eligibility. The Energy Commission will develop self-certification procedures during Phase 2 of the RPS proceeding.

Municipal Solid Waste: MSW combustion facilities are eligible for the purpose of adjusting a retail seller's baseline, provided that the facility's combustion, control, and generation equipment are located wholly within the boundaries of Stanislaus County, and the facility began operating before September 26, 1996.

Facilities using an eligible solid waste conversion technology to gasify or convert MSW into a clean-burning fuel before combustion are eligible for meeting a retail seller's required additional procurement.

The Energy Commission will work with the California Integrated Waste Management Board to develop certification procedures for solid waste conversion technology facilities and eligible solid waste, and that these procedures also be developed in Phase 2 of the RPS proceeding. The Energy Commission may also need to work with the waste agencies of neighboring states with respect to solid waste conversion technology facilities that may be located out-of-state.

Biodiesel: The electricity produced from the combustion of biodiesel is eligible for the RPS to the extent that the biodiesel is derived from either 1) a biomass feedstock such as "agricultural crops and agricultural wastes and residues" and consists of no more than 25 percent fossil fuel, or 2) an eligible "solid waste conversion" process of MSW.

Hybrid Technologies: A renewable facility may be eligible for the RPS if it uses up to, but not more than, 25 percent fossil fuel, which is consistent with eligibility requirements in the Energy Commission's Renewable Energy Program (REP). Under the REP, the percentage of fossil fuel used may not exceed 25 percent of the total energy input of the facility during a given calendar year. This requirement stems from the federal law applicable to qualifying small power production facilities.

Discussion and Rationale

Definition of "Renewable:" Several provisions in SB 1078 combine to describe the scope of eligible renewable energy resources under the law. These provisions are set forth in PUC sections 399.11(b) and (c), which describe the legislative intent and purpose, and PUC section 399.12(a)(1), which defines an "eligible renewable energy

resource" as a facility meeting the definition of an "in-state renewable electricity generation technology" in PUC section 383.5.

PUC section 399.11(b) and (c) provide as follows:

b) Increasing California's reliance on renewable energy resources may promote stable electricity prices, protect public health, improve environmental quality, stimulate sustainable economic development, create new employment opportunities, and reduce reliance on imported fuels.

c) The development of renewable energy resources may ameliorate air quality problems throughout the state and improve public health by reducing the burning of fossil fuels and the associated environmental impacts.

PUC section 383.5(b)(1) defines an "in-state renewable electricity generation technology" as follows:

(A) The facility uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and any additions or enhancements to the facility using that technology.

These provisions of the law describe the perceived benefits of using these renewable resources to improve the state's environmental quality and reduce its reliance on fossil fuels. The provisions also focus on the renewable resource or fuel, as opposed to the specific technology, that is used to generate electricity. Given this focus in the law, the Energy Commission believes that it is appropriate to define eligible renewable energy resources by renewable resource or fuel rather than by specific technology.

The Energy Commission's decision is consistent with the Energy Commission's REP and the funding available under the Existing Renewable Resources Account and New Renewable Resources Account via Senate Bill 90 (SB 90, Sher, Statutes of 1997, Chapter 905). The decision is also consistent with the recommendations in the Energy Commission's Investment Plan (*Investing in Renewable Electricity Generation in California*), which was submitted to the Legislature pursuant to PUC section 399.6 and referenced in SB 1038.

Defining eligible renewable energy resources by technology would needlessly complicate the eligibility process. For example, the Energy Commission would need to develop and frequently update a comprehensive list of technologies, adding burdensome complexity to the verification process.

The Energy Commission recognizes, however, that for some eligible renewable energy resources, both the renewable fuel and technology employed must be considered in

determining RPS eligibility. The law itself contains specific requirements for MSW conversion technologies.

In its written comments submitted in this proceeding, Chateau Energy, Inc. (CEI) and ORMAT Nevada, Inc. (ORMAT) encouraged the Energy Commission to determine RPS eligibility based on a facility's technology instead of its renewable resource or fuel. CEI is developing a waste-to-energy facility that uses a waste tire gasification technology to produce fuel that is then combusted to generate electricity. CEI requested the Energy Commission to approve this waste tire gasification technology as an eligible renewable energy resource that qualifies for RPS. CEI also asked the Energy Commission to develop categories of technologies that are eligible for the RPS immediately, and to specify technology performance criteria later during Phase 2 of the RPS proceeding.

ORMAT commented that the Energy Commission has authority under PUC section 383.5(e) to determine the RPS eligibility of technologies not given specific statutory eligibility. ORMAT proposed including its "qualified heat recovery power" system, which uses recoverable heat from various types of industrial processes to generate electricity, under the eligibility criteria for the RPS.

However, the Energy Commission does not believe that it is appropriate to define eligible renewable resources by technology unless specifically required to do so by law. In addition, shifting the focus of eligibility from the renewable resource or fuel to the technology could yield absurd results. For example, a "qualified heat recovery power" system used in conjunction with a natural gas-fired facility might make the facility eligible for the RPS, which was not contemplated under the law given the facility's fuel source.

Further, ORMAT's reliance on PUC section 383.5(e) is misplaced. This section sets forth the requirements for the Energy Commission's Emerging Renewable Program, which provides funding for emerging renewable technologies in distributed generation applications. This section applies only to the Emerging Renewable Program and may not be used to determine RPS or SEP eligibility.

Small Hydro: SB 1078 and SB 1038 contain provisions relating to the eligibility of small hydro generating facilities for both the RPS and SEPs.

The pertinent provisions of SB 1078 are provided in PUC section 399.12(a)(3), as follows:

> The output of a small hydroelectric generation facility of 30 megawatts or less procured or owned by an electrical corporation as of the date of enactment of this article shall be eligible only for purposes of establishing the baseline of an electrical corporation pursuant to paragraph (3) of subdivision (a) of Section 399.15. A new hydroelectric facility is not an eligible renewable energy resource if it will require a new or increased appropriation or diversion of water under Part 2 (commencing with Section 1200) of Division 2 of the Water Code.

The pertinent provisions of SB 1038 are provided in PUC section 383.5(d)(2)(C)(iv), as follows:

> (C) Facilities that are eligible to receive funding pursuant to this subdivision shall be registered in accordance with criteria developed by the Energy Commission and those facilities may not receive payments for any electricity produced that has any of the following characteristics . . . (iv) is a hydroelectric generation project that will require a new or increased appropriation of water under Part 2 (commencing with Section 1200) of Division 2 of the Water Code.

PUC section 399.12(a)(3) identifies the eligibility of small hydro facilities for RPS. Existing small hydro facilities whose output is procured or owned by an electrical corporation as of the date of enactment of SB 1078 are only eligible for the purpose of calculating the baseline of an electrical corporation, while new small hydro facilities are only eligible if they do not require "new or increased appropriation or diversion of water." Similarly, a small hydro facility under section 383.5(d)(2)(C) is not eligible for SEPs if it requires a "new or increased appropriation of water."

These provisions make it clear that the Legislature intended to make some new small hydro generating facilities eligible, but not others. The types of new small hydro generating facilities that could be eligible include incremental hydroelectric projects, conduit hydroelectric projects, and hydroelectric turbine retrofit projects.

In an incremental hydroelectric project, water already being used under an existing appropriation is used to produce electricity; the amount and timing of the diversion of water are unchanged. For example, a microturbine installed on an existing irrigation canal would be considered an incremental hydroelectric project.

A conduit hydroelectric project has a turbine installed in an existing water conduit, such as a canal or pipeline, to capture the energy in the water flow. This type of project can provide increased electricity production without a "new or increased appropriation or diversion of water."

To decide which small hydroelectric generating facilities are eligible, the Energy Commission must determine what constitutes a "new or increased appropriation or diversion of water" or "new or increased appropriation of water." The Energy Commission believes that the Legislature intended to prohibit RPS eligibility for any project requiring:

1. a permit for a new appropriation of water,

2. an increase in the amount of water appropriated under a permit that existed when the legislation was passed,

3. a new diversion of water, even if that diversion was authorized under a permit that existed when the legislation was passed, and

4. an increase in the amount of water diverted over the amount that was diverted at the time the legislation was passed.

The language of PUC section 383.5(d)(2)(c)(iv) concerning eligibility for SEPs differs slightly from the language of PUC section 399.12(a)(3). PUC Section 383.5(d)(2)(c)(iv) precludes SEPs only for those facilities that require a "new or increased appropriation of water," without mentioning new or increased diversions of water. The Energy Commission believes, however, that the Legislature intended SEPs only for new projects eligible for the RPS and, therefore, will use the more restrictive language of section 399.12(a) to determine eligibility for the RPS.

