

**STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION**

Docket No. 02-REN-1038
Renewable Energy Program

Docket No. 03-RPS-1078
Renewables Portfolio Standard

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**Comments of Pacific Gas and Electric Company on the
Renewables Portfolio Standard Eligibility
Draft Committee Guidebook**

December 14, 2007

I. Introduction and Summary

Pacific Gas and Electric Company (PG&E) offers these comments and recommendations for the Renewables Committee Draft version of the Energy Commission's Renewables Portfolio Standard (RPS) Eligibility Guidebook issued on December 7, 2007. The effect of these revisions is twofold: on one hand, they conform the CEC's guidelines to recent changes in governing law, and on the other, they take decisive steps to replenish the market of renewable energy resources available to California. PG&E particularly appreciates the Renewable Committee's resolution of two important eligibility issues in a way that lends certainty to the value of our power purchase and sale agreements and recognizes that creating more renewable generation products allows PG&E to optimize procurement for our end use customers.

The rule that certification of an eligible renewable energy resource is valid for the life of the facility will add certainty to the facility's ability to earn payments for RPS-eligible deliveries and should augment lender confidence in projects that rely on California RPS contracts for cash-flow. Illustrating some of the various means by which electricity generated out of state can be delivered for consumption at a different time in California, or the "banking and shaping" of deliveries, enables renewable energy development and generation to reach California consumers unconstrained by interstate transmission issues. At the same time, recognizing that eligible resources can sell their output to retail sellers, procurement entities, and third parties broadens market opportunities and should encourage more renewable development. PG&E appreciates the hard work that the Renewables Committee has devoted to reaching these conclusions.

The Committee Draft amendments to the certification requirements for out-of-country facilities should be revised, however, because the requirement that project proponents list California laws applicable to the development and operation of a similar facility, then

explain how the out-of-country facility will comply with California law, appears to subject a foreign development to California law. PG&E recommends instead that the developer explain how its compliance with applicable out-of-country laws will ensure that the project is as protective of the environment as a similar facility developed in California and suggests how this can be accomplished through minor modifications to the Committee Draft and a certification worksheet, which is attached.

These comments also propose the deletion of the requirement that a pumped storage facility meet the eligibility criteria applicable to a small hydroelectric renewable facility. Although this issue was not previously raised by PG&E, recent calls to increase the percentage of utility renewable procurement have put pressure on the investor-owned utilities to find a means to integrate off-peak intermittent power into the system. The Commission should view pumped storage facilities in a new light and remove the constraints against their use for harnessing renewable generation.

PG&E has identified several passages in the Committee Draft that require revision in order to maintain consistency with Commission policy. In the following section, PG&E suggests changes concerning the following issues:

- The true-up of shaped deliveries with plant generation on an annual basis,
- Clarification of the “remarketing” provision,
- Recognition that generation can be sold to a third party for delivery into California,
- Terminology regarding hydroelectric equipment,
- Calculation of RPS-eligible electricity using Biofuels, and
- The start date for WREGIS.

II. Comments on the Renewables Committee Draft – (Numbered headings are reproduced as they appear in the Committee Draft – bulleted headings identify PG&E’s concern).

II. Eligibility Requirements
B. Eligibility for the RPS
3. Small Hydroelectric Facilities

- **All generation from facility is RPS-eligible**

The second paragraph under this heading describes the maximum size of small hydroelectric facilities. (See, p. 14.) The last sentence explains how the CEC will apply the provision that output from efficiency gains is RPS-eligible to the 30 MW maximum.

PG&E recommends that the word “all” be inserted as shown:

The energy Commission interprets the 30 MW size limit such that if a 30 MW small hydroelectric or conduit hydroelectric facility had an eligible 5 MW energy efficiency increase, all energy from the 35 MW capacity would be RPS eligible.

- **Replacement of Equipment Allowed for Efficiency Improvement**

Under the subheading, “c. Incremental Hydroelectric Generation from Efficiency Improvements Regardless of Facility Output,” “Eligible Efficiency Improvements” on p. 21 are limited to improvements that make more efficient use of the existing water resources and equipment. It appears that the drafter intended to limit eligible improvements to those using existing water management facilities, not equipment in general, because turbine replacement is specifically allowed. PG&E suggests the following modification:

Eligible efficiency improvements are limited to those improvements that make more efficient use of the existing water resource and ~~equipment~~ water management facilities rather than increase the storage capacity or head of an existing water reservoir.

- **Pumped Storage Subject to Small Hydro Requirements**

The RPS eligibility of “Pumped Storage” is addressed on p. 22. This section allows pumped storage to be RPS-eligible if it meets the eligibility requirements for small hydroelectric facilities. This means that only hydroelectric facilities of 30 MW or less could generate RPS-eligible power from water pumped into storage by RPS-eligible power. The Committee Draft states that the storage facilities will not be certified for the RPS as separate or distinct renewables facilities. In this case, the requirement that the storage facility meet the small hydroelectric facility criteria has questionable relevance.

This requirement bears reexamination in light of the function and real value of pumped storage. There is less commercial incentive to use RPS-eligible electricity to create pumped-storage generation than to use the electricity to serve load directly. The pumped storage process does not result in a net gain in electricity; in fact, approximately one-quarter of the energy used to pump the water into storage is not recovered when the water is released to generate electricity. However, excess off-peak power may not be matched with load. Instead, pumped storage has a system benefit – it enables the system to accept more power off-peak because it creates load.

The more pumped storage facilities that are available, the more off-peak power can be accepted by the grid. PG&E is aware of only six pumped storage facilities in California, and based on public information, they range in size from 200 MW to 1212 MW in capacity, except for one 40 MW facility which was primarily built for water supply. Due

to the energy loss inherent in pumped storage and the high cost of retrofit with turbines that can spin in both directions, the small hydro requirements must be deleted in order to encourage additional pumped storage development.