Sections 383.5(d) and 399.12(a) do not provide much guidance concerning what constitutes a "new or increased appropriation or diversion of water." The statute is not even clear on what the starting point should be for measuring an increase.

In its written comments on March 28, 2003, the California Hydropower Reform Coalition has suggested that the Energy Commission should also not subsidize projects that will change the timing of water releases, even if the overall amount released stays the same, because changing the timing of releases can have adverse environmental impacts that are generally beyond the regulatory control of the State Water Resources Control Board and the Department of Fish & Game.

The Energy Commission concurs and believes, as a consequence, that criteria should be developed in consultation with the State Water Resources Control Board and the Department of Fish and Game to determine whether a proposed small hydroelectric project involves a new or increased appropriation or diversion of water. It may also be necessary to consult with the water and wildlife agencies of neighboring states and the federal government with respect to small hydro facilities located out-of-state or on federal lands.

The Energy Commission will develop the requisite criteria along with a self-certification process for ensuring compliance in Phase 2 of the RPS proceeding. The self-certification process will identify the water-use data and documentation that facility developers will need to provide to substantiate their self certifications.

Biomass: Biomass facilities are eligible for both RPS and SEPs under SB 1038. Existing biomass facilities are eligible for the RPS if they satisfy the criteria of an "in-state renewable electricity generation technology" as provided in SB 1038 and defined earlier in this decision. In addition, new biomass facilities are eligible for the RPS as well as SEPs if they satisfy the fuel use criteria specified in SB 1038. These criteria are provided in PUC section 383.5(d)(6) as follows:

Facilities generating electricity from biomass energy shall be considered an in-state renewable electricity generation technology facility to the extent that they certify to the satisfaction of the Energy Commission that fuel utilization is limited to the following:

(A) Agricultural crops and agricultural wastes and residues.

(B) Solid waste materials such as waste pallets, crates, dunnage, manufacturing, and construction wood wastes, landscape or right-of-way tree trimmings, mill residues that are directly the result of the milling of lumber, and rangeland maintenance residues.

(C) Wood and wood wastes that meet all of the following requirements:

(i) Have been harvested pursuant to an approved timber harvest plan prepared in accordance with the Z'berg-Nejedly Forest Practice Act of 1973 (Ch. 8 (commencing with Sec. 4511), Pt. 2, Div. 4, P.R.C.).

(ii) Have been harvested for the purpose of forest fire fuel reduction or forest stand improvement.

(iii) Do not transport or cause the transportation of species known to harbor insect or disease nests outside zones of infestation or current quarantine zones, as identified by the Department of Food and Agriculture or the Department of Forestry and Fire Protection, unless approved by the Department of Food and Agriculture and the Department of Forestry and Fire Protection.

These provisions limit new biomass eligibility to facilities that certify, to the Energy Commission's satisfaction, that their fuel meets specific composition and harvesting criteria. During the March 25, 2003 workshop, the staff sought input on three items:

1. how to characterize the feedstocks identified in statute,

2. how the criteria identified in statute can be verified, and

3. what agencies to work with in verifying that resources meet these eligibility criteria.

At the workshop, the California Biomass Energy Alliance (CBEA) and the Green Power Institute indicated that self-certification should be considered acceptable. CBEA further stated that the Energy Commission should require periodic reports from eligible new biomass facilities as to the types and quantities of fuel used. The Independent Energy Producers (IEP) agreed with a self-certification process and further encouraged the Energy Commission to establish a certification program that:

1. requires the generation facility to certify that the fuel suppliers have attested in writing that the fuel provided to the generation facility is consistent with relevant statutory provisions, and

2. requires the generation facility to provide documentation of the fuel supplier certifications.

The Energy Commission agrees that biomass facilities should be allowed to self-certify that their fuel meets the requirements in PUC section 383.5(d)(6). Such a process is relatively common. Both the state and federal governments have used self-certification processes to regulate various aspects of the energy industry. For example, the Federal Energy Regulatory Commission uses a self-certification process to allow small power producers to obtain qualifying small power production facility (QF) status for their facilities, and the Energy Commission uses a self-certification process to allow renewable generators to certify as registered renewable suppliers.

The Energy Commission will consult with the appropriate agencies, the Department of Food and Agriculture and the Department of Forestry and Fire Protection, to develop self-certification procedures in Phase 2 of the RPS proceeding. It may also be necessary to consult with the agricultural and forestry agencies of neighboring states as well as the federal government regarding biomass facilities or fuel sources located out-of-state or on federal lands. The self-certification process will identify the fuel-use data and documentation that facility developers will need to provide to substantiate their self certifications.

Municipal Solid Waste: SB 1078 and SB 1038 contain provisions relating to the eligibility of MSW facilities for both the RPS and SEPs. The pertinent provisions of SB 1078 are provided in PUC section 399.12(a)(4) as follows:

> A facility engaged in the combustion of municipal solid waste shall not be considered an eligible renewable resource unless it is located in Stanislaus County and was operational prior to September 26, 1996. Output from such facilities shall be eligible only for the purpose of adjusting a retail seller's baseline quantity of eligible renewable energy resources.

The pertinent provisions of SB 1038 are provided in PUC sections 383.5(b)(1)(C) and 383.5 (d)(4). Section 383.5(b)(1)(C) provides as follows:

> For the purposes of this subdivision, "solid waste conversion" means a technology that uses a noncombustion thermal process to convert solid waste to a clean burning fuel for the purpose of generating electricity, and that meets all of the following criteria:
> (i) The technology does not use air or oxygen in the conversion process, except ambient air to maintain temperature control.
> (ii) The technology produces no discharges of air contaminants or emissions, including greenhouse gases as defined in Section 42801 of the Health and Safety Code.
> (iii) The technology produces no discharges to surface or groundwaters of the state.
> (iv) The technology produces no hazardous wastes.
> (v) To the maximum extent feasible, the technology removes all recyclable materials and marketable green waste compostable materials from the solid

waste stream prior to the conversion process and the owner or operator of the facility certifies that the those materials will be recycled or composted.

(vi) The facility at which the technology is used is in compliance with all applicable laws, regulations, and ordinances.

(vii) The technology meets any other conditions established by the State Energy Resources Conservation and Development Commission.

(viii) The facility certifies that any local agency sending solid waste to the facility is in compliance with Division 30 (commencing with Section 40000) of the Public Resources Code, has reduced, recycled, or composted solid waste to the maximum extent feasible, and shall have been found by the California Integrated Waste Management Board to have diverted at least 30 percent of all solid waste through source reduction, recycling and composting.

PUC section 383.5(d)(4) provides as follows:

> Facilities engaging in the combustion of municipal solid waste or tires are not eligible for funding under this subdivision.

The first criterion in PUC section 399.12(a)(1)(4) shall apply to facilities, as defined by a facility's combustion, control and generation equipment, that are located wholly within the boundaries of Stanislaus County. This criterion excludes a facility's fuel storage and sorting operations and related equipment, which may be located outside of Stanislaus County. The second criterion will apply to facilities operational and delivering electrical generation for sale on or before September 26, 1996.

The Energy Commission will develop verification procedures for each of these criteria in Phase 2 of the RPS proceeding, and will likely rely on a facility's regulatory permits as proof of its location and on its power purchase agreement or similar documentation as proof of its operational date. This approach is consistent with the one the Energy Commission used for funding under its Existing Renewable Resources Account and New Renewable Resources Account.

For the purposes of required additional procurement, PUC section 383.5(b)(1)(c) limits the type of new MSW facilities eligible for SEPs to those using an acceptable "solid waste conversion" technology as defined in the law. However, PUC section 383.5(d)(4) also provides that facilities that combust MSW or tires are not eligible for SEPs. Although these sections appear to be contradictory, the two sections must be read in harmony to reconcile the Legislature's intent. The best way to harmonize the two sections is to create an exception for facilities that do not burn MSW or tires directly, but which instead use an eligible solid waste conversion technology to gasify or convert the waste into a clean-burning fuel that is then combusted. While it is possible to interpret section 383.5(d)(4) as barring SEP funding for all facilities that directly or indirectly combust MSW or waste tires, such an interpretation renders the provisions of section 383.5(b)(1)(c) meaningless, and therefore should be avoided as a matter of statutory construction.

In its written comments on March 26, 2003, the California Integrated Waste Management Board (CIWMB) maintained that the definition of “solid waste conversion” in SB 1038 and “gasification” in AB 2770 are essentially the same. CIWMB, therefore, encouraged the Energy Commission to interpret the provisions of SB 1038 to be consistent with AB 2770. CIWMB further recommended that the air emission criteria specified in PUC section 383.5(b)(1)(C) should be applied to the process to convert the waste feedstock into gas, rather than to the process where the gas is burned to generate electricity.

Regarding the recycling provisions of section 383.5(b)(1)(C)(v), CIWMB recommended that the provisions be interpreted to require the removal of recyclable materials and green waste compostable materials to the extent it is both technically and economically feasible to do.

CIWMB further contends that a developer’s decision to move forward with a solid waste conversion facility is evidence that removing recyclable and green waste materials is both technically and economically feasible, because otherwise the developer would not pursue the project.

Regarding the certification requirements of section 383.5(b)(1)(C)(vii), CIWMB commented that it is in the early stages of developing regulations for permitting solid waste conversion technology facilities under AB 2770. As part of that process, CIWMB will address the need for procedures to ensure that recyclable and green waste compostable materials are removed from the waste stream prior to the conversion process. CIWMB encouraged the Energy Commission to work with them on the necessary certification procedures and on any project-specific determinations concerning section 383.5(b)(1)(C)(viii).

The Energy Commission agrees with CIWMB that the overlapping provisions of SB 1038 and AB 2770 need to be applied in a consistent manner. The Energy Commission also agrees that the air emission criteria specified in section 383.5(b)(1)(C) are intended to apply to the solid waste conversion process and not the combustion of the resulting clean-burning fuel. Given a fair and straightforward reading of the law, the other technology-specific criteria specified in this section should also apply to the conversion process, not to combusting the resulting clean-burning fuel.

To apply SB 1038 and AB 2770 in a consistent manner, the Energy Commission will work with CIWMB to develop certification procedures to ensure compliance with the provisions of PUC section 383.5(b)(1)(C). These procedures will be developed in Phase 2 of the RPS proceeding. The Energy Commission and CIWMB may also need to work with the waste agencies of neighboring states with respect to solid waste conversion technology facilities that may be located out-of-state.

In written comments submitted on March 27, 2003, Chateau Energy, Inc. encouraged the Energy Commission to create a special category of eligible renewable energy resources for waste-to-energy technologies using a non-combustion thermal conversion

process to gasify waste tires. However, the Energy Commission sees no need to develop a special category of eligible renewable energy resources for waste-to-energy technologies, given its recommendation that facilities using an eligible solid waste conversion technology to gasify or convert MSW into a fuel before combustion are to be eligible for the RPS.

In its oral comments at the May 5, 2003 Committee hearing, IEP questioned the eligibility of solid waste conversion facilities that use a dedicated feedstock of waste tires, rather than mixed waste constituting common MSW. In IEP's view, PUC section 383.5(b)(1)(C) was not intended to apply to solid waste conversion facilities that use a dedicated waste stream such as waste tires.

The Energy Commission does not agree with IEP's position. There are no provisions in section 383.5(b)(1)(C), either expressed or implied, that preclude a solid waste conversion facility from using a dedicated feedstock stream of MSW. In fact, the recycling provisions of section 383.5(b)(1)(C)(v) would tend to limit the type of MSW that could be used by a solid waste conversion facility, thereby dictating the use of a dedicated feedstock of MSW.

Biodiesel: Biodiesel is a type of alternative fuel that may be produced from vegetable oils, animal fats, or other products or wastes. Neither SB 1078 nor SB 1038 directly address RPS eligibility for biodiesel. However, to the extent biodiesel is produced from MSW or biomass, its eligibility is addressed indirectly as a subset of these renewable fuel sources.

At the March 25, 2003 workshop, parties submitted comments both supporting and opposing RPS eligibility for biodiesel. The National Biodiesel Board and North American Power Group, LTD submitted comments on March 28, 2003 maintaining that biodiesel meets the eligibility requirements in SB 1078 and SB 1038. CBEA, however, provided written comments arguing that biodiesel does not qualify as a type of solid fuel biomass or meet the intent of the RPS. CBEA further contends that, if the Energy Commission ultimately does allow biodiesel to be considered eligible, it should "only qualify for RPS funding if (i) the biodiesel is completely derived from California agricultural sources, (ii) has no quantity of petroleum derived diesel in it, and (iii) is produced within the borders of the State…." The Energy Commission, however, does not agree with these criteria.

Biodiesel shall be eligible for the RPS to the extent that:

1. the biodiesel is derived from a biomass feedstock, such as agricultural crops, and agricultural wastes and residues, and

2. the biodiesel contains no more than 25 percent fossil fuel.

Recycled restaurant grease qualifies as a biomass feedstock to the extent that it was originally derived from agricultural sources.

Hybrid Technologies: In some cases, technologies may use more than one fuel, potentially a renewable and a fossil fuel, to operate a single electricity generation apparatus. For example, if a renewable facility uses some fossil fuel to assist in the start-up of its operation, it may be considered a hybrid technology.

At the March 25, 2003 workshop, parties raised questions about the RPS eligibility of hybrid technologies. In written comments by the Boeing Company and North American Power Group, Ltd. dated March 28, 2003, the two companies also refer to the eligibility of hybrid technologies.

A renewable facility will be eligible for the RPS if it uses up to, but no more than, 25 percent fossil fuel. This decision is consistent with the funding requirements for the Energy Commission's Existing Renewable Resources Account and New Renewable Resources Account under SB 90 and the Existing Renewables Facilities Program under SB 1038. To receive funding under these programs, facilities must comply with the fossil fuel restrictions of section 292.204(b) of the Title 18 of the Code of Federal Regulations; this section of federal law provides that the content of all fossil fuels used, in the aggregate, may not exceed 25 percent of the total energy input of the facility during a given calendar year.

Incremental Geothermal

The eligibility of geothermal generation must reflect all the provisions in SB 1078 that describe the eligibility of geothermal generation. The eligibility of geothermal resources depends on the provisions in SB 1078 described in sections 399.12(a)(1) and 399.12(a)(2).

Incremental geothermal generation will be limited to generation resulting from eligible capital expenditures. Eligible capital expenditures must reflect all of the following:

1. a substantial capital project, resulting in replacement of generating equipment or increase in steam converted to generation at a facility;

2. a sustainable impact on the underlying reservoir use; that is, a project does not cause an increase in the decline rate of the reservoir; and

3. a capital project completion date after September 26, 1996.

Examples of eligible capital expenditures at a facility are repowering or refurbishing generating equipment, or using the geothermal energy more effectively to increase generation, such as adding a binary bottoming cycle. An example of an eligible capital expenditure at a steamfield is increasing production from the steamfield through increased water injection.

For capital expenditures in a steamfield not associated with a specific facility, the Energy Commission will decide how to allocate the resulting incremental generation to specific facilities in the steamfield, based on developers' specific estimates of how the capital projects will affect generation at each facility.

The Energy Commission will develop a process to certify incremental geothermal during Phase 2 of the RPS proceeding that is based on a developer's ability to substantiate a claim of incremental production. In Phase 2, the Energy Commission will identify the specific data that a developer must submit to substantiate a claim. In general, however, developers will be expected to provide the following information:

a) Evidence that the incremental generation from the facility resulted from an eligible capital expenditure in a project completed after September 26, 1996. The capital investment must be in new or replaced capacity or steam production, and must exclude monies that would have been spent on operation and maintenance in the normal course of doing business.

b) The expected total quantity, in megawatt hours, of the production increase from the facility resulting from, or expected to result from, the capital investment and how long the increased production level is expected to last.

c) The relationship between the capital investment and the production increase from the facility, including a discussion of the nature of the capital improvements and how they resulted in the incremental generation.

d) The trend of historical generation from the facility, extending over enough time to establish that trend accurately, along with a discussion and projection of the trend over the expected lifetime of the project.

e) If applicable, the rationale for assigning overall steamfield incremental geothermal production to an individual generating facility within that steamfield.

f) A discussion of the sustainability of increased production from the facility. The discussion should show how the capital investment is consistent with, and protective of, the long-term health of the geothermal resource and also demonstrate that increased production from the facility in the short-term is not overdrawing the resource and leading to overall diminished production in the long-term.

g) A discussion of the way any certified incremental production from the facility can be verified, measured, and guaranteed.

In substantiating a claim of incremental geothermal production, the burden of proof will be on the geothermal developer to submit compelling evidence demonstrating the effect that capital expenditures have had on production. As applicable, developers also have

the responsibility of properly allocating any increase among different generating facilities in the same steamfield.

In addition, all data submitted to substantiate a claim are expected to be public, although the Energy Commission is only interested in data with a direct bearing on the claim. For example, although information on capital investments and the resulting production increases is expected to be submitted publicly, the Energy Commission has no interest in any proprietary underlying economic analyses that may have led to the decision to make such investment.

Incremental geothermal generation will be eligible for SEPs to the extent that the generation meets the criteria for "new" in-state renewable electricity generation technology facilities described in SB 1038. The criteria for evaluating such eligibility will be addressed as part of Phase 2. It should be noted, however, that the Energy Commission does not find in this decision that incremental generation necessarily qualifies for SEPs.

Discussion and Rationale

The Energy Commission believes that the legislature included eligibility criteria for incremental geothermal that it intended the Energy Commission to implement. Comments from Calpine point out, however, that SB 1078 describes resources that are eligible for the RPS as being those that meet the definition of "in-state renewable electricity generation technology" given in section 383.5 of SB 1038. This eligibility criterion is given in section 399.12 (a) (1). Calpine suggests that facilities that use geothermal resources are included in 383.5 and, consequently, should be considered eligible for the RPS without additional qualification.

The Energy Commission believes, however, that such an interpretation is inconsistent with the intent of the statute. Calpine's interpretation requires that the Energy Commission follow section 399.12(a)1 to the exclusion of section 399.12(a)2. The provisions in section 399.12(a)2 impose additional qualifications on the eligibility of geothermal generation and, therefore, cannot be ignored.

SB 1078 addresses the eligibility of energy from geothermal facilities for the RPS in PUC section 399.12(a)(2), which provides as follows:

> A geothermal generation facility originally commencing operation prior to September 26, 1996, shall be eligible for purposes of adjusting a retail seller's baseline quantity of eligible renewable energy resources except for output certified as incremental geothermal production by the Energy Commission, provided that the incremental output was not sold to an electrical corporation under contract entered into prior to September 26, 1996. For each facility seeking certification, the Energy Commission shall determine historical production trends and establish criteria for measuring incremental geothermal production that

recognizes the declining output of existing steamfields and the contribution of capital investments in the facility or wellfield.

Section 399.12(a) provides guidance in defining “incremental geothermal” energy. First, the incremental geothermal generation cannot have been sold to an electrical corporation under a contract entered into before September 26, 1996. Second, section 399.12(a) requires the Energy Commission to determine incremental generation on a facility basis. This requirement means that the Energy Commission must not merely determine if there is incremental generation resulting from general investments in a known geothermal resource area or steamfield, but must also be able to allocate that incremental generation among the individual facilities in the steamfield. Third, section 399.12(a) requires the Energy Commission to establish criteria for measuring incremental geothermal production that take into consideration the declining output of existing steamfields.

Finally, section 399.12(a) requires the Energy Commission to account for the contribution of capital investments in the facility or wellfield. This requirement implies that investments to maintain or increase generation in a facility or wellfield do not necessarily result in incremental generation pursuant to SB 1078. The Energy Commission must decide what constitutes a capital expenditure that results in incremental generation.

The CPUC has requested that the Energy Commission “certify” whether geothermal contracts entered into by PG&E under CPUC Decision 02-08-071 are “incremental” (Resolution E-3805, December 19, 2002). The Energy Commission believes that geothermal generation under contracts resulting from the transitional procurement pursuant to CPUC Decision 02-08-071 may be considered as “incremental” under that decision, in the sense that the contracts represent additional renewable generation added to the electrical corporation’s portfolio. However, this generation does not necessarily constitute incremental generation pursuant to SB 1078 because these contracts were executed prior to the effective date of SB 1078. Therefore, the incremental nature of generation from these contracts for purposes of Decision 02-08-071 is not the subject of this report.

In its written comments submitted March 28, 2003, the California Wind Energy Association (CalWEA) recommended limiting incremental geothermal energy to production above 2001 field-wide levels. IEP also stated in its comments that “incremental power is the amount of power that exceeds the average annual production (metered) from the facility for calendar year 2002.”

The Energy Commission, however, believes that choosing a specific year’s generation does not adequately account for reservoir decline. Under the CalWEA or IEP approach, investments in projects that slowed the decline rate of a reservoir but did not actually increase generation above the historical 2001 or 2002 amounts would not be considered to create incremental generation. Instead, the Energy Commission’s decision accounts for declining reservoir production by allowing eligible capital

expenditures to create incremental generation, even if that generation merely maintains the projected generation from a steamfield.

In addition, the Energy Commission's decision accounts for declining reservoir production by only allowing incremental generation to result from capital expenditures that do not accelerate steamfield decline. This prohibition is particularly necessary when identifying a particular year's generation as the baseline level, because with a declining reservoir, capital investments that would increase generation above that baseline level could potentially lead to unsustainable production from the reservoir.

In written comments submitted for the May 5, 2003 Committee Hearing, CalWEA and The Utility Reform Network (TURN) claimed that the draft report mistakenly used September 26, 1996 as the "cutoff" date for capital investments that qualify as producing incremental geothermal. CalWEA and TURN suggested that January 1, 2002 would be a more appropriate date for this cutoff, and that it is more appropriate to consider energy from any investments prior to 2002 as "baseline" since 2001 is the year upon which baseline energy is determined. Moreover, CalWEA and TURN contend that their proposed cutoff date is consistent with the treatment of eligibility across existing resources, while the draft report's earlier date constitutes "preferential treatment solely to specific geothermal resources."

The Energy Commission disagrees with CalWEA and TURN, and continues to recommend the September 26, 1996 date as the cutoff for capital investment qualifying for incremental status. CalWEA and TURN may have confused a date for the determination of incremental geothermal with the issue of developing the baseline based on procured 2001 energy. The 2001 baseline development is determined by facilities under contract with an IOU in 2001, and does not include facilities not under contract with an IOU at that time. With the exception of geothermal resources, other existing renewable resources not under contract to an IOU in 2001 will not be part of that IOU's baseline, and can therefore be procured subsequently by that IOU and counted towards its annual obligation. SB 1078 establishes this constraint on geothermal resources, but allows for determination of an amount of "incremental generation" from these resources that will be treated similarly to other out-of-contract existing resources.

Rather than constituting "preferential treatment," including capital investments from September 1996 onward merely treats a capital investment made since September 1996 in an out-of-contract geothermal resource the same as a similar capital investment made in any other existing out-of-contract resource. CalWEA and TURN note that repowered wind projects and DWR-procured renewable power from 2001 will be considered part of an IOU's baseline, even with capital investments since September 26, 1996. However, this is not inconsistent with the Energy Commission's decision. All renewable resources under contract in 2001 are considered part of the baseline, regardless of capital investment. All renewable resources without IOU contracts in 2001 that make qualified capital investments are eligible for procurement for the annual

obligation. Existing out-of-contract geothermal resources that do not make qualified capital investments can only be used to adjust retail seller baselines.

CalWEA further notes that "incremental" is not equivalent to "new," and the Energy Commission agrees. As noted earlier, the Energy Commission understands that incremental geothermal generation may meet the criteria for "new" in-state renewable electricity generation technology facilities described in SB 1038, and therefore be eligible for SEPs. The criteria for evaluating such eligibility, however, have not yet been determined, but will be addressed by the Energy Commission as part of Phase 2. While this decision does not find that incremental generation necessarily qualifies for SEPs, the Energy Commission does note that a post-2001 repower of an existing geothermal resource must be found to be incremental as well as new, or else it will only be eligible for adjusting a retail seller's baseline.

Out-of-State Power

Out-of-state renewable power is eligible for the RPS if the facility falls within one of two categories specified in SB 1038:

1. It is located near the border and has its first point of interconnection to the WECC transmission system located within the state; or

2. It meets the eligibility criteria for SEPs in that the facility is located so that it is or will be connected to the WECC grid, and is developed with guaranteed contracts to sell its power to end-users subject to the funding requirements of PUC section 381 (i.e. end use customers of California IOUs).

Discussion and Rationale

In-state WECC Interconnection: SB 1038 defines an eligible out-of-state facility by reference to the facility's location or its eligibility for SEPs. The location requirements are specified in PUC section 383.5(b)(1)(B) which provides in pertinent part as follows:

> The facility is located in the state or near the border of the state with the first point of connection to the Western Electricity Coordinating Council (WECC) transmission system located within this state.

These location requirements address out-of-state facilities that are landlocked to California because of transmission constraints. Landlocked facilities are not connected to the portion of the WECC transmission grid serving their state, and as a result, the generation from these facilities is available only to serve California end-users. According to the Energy Commission's *Investing in Renewable Electricity Generation in California (Investment Plan)*, these out-of-state facilities are similar in nearly all respects to facilities within California and therefore provide much of the same system, environmental, and local economic benefits to California as in-state facilities.

Although SB 1038 does not define what it means to be "located near the border" or to have the first point of WECC interconnection within the state, these terms must be interpreted in light of their intended purpose as described in the *Investment Plan*. In enacting SB 1038, the Legislature carefully considered the *Investment Plan* and gave it significant weight, as is evidenced by the various references to the *Investment Plan* in SB 1038. It is therefore appropriate to consider the *Investment Plan* in applying the location requirements of section 383.5(b)(1)(B).

The *Investment Plan* does not focus on a facility's distance from the state border, but rather on its transmission constraints and isolation from local interconnection. These conditions can occur irrespective of a facility's proximity to the border. The phrase "near the border" should be defined by reference to a facility's transmission constraint, rather than by its proximity to the state border. Therefore, out-of-state facilities isolated from interconnection to that portion of the WECC transmission system serving their state and interconnected to the portion of the WECC transmission system serving California should be deemed to be "near the border" for purposes of section 383.5(b)(1)(B).

Section 383.5(b)(1)(B) also requires a facility to have its first point of connection to the WECC transmission system located within the state. Given a fair reading of the law, the this requirement should be defined by reference to the physical location where a facility's radial lines interconnect to the WECC transmission system. Therefore, if a facility's radial lines cross the border and interconnect to the WECC transmission system at a junction within the state, the facility will be deemed to satisfy the requirements of section 383.5(b)(1)(B). If a facility's radial lines do not cross the border, but instead interconnect to the WECC transmission system at a junction located out-of-state, the facility will not be deemed to satisfy the requirements of section 383.5(b)(1)(B).

Eligibility for SEPs: The second way in which out-of-state facilities qualify for the RPS is by satisfying the eligibility requirements for SEPs under SB 1038. While SB 1078 does not directly address the eligibility out-of-state facilities except as noted in the prior section, it is clear the Legislature intended out-of-state facilities to qualify for the RPS to the extent that these facilities qualified for SEPs.

PUC section 399.11(d) provides that "The California Renewables Portfolio Standard Program is intended to complement the Renewable Energy Program administered by the State Energy Resources Conservation and Development Commission and established pursuant to Sections 383.5 and 445." Indeed, SB 1078 and SB 1038 were signed into law on the same day and were chaptered one after the other. They were obviously intended to work together to promote successful implementation of the goal in PUC section 399.11(a) of achieving the target of "20 percent renewable energy for the State of California" by the year 2017.

PUC section 399.12 begins by defining an "eligible renewable energy resource" to include four categories of technologies. Three of these categories are very narrow and

specific, but the fourth in section 399.12(a) broadly includes all in-state renewable electricity generation technologies as defined in PUC section 383.5. In turn, PUC section 383.5 provides a list of eligible renewable technologies and then specifies in section 383.5(b)(1) that "in-state" includes facilities that are located "near the border of the state with the first point of interconnection to the Western Electricity Coordinating Council (WECC) transmission system located within this state." If no further guidance were available on the meaning of "eligible renewable resource technology," the Energy Commission would have to conclude that the Legislature intended that other out-of-state renewable generation facilities (those that do not have their first point of interconnection to the WECC transmission system located within this state) must be excluded unless they met one of the other very specific categories described in PUC section 399.12(a). However, additional provisions in SB 1038 and SB 1078 rule out this conclusion.

First, PUC sections 383.5(d)(2)(A) and 383.5(d)(2)(A)(v) both indicate that the Energy Commission funding provided for new renewable energy resources, after the enactment of SB 1038 and SB 1078, is to be administered to allow "retail sellers to fulfill their obligations under Article 16 (commencing with Section 399.11)" [the RPS Program]. Second, PUC section 383.5(d)(2)(B) clearly provides that the Energy Commission can make this funding available to a resource that does not meet the strict definition of an "in-state" renewable resource if the only reason for its ineligibility is its location outside the state, and if it meets the following criteria:

- It is located so that it does or will be connected to the WECC transmission system, and

- It is developed with guaranteed contracts to sell its generation to end-use customers located in California IOU service territories while it receives SEPs.

A stated purpose of the funding is to help retail sellers to meet their RPS obligations. The language in SB 1038 suggests that facilities located out-of-state that meet certain requirements are eligible both for funding and for meeting retail sellers' RPS obligations, while the language in SB 1078 suggests that only "in-state" resources are eligible under the RPS program. This apparent internal contradiction in the statutory language should be resolved through interpretation.

The Energy Commission received written comments on the eligibility of out-of-state power, for both the RPS and SEPs, from the following: Boeing Energy Systems, the California Wind Energy Association, Geo Energy Partners, High Rock Holdings, the Independent Energy Producers, the San Diego Gas & Electric Company, The Utility Reform Network (with the Natural Resources Defense Council), the Powerex Corp, and the Vulcan Power Company. These companies unanimously encouraged the Energy Commission to find out-of-state power eligible for both the RPS and SEPs for several reasons, including the reason that out-of-state power would ensure that power from renewable resources would be available at the lowest possible cost. The Southern California Edison Company also encouraged the Energy Commission to find out-of-

state power eligible for RPS, but argued that out-of-state generators should not be eligible for SEPs.

Several parties noted that SB 1078 is unclear as to whether out-of-state generators would be eligible for the RPS if they are not "located at or near the border of the state with the first point of interconnection to the [WECC] transmission system located within this state." The California Wind Energy Association, The Utility Reform Network (with the Natural Resources Defense Council), and High Rock Holdings suggested that the Energy Commission harmonize the provisions of SB 1038 and SB 1078 to make it clear that out-of-state generators eligible for SEPs are also eligible for the RPS.

The Energy Commission believes that the Legislature intended for "eligible renewable energy resource," as used in SB 1078, to include out-of-state generators that are eligible for SEPs under SB 1038. By its plain language, SB 1038 opens up the California market to out-of-state power by granting the Energy Commission the authority to fund out-of-state renewable generators, provided such generation can be connected to the WECC grid and is developed with guaranteed contracts to sell the power to end users in California. Therefore, SB 1038 evidences a clear Legislative intent to be non-exclusive toward out-of-state power. Moreover, because the statute increases the pool of renewable energy supplies eligible for SEPs, it demonstrates the Legislature's desire to encourage competition to provide the lowest cost renewable power to the citizens of California.

In implementing legislation, the implementing agency has the role, under the established law of this state, to harmonize conflicting provisions of related statutes to afford a logical construction that executes the Legislature's intent. SB 1038 is clear about allowing the Energy Commission to include out-of-state resources for SEPs. The Energy Commission believes that it would be illogical for the Legislature to encourage out-of-state renewable power generally in this fashion, while discouraging the same resources by rendering them ineligible for the RPS.

Therefore, on balance, the better construction of the two statutes would be to include out-of-state power in the suite of resources that may be counted in a retailer's RPS. To interpret the statutes otherwise would frustrate the will of the Legislature to promote competition and create an inconsistency in two statutes that are clearly meant to be administered together.

Several parties questioned whether out-of-state renewable power procured under SB 1078 will actually displace energy generated by fossil fuel-fired power plants in California, and argued that the Energy Commission should require the power to be delivered into the state. The Utility Reform Network and the Natural Resources Defense Council recommended that generators located out-of-state be required to provide proof of their ability to deliver power to the California border. The California Wind Energy Association further recommended that the Energy Commission should require generators to demonstrate that their power is actually delivered — that is, scheduled and transmitted — into the California Independent System Operator control area.

Based on the comments received from these and other parties at the May 5, 2003 Committee hearing, the Energy Commission recommends that out-of-state generators be subject to the same deliverability requirement as in-state generators. All generators must be able to deliver their power to the in-state market hub or substation in the WECC transmission system designated by the contracting utility under the power purchase agreement. It is not necessary for out-of-state generators to schedule and transmit their power to a designated location unless required to do so by the contracting utility under the power purchase agreement.

APPENDIX A

PARTICIPANTS IN RPS PHASE 1 IMPLEMENTATION PROCEEDING

3Phases Energy
Applied Biomass Technology
Beckley Singleton
Black Mountain Technologies
Boeing
Caithness Energy
California Farm Bureau Federation
California Independent System Operator
California Institute for Energy Efficiency
California Integrated Waste Management Board
California Public Utilities Commission
California Wind Energy Association
California Wind Energy Collaborative
Calpine Corporation
Center for Energy Efficiency and Renewable Technologies
Chateau Energy, Inc.
Clearwood Electric Company
County of Sonoma
Davis Hydro
Edward T. Navickis
Ellison, Schneider & Harris
Graphic Vision
Green Power Institute
Independent Energy Producers
Inland Empire Utilities Agency
Livingston Mattesich
Methane Credit LLC
Northern California Power Authority
National Biodiesel Board
O'Connor Consulting
Onsite Power Systems
Ormat
Pacific Gas and Electric Company
Paul Hastings
Peninsula Energy Partners
Plastic Energy LLC
Powerex Corp
PPM Energy
RES
Sandia Labs
San Diego Gas and Electric Company
Sempra Energy
Sempra Energy Global Ent.
Sierra Club
Southern California Edison Company
Stirling Energy Systems
T2 & Associates
Theroux Environmental
The Utility Reform Network
TransAlta
U.S. Forest Service
Vulcan Power
Xenergy

APPENDIX B
RELEVANT STATUTORY LANGUAGE

Senate Bill 1078 (Sher, Statutes of 2002, Chapter 516)

Public Utilities Code
Article 16. California Renewables Portfolio Standard Program

399.11. The Legislature finds and declares all of the following:

(a) In order to attain a target of 20 percent renewable energy for the State of California and for the purposes of increasing the diversity, reliability, public health and environmental benefits of the energy mix, it is the intent of the Legislature that the California Public Utilities Commission and the State Energy Resources Conservation and Development Commission implement the California Renewables Portfolio Standard Program described in this article.

(b) Increasing California's reliance on renewable energy resources may promote stable electricity prices, protect public health, improve environmental quality, stimulate sustainable economic development, create new employment opportunities, and reduce reliance on imported fuels.

(c) The development of renewable energy resources may ameliorate air quality problems throughout the state and improve public health by reducing the burning of fossil fuels and the associated environmental impacts.

(d) The California Renewables Portfolio Standard Program is intended to complement the Renewable Energy Program administered by the State Energy Resources Conservation and Development Commission and established pursuant to Sections 383.5 and 445.

399.12. For purposes of this article, the following terms have the following meanings:

(a) "Eligible renewable energy resource" means an electric generating facility that is one of the following:

(1) The facility meets the definition of "in-state renewable electricity generation technology" in Section 383.5.

(2) A geothermal generation facility originally commencing operation prior to September 26, 1996, shall be eligible for purposes of adjusting a retail seller's baseline quantity of eligible renewable energy resources except for output certified as incremental geothermal production by the Energy Commission, provided that the incremental output was not sold to an electrical corporation under contract entered into prior to September 26, 1996. For each facility seeking certification, the Energy Commission shall determine historical production trends and establish criteria for measuring incremental geothermal production that recognizes the declining output of existing steamfields and the contribution of capital investments in the facility or wellfield.

(3) The output of a small hydroelectric generation facility of 30 megawatts or less procured or owned by an electrical corporation as of the date of enactment of this article shall be eligible only for purposes of establishing the baseline of an electrical corporation pursuant to paragraph (3) of subdivision (a) of Section 399.15. A new hydroelectric facility is not an eligible renewable energy resource if it will require a new or increased appropriation or diversion of water under Part 2 (commencing with Section 1200) of Division 2 of the Water Code.

(4) A facility engaged in the combustion of municipal solid waste shall not be considered an eligible renewable resource unless it is located in Stanislaus County and was operational prior

to September 26, 1996. Output from such facilities shall be eligible only for the purpose of adjusting a retail seller's baseline quantity of eligible renewable energy resources.

(b) "Retail seller" means an entity engaged in the retail sale of electricity to end-use customers, including any of the following:

(1) An electrical corporation, as defined in Section 218.

(2) A community choice aggregator. The commission shall institute a rulemaking to determine the manner in which a community choice aggregator will participate in the renewables portfolio standard subject to the same terms and conditions applicable to an electrical corporation.

(3) An electric service provider, as defined in Section 218.3 subject to the following conditions:

(A) An electric service provider shall be considered a retail seller under this article for sales to any customer acquiring service after January 1, 2003.

(B) An electric service provider shall be considered a retail seller under this article for sales to all its customers beginning on the earlier of January 1, 2006, or the date on which a contract between an electric service provider and a retail customer expires. Nothing on this subdivision may require an electric service provider to disclose the terms of the contract to the commission.

(C) The commission shall institute a rulemaking to determine the manner in which electric service providers will participate in the renewables portfolio standard. The electric service provider shall be subject to the same terms and conditions applicable to an electrical corporation pursuant to this article. Nothing in this paragraph shall impair a contract entered into between an electric service provider and a retail customer prior to the suspension of direct access by the commission pursuant to Section 80110 of the Water Code.

(4) "Retail seller" does not include any of the following:

(A) A corporation or person employing cogeneration technology or producing power consistent with subdivision (b) of Section 218.

(B) The Department of Water Resources acting in its capacity pursuant to Division 27 (commencing with Section 80000) of the Water Code.

(C) A local publicly owned electrical utility as defined in subdivision (d) of Section 9604.

(c) "Renewables portfolio standard" means the specified percentage of electricity generated by eligible renewable energy resources that a retail seller is required to procure pursuant to Sections 399.13 and 399.15.

399.13. The Energy Commission shall do all of the following:

(a) Certify eligible renewable energy resources that it determines meet the criteria described in subdivision (a) of Section 399.12.

(b) Design and implement an accounting system to verify compliance with the renewables portfolio standard by retail sellers, to ensure that renewable energy output is counted only once for the purpose of meeting the renewables portfolio standard of this state or any other state, and for verifying retail product claims in this state or any other state. In establishing the guidelines governing this system, the Energy Commission shall collect data from electricity market participants that it deems necessary to verify compliance of retail sellers, in accordance with the requirements of this article and the California Public Records Act (Chapter 3.5 (commencing with Section 6250) of Division 7 of Title 1 of the Government Code). In seeking data from electrical corporations, the Energy Commission shall request data from the commission. The commission shall collect data from electrical corporations and remit the data to the Energy Commission within 90 days of the request.

(c) Allocate and award supplemental energy payments pursuant to Section 383.5 to eligible renewable energy resources to cover above-market costs of renewable energy.

Senate Bill 1038 (Sher, Statutes of 2002, Chapter 515)

Public Utilities Code

383.5. (a) It is the intent of the Legislature in establishing this program, to increase the amount of renewable electricity generated per year, so that it equals at least 17 percent of the total electricity generated for consumption in California.

(b) As used in this section, the following terms have the following meaning:

(1) "In-state renewable electricity generation technology" means a facility that meets all of the following criteria:

(A) The facility uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and any additions or enhancements to the facility using that technology.

(B) The facility is located in the state or near the border of the state with the first point of connection to the Western Electricity Coordinating Council (WECC) transmission system located within this state.

(C) For the purposes of this subdivision, "solid waste conversion" means a technology that uses a noncombustion thermal process to convert solid waste to a clean burning fuel for the purpose of generating electricity, and that meets all of the following criteria:

(i) The technology does not use air or oxygen in the conversion process, except ambient air to maintain temperature control.

(ii) The technology produces no discharges of air contaminants or emissions, including greenhouse gases as defined in Section 42801 of the Health and Safety Code.

(iii) The technology produces no discharges to surface or groundwaters of the state.

(iv) The technology produces no hazardous wastes.

(v) To the maximum extent feasible, the technology removes all recyclable materials and marketable green waste compostable materials from the solid waste stream prior to the conversion process and the owner or operator of the facility certifies that the those materials will be recycled or composted.

(vi) The facility at which the technology is used is in compliance with all applicable laws, regulations, and ordinances.

(vii) The technology meets any other conditions established by the State Energy Resources Conservation and Development Commission.

(viii) The facility certifies that any local agency sending solid waste to the facility is in compliance with Division 30 (commencing with Section 40000) of the Public Resources Code, has reduced, recycled, or composted solid waste to the maximum extent feasible, and shall have been found by the California Integrated Waste Management Board to have diverted at least 30 percent of all solid waste through source reduction, recycling and composting.

(d) (1) Fifty-one and one-half percent of the funds collected pursuant to paragraph (6) of subdivision (c) of Section 381, shall be used for programs designed to foster the development of new in-state renewable electricity generation technology facilities, and to secure for the state the environmental, economic, and reliability benefits that continued operation of those facilities will provide.

(2) Any funds used for new in-state renewable electricity generation technology facilities pursuant to this subdivision shall be expended in accordance with the report, subject to all of the following requirements:

(A) In order to cover the above market costs of renewable resources as approved by the commission and selected by retail sellers to fulfill their obligations under Article 16 (commencing

with Section 399.11), the Energy Commission shall award funds in the form of supplemental energy payments, subject to the following criteria:

(i) The Energy Commission may establish caps on supplemental energy payments. The caps shall be designed to provide for a viable energy market capable of achieving the goals of Article 16 (commencing with Section 399.11). The Energy Commission may waive application of the caps to accommodate a facility, if it is demonstrated to the satisfaction of the Energy Commission, that operation of the facility would provide substantial economic and environmental benefits to end use customers subject to the funding requirements of Section 381.

(ii) Supplemental energy payments shall be awarded only to facilities that are eligible for funding under this subdivision.

(iii) Supplemental energy payments awarded to facilities selected by an electrical corporation pursuant to Article 16 (commencing with Section 399.11) shall be paid for the lesser of 10 years, or the duration of the contract with the electrical corporation.

(iv) The Energy Commission shall reduce or terminate supplemental energy payments for projects that fail either to commence and maintain operations consistent with the contractual obligations to an electrical corporation, or that fail to meet eligibility requirements.

(v) Funds shall be managed in an equitable manner in order for retail sellers to meet their obligation under Article 16 (commencing with Section 399.11).

(B) The Energy Commission may determine as part of a solicitation, that a facility that does not meet the definition of "in-state renewable electricity generation technology" facility solely because it is located outside the state, is eligible for funding under this subdivision if it meets both of the following requirements:

(i) It is located so that it is or will be connected to the Western Electricity Coordinating Council (WECC) transmission system.

(ii) It is developed with guaranteed contracts to sell its generation to end use customers subject to the funding requirements of Section 381, or to marketers that provide this guarantee for resale of the generation, for a period of time at least equal to the amount of time it receives incentive payments under this subdivision.

(C) Facilities that are eligible to receive funding pursuant to this subdivision shall be registered in accordance with criteria developed by the Energy Commission and those facilities may not receive payments for any electricity produced that has any of the following characteristics:

(i) Is sold under an existing long-term contract with an existing in-state electrical corporation if the contract includes fixed energy or capacity payments, except for that electricity that satisfies the provisions of subparagraph (C) of paragraph (1) of subdivision (c) of Section 399.6.

(ii) Is used onsite or is sold to customers in a manner that excludes competitive transition charge payments, or is otherwise excluded from competitive transition charge payments.

(iii) Is produced by a facility that is owned by an electrical corporation or a local publicly owned electric utility as defined in subdivision (d) of Section 9604.

(iv) Is a hydroelectric generation project that will require a new or increased appropriation of water under Part 2 (commencing with Section 1200) of Division 2 of the Water Code.

(D) Eligibility to compete for funds or to receive funds shall be contingent upon having to sell the output of the renewable electricity generation facility to customers subject to the funding requirements of Section 381.

(E) The Energy Commission may require applicants competing for funding to post a forfeitable bid bond or other financial guaranty as an assurance of the applicant's intent to move forward expeditiously with the project proposed. The amount of any bid bond or financial guaranty may not exceed 10 percent of the total amount of the funding requested by the applicant.

(F) In awarding funding, the Energy Commission may provide preference to projects that provide tangible demonstrable benefits to communities with a plurality of minority or low-income populations.

(3) Repowered existing facilities shall be eligible for funding under this subdivision if the capital investment to repower the existing facility equals at least 80 percent of the value of the repowered facility.

(4) Facilities engaging in the combustion of municipal solid waste or tires are not eligible for funding under this subdivision.

(5) Production incentives awarded under this subdivision prior to January 1, 2002, shall commence on the date that a project begins electricity production, provided that the project was operational prior to January 1, 2002, unless the Energy Commission finds that the project will not be operational prior to January 1, 2002, due to circumstances beyond the control of the developer. Upon making a finding that the project will not be operational due to circumstances beyond the control of the developer, the Energy Commission shall pay production incentives over a five-year period, commencing on the date of operation, provided that the date that a project begins electricity production may not extend beyond January 1, 2007.

(6) Facilities generating electricity from biomass energy shall be considered an in-state renewable electricity generation technology facility to the extent that they certify to the satisfaction of the Energy Commission that fuel utilization is limited to the following:

(A) Agricultural crops and agricultural wastes and residues.

(B) Solid waste materials such as waste pallets, crates, dunnage, manufacturing, and construction wood wastes, landscape or right-of-way tree trimmings, mill residues that are directly the result of the milling of lumber, and rangeland maintenance residues.

(C) Wood and wood wastes that meet all of the following requirements:

(i) Have been harvested pursuant to an approved timber harvest plan prepared in accordance with the Z'berg-Nejedly Forest Practice Act of 1973 (Ch. 8 (commencing with Sec. 4511), Pt. 2, Div. 4, P.R.C.).

(ii) Have been harvested for the purpose of forest fire fuel reduction or forest stand improvement.

(iii) Do not transport or cause the transportation of species known to harbor insect or disease nests outside zones of infestation or current quarantine zones, as identified by the Department of Food and Agriculture or the Department of Forestry and Fire Protection, unless approved by the Department of Food and Agriculture and the Department of Forestry and Fire Protection.

Assembly Bill 2770 (Mathews, Statutes of 2002, Chapter 740)

Public Resources Code
40117. "Gasification" means a technology that uses a noncombustion thermal process to convert solid waste to a clean burning fuel for the purpose of generating electricity, and that, at minimum, meets all of the following criteria:

(a) The technology does not use air or oxygen in the conversion process, except ambient air to maintain temperature control.

(b) The technology produces no discharges of air contaminants or emissions, including greenhouse gases, as defined in subdivision (g) of Section 42801.1 of the Health and Safety Code.

(c) The technology produces no discharges to surface or groundwaters of the state.

(d) The technology produces no hazardous waste.

(e) To the maximum extent feasible, the technology removes all recyclable materials and marketable green waste compostable materials from the solid waste stream prior to the conversion process and the owner or operator of the facility certifies that those materials will be recycled or composted.

(f) The facility where the technology is used is in compliance with all applicable laws, regulations, and ordinances.

(g) The facility certifies to the board that any local agency sending solid waste to the facility is in compliance with this division and has reduced, recycled, or composted solid waste to the maximum extent feasible, and the board makes a finding that the local agency has diverted at least 30 percent of all solid waste through source reduction, recycling, and composting.

APPENDIX C
GLOSSARY

Annual procurement target — the quantity of eligible renewable resources that a retail seller must procure within a particular year to reach the target of 20 percent of its retail sales procured from eligible energy resources no later than December 31, 2017.

Baseline — refers to the quantity of eligible renewable resources procured in 2001. For the baseline, “procurement” includes power sold to an investor owned utilities’ customers by the Department of Water Resources and power from a facility owned or contracted for by the investor owned utility, pursuant to SB 1078 Section 399.15 (a) (3).

Bottoming cycle — refers to a means to increase the thermal efficiency of a steam electric generating system by converting some waste heat from the condenser into electricity rather than discharging all of it into the environment.

Binary-cycle power plants — Most geothermal areas contain moderate-temperature water (below 400 degrees F). Energy is extracted from these fluids in binary-cycle power plants. Hot geothermal fluid and a secondary (hence, "binary") fluid with a much lower boiling point than water pass through a heat exchanger. Heat from the geothermal fluid causes the secondary fluid to flash to steam, which then drives the turbines.

Biodiesel — a fuel comprised of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats, designated B100, consistent with ASTM Standard D 6751-02a. Biodiesel refers to the pure fuel but it may also be blended with diesel fuel. Biodiesel blends are denoted as, “B##” with “##” representing the percentage of biodiesel contained in the blend (for example, B20 is 20 percent biodiesel and 80 percent petroleum diesel.)

Biomass — any organic material not derived from fossil fuels, including agricultural crops, agricultural wastes and residues, waste pallets, crates, dunnage, manufacturing, and construction wood wastes, landscape and right-of-way tree trimmings, mill residues that result from milling lumber, rangeland maintenance residues, and wood and wood waste from timbering operations.

Capacity — the maximum amount of electricity that a generating unit, power facility, or utility can produce under specified conditions. Capacity is measured in kilowatts or megawatts.

Collaborative Staff — the staff at the Energy Commission and the California Public Utilities Commission who have been designated as having special status to work collaboratively and participate in confidential deliberations concerning decision-making on the implementation of the RPS.

Community choice aggregator— as defined in AB 117 (Migden, Chapter 838, Statutes of 2001-2002) refers to any of the following entities, if that entity is not within the jurisdiction of a local publicly owned electric utility that provided electrical service as of January 1, 2003: any city, county, or city and county whose governing board elects to combine the loads of its residents, businesses, and municipal facilities in a community-wide electricity buyers program or

any group of cities, counties, or cities and counties whose governing boards have elected to combine the loads of their programs, through the formation of a joint powers agency established under Chapter 5 (commencing with Section 6500) of Division 7 of Title 1 of the Government Code.

Conventional energy — energy produced from a "conventional power source," as defined in Public Utilities Code Section 2805, which includes power derived from nuclear energy, or the operation of a hydropower facility greater than 30 megawatts, or the combustion of fossil fuels with the exception of cogeneration.

Digester gas — gas from the anaerobic digestion of organic wastes.

Distributed generation — small scale electricity generation facilities sited in or close to a load center or at a customers' site.

Electric service provider — an entity such as a marketer or aggregator who provides electricity directly to an end-use customer in the direct-access market.

Electrical corporations — Pacific Gas and Electric Company, San Diego Gas and Electric Company, Southern California Edison Company, or other electrical corporations as defined by Public Utilities Code section 218, contributing funds to the Renewable Resource Trust Fund pursuant to Public Utilities Code section 381.

Emerging renewable generation technologies — photovoltaic, solar thermal electric, fuel cell using a renewable fuel, small wind turbine (not more than 30 kilowatts), and other technologies specifically identified by the Energy Commission as meeting the criteria necessary to be considered emerging under this investment plan.

End-use customer (end-user) — a residential, commercial, agricultural, or industrial electric customer who buys electric power to be consumed as a final product (not for resale).

Feedstock — any material converted to another form of fuel or energy product.

Fossil fuel — fuel comprised of hydrocarbon constituents, including coal, petroleum, or natural gas, occurring in and extracted from underground deposits, and mixtures or byproducts of these hydrocarbon constituents.

Fuel cell — an advanced energy conversion device that combines hydrogen-bearing fuels with air-borne oxygen in an electrochemical reaction to produce electricity very efficiently and with minimal environmental impact.

Geothermal — natural heat from within the earth, captured for production of electric power, space heating, or industrial steam.

Geothermal reservoir — a large volume of underground hot water and steam in porous and fractured hot rock. The hot water in geothermal reservoirs occupies only 2 to 5 percent of the volume of rock, but if the reservoir is large enough and hot enough, it can be a powerful source of energy. Geothermal reservoirs are sometimes overlain by a layer of impermeable rock. While geothermal reservoirs usually have surface manifestations such as hot springs or fumaroles, some do not.

Grid — the electrical transmission and distribution system linking power plants to customers through high power transmission line service.

Incremental geothermal – pursuant to PUC section 399.12 (a)(2), incremental geothermal refers to the electricity that can be produced from existing geothermal resource and is eligible to be counted toward an utility's required additional procurement rather than its baseline.

Hydroelectric — a technology that produces electricity by using falling water to turn a turbine generator, referred to as hydro. See also "small hydro."

Investor-owned utility (IOU) — synonymous with "electrical corporations" as defined herein.

Landfill gas (LFG) — gas produced by the breakdown of organic matter in a landfill (composed primarily of methane and carbon dioxide) or the technology that uses this gas to produce power.

Marketer — an agent for generation projects who markets power on behalf of the generator. The marketer may also arrange transmission, firming or other ancillary services as needed. Though a marketer may perform many of the same functions as a broker, a marketer represents the generator while a broker acts as a middleman.

Market price referent — refers to the cost of a non-renewable product used as a comparison to renewable products which are needed to satisfy a retail seller's RPS obligation pursuant to PUC section 399.15 (c). Further, pursuant to section 399.14 (f), procurement and administrative costs associated with long-term contracts entered into by an electrical corporation for eligible renewable resources, at or below the market price determined by the CPUC pursuant to subdivision (c) of section 399.15, shall be deemed reasonable per se, and shall be recoverable in rates.

Megawatt (MW) — one thousand kilowatts. One megawatt is about the amount of power to meet the peak demand of a large hotel.

Megawatt hour (mWh) — a unit of measure describing the amount of electricity consumed over time. It means one megawatt of electricity supplied for one hour. Two typical California households consume about a combined total of 1 mWh in an average month, one household consumes about 0.5 mWh.

Metered — the independent measurement with a standard meter of the electricity generated by a project or facility.

Municipal solid waste (MSW) — all solid, semi-solid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, and demolition and construction wastes that can be processed and burned to produce energy.

Nameplate capacity — the maximum amount of electricity that a generating unit, power plant, or utility can produce under specified conditions, measured in kilowatts or megawatts.

Ocean wave — refers to an experimental technology that uses ocean waves to produce electricity.

Ocean thermal— refers to experimental technology that uses the temperature differences between deep and surface ocean water to produce electricity.

Photovoltaic (PV) — a technology that uses a semiconductor to convert sunlight directly into electricity.

Procurement — for the purposes of PUC section 399.14 (g), refers to a utility acquiring the renewable output of electric generation facilities that the utility owns or for which it has contracted.

Public Goods Charge (PGC) — a surcharge applied to the electric bills of IOU ratepayers used to support energy efficiency, public interest research, development and demonstration (RD&D), low income, and renewable energy programs. Also called *systems benefit charge*.

Qualifying facility — or small qualifying power production facility, is a power generating facility that satisfies the requirements of the Federal Public Utilities Regulatory Policy Act, as implemented by the Federal Regulatory Energy Commission under section 292.207 of Title 18 of the Federal Code of Regulation.

Radial line — the line emanating from a power plant through which electrical energy is transmitted from the power plant to a transmission system. Radial lines have only one terminal connection to a transmission system.

Renewable energy credits (RECs) —represents the separable bundle of non-energy or non-commodity attributes (environmental, economic, and social) associated with the generation of renewable electricity; the attributes of a given unit of renewable generation, separated from the underlying electrical energy. Green tag, green ticket, and tradable renewable certificate (TRC) are often used synonymously with REC.

Renewable — a power source other than a conventional power source within the meaning of Section 2805 of the Public Utilities Code, provided that a power source utilizing more than 25 percent fossil fuel is not included. Section 2805 states: " 'Conventional power source' means power derived from nuclear energy or the operation of a hydropower facility greater than 30 megawatts or the combustion of fossil fuels, unless cogeneration technology, as defined in Section 25134 of the Public Resources Code, is employed in the production of such power."

Renewables Portfolio Standard (RPS) — for the purposes of this document, the term refers to California's Renewables Portfolio Standard pursuant to SB 1078. In PUC section 399.12 (c) the law states that, "'renewables portfolio standard' means the specified percentage of electricity generated by eligible renewable energy resources that a retail seller is required to procure….". Under the RPS, an electrical corporation must increase its total procurement of eligible renewable energy resources by at least an additional 1 percent of retail sales per year so that 20 percent of its retail sales are procured from eligible energy resources no later than December 31, 2017.

Reservoir— a naturally-occurring underground cavity containing deposits of liquid or gaseous materials, such as water, steam, oil, or natural gas.

Repower(ed) — generically refers to replacing a significant portion of the generating equipment at an existing facility.

RPS Collaborative Workplan — a written description of how the Energy Commission and the CPUC will work together to implement the RPS, including laying out a three-phased schedule to

categorize and sequentially address issues as appropriate. The designated collaborative staff of the Energy Commission and the CPUC developed the RPS Collaborative Workplan.

Small hydro — a facility employing one or more hydroelectric turbine generators, the sum capacity of which does not exceed 30 megawatts. Pursuant to PUC section 399.12, procurement from a small hydro facility as of January 1, 2003 is eligible only for purposes of establishing the baseline of an electrical corporation. A new small hydro facility is not eligible for the RPS if it will require a new or increased appropriation or diversion of water under Part 2 (commencing with Section 1200) of Division 2 of the Water Code. Pursuant to PUC section 383.5 (d) (2) (C) (iv), a new small hydro facility must not require an increased appropriation of water under Part 2 (commencing with Section 1200) of Division 2 of the Water Code to be eligible for supplemental energy payments.

Solid-fuel biomass — a biomass technology that utilizes solid fuel, such wood, agricultural waste, and other organic material that may be burned to produce electricity.

Supplemental Energy Payments (SEP) — incentive payments from the Energy Commission to eligible renewable generators for the costs above the market referent of energy procured to meet the RPS, pursuant to PUC section 399.15 (a) (2). Any indirect costs from procuring eligible renewable resources – such as imbalance energy charges, sale of excess energy, decreased generation from existing resources, or transmission upgrades – are not eligible for SEP. The cost of the contract bids for renewable resources that are selected by the utilities to meet their RPS obligation will be compared to the cost of a comparable non-renewable product, the market price referent. Costs for renewable products that exceed the referent, excluding indirect costs noted above, will be covered by the SEP, subject to availability of Public Goods Charge (PGC) funds, pursuant to PUC section 399.15 (a) (4). The Energy Commission will distribute the SEP directly to the renewable generator through its New Renewable Facilities Program.

Tidal current power – energy obtained by using the motion of the tides to run water turbines that drive electric generators.

Transmission interconnection — the linkage of transmission lines between two utilities, enabling power to be moved in either direction. Interconnections allow the utilities to help contain costs while enhancing system reliability.

Transmission system — an interconnected group of electric transmission lines and associated equipment to move or transfer electric energy in bulk between points of supply and consumption.

Western Electricity Coordinating Council (WECC) — formed on April 18, 2002, by the merger of the Western Systems Coordinating Council (WSCC), Southwest Regional Transmission Association (SWRTA), and Western Regional Transmission Association (WRTA). WECC is responsible for coordinating and promoting electric system reliability, assuring open and non-discriminatory transmission access among members, and providing a forum for resolving transmission access disputes.

WECC interconnection — the junction where radial lines from a given power plant interconnect to the WECC-controlled transmission system.

Wind power— energy from wind converted into mechanical energy and then electricity.