Recognition of pumped storage power as RPS-eligible, so long as the pumping was accomplished with RPS-eligible electricity and the facility is not limited to 30 MW, may provide good reason to build this resource and transform excess energy into stored energy. The Commission should reconsider the function of pumped storage and delete the requirement that the pumped storage facility meet the eligibility requirements for small hydroelectric facilities.

Solar Energy and Distributed Generation

- **Solar PV and Distributed Generation Owned by a Utility is RPS-Eligible**

Paragraph 3 on page 4 under the heading “Determining how customer-side renewable distributed generation resources fit into RPS” correctly identifies that “The Energy Commission will certify facilities that might otherwise be considered distributed generation facilities ..., *or if the facility is owned by a utility and meets other requirements*”(emphasis added). However, the third full paragraph on page 24 under the heading “5. Solar Energy and Distributed Generation” addresses CEC certification of distributed generation facilities, but omits this qualification. Thus, the first sentence in this paragraph should be restated as follows:

The Energy commission will certify facilities that would have been considered distributed generation facilities except that they are participating in a standard contract/tariff executed pursuant to Public Utilities Code 399.20, as implemented through ~~the~~ CPUC Decision 07-07-027 (R.06-05-027), or executed pursuant to a comparable standard contract/tariff approved by a local publicly owned electric utility (POU), *or if the facility is owned by a utility and meets other requirements* to become certified as RPS-eligible.

6. Renewable Facilities Using Multiple Fuels.

- **Biogas measured on an energy basis**

In paragraph 3 on page 27 under the heading, “Biogas Injected into a Natural Gas Pipeline” the measurement of energy unnecessarily includes the heat content per volume of gas. This section should be edited as follows:

3. The energy content produced and supplied to the transportation pipeline system must be measured on a monthly basis and reported annually, illustrated by month. Reporting shall be in units of energy (for example, MMBtu) based on the metering of gas. ~~volume and~~

~~adjustment for measured heat content per volume of each gas.~~ In addition, the total amount of gas used at the RPS-eligible facility must be reported in the same units measured over the same period, and the electricity production must be reported in MWh.

C. Eligibility of Out-of-State Facilities

- **Generation procured by all retail sellers**

The new language describing a multi-jurisdictional utility's sale of its procurement to third parties, the term "obligated utility" should be changed to "retail seller" to avoid the implication that only utilities may purchase and count such power as RPS-eligible. (Top of p. 30.)

D. Delivery Requirements

- **Eligible facility contract with third party**

PG&E has observed that as the renewables market begins to mature, transactions will be more fluid if third parties enter into contracts with the power generators and assist in matching supplies with demand, which is one of the functions third parties perform in the conventional energy marketplace.

Markings in the first full paragraph on p. 32 indicate the conscious intent to recognize that banking and shaping of power sold by the RPS-certified facility to a third party. This language is reproduced as follows:

To count generation from out-of-state facilities for RPS compliance, the RPS-certified facility must enter a power purchase agreement with a retail seller, procurement entity, or third party, and a matching quantity of electricity must be delivered to an in-state market hub (also referred to as "zone") or in-state point of delivery (also referred to as "node") located within California. (fn.22: Beginning January 1, 2008, it will be acceptable for an RPS-certified facility to enter into a PPA with a retail seller, procurement entity, or third party, and all such parties must use and be registered as account holders with WREGIS as part of RPS compliance.)

The recognition that the eligible facility may contract with any three of these parties should be maintained consistently throughout the guidebook to avoid confusion. The term "third party" should be inserted in the following passages as shown:

The electricity generated and associated RECs from the RPS-certified facility must be procured through a power

purchase agreement with the retail seller, procurement entity, **or third party**. (p. 32, third full paragraph).

1. The retail seller, procurement entity, facility representative, **or third party** must either (a) arrange for an interchange transaction with the California ISO to deliver the out-of-state facility's energy (or a matching amount of energy from another out-of-state source located within the WECC) to a point of delivery in California, or... (p. 33, second full paragraph).

3. The RPS certification number of the facility or facilities (or RPS pre-certification number, in the case of local publicly-owned electric utilities) that is/are engaged in a power purchase agreement with a retail seller, procurement entity, **third party** (or for a local publicly owned electric utility implementing these delivery requirements as part of compliance with its RPS) must be shown on the ... (p. 33, fourth full paragraph).

5. The facility representative, retail seller, **or** procurement entity, **third party**, or local publicly owned electric utility implementing these delivery requirements as part of compliance with its RPS) must request... (p. 33, last paragraph).

6. On May 1 of each year (or the next business day), the retail seller, procurement entity, **or third party** must submit an annual report to the Energy Commission documenting compliance with this NERC E-Tag requirement for the previous calendar year. (p. 34, first full paragraph).

To verify generation, the facility must submit monthly payment statements from the retail seller, **procurement entity, or third party** as an attachment to the form showing the amount of energy procured from the facility. (p. 58, first full paragraph).

The footnote indicates that beginning January 1, 2008, it will be acceptable for an RPS-certified facility to enter into a PPA with a retail seller, procurement entity, or third party. PG&E suggests that since the banking and shaping cannot occur until and unless the RPS-eligible facility generates power, the date on which the generated signed the PPA is not important. The generation pursuant to the PPA, not the execution of the PPA should be subject to the specification that sales pursuant to a PPA between the generator and a retail seller, procurement entity, or third party may be RPS-eligible. Accordingly, PG&E offers the following suggestion:

Beginning January 1, 2008, it will be acceptable for an RPS-certified facility to **enter into a PPA with sell power to** a retail seller, procurement entity, or third party **pursuant to a PPA**, and all such parties must use and be registered as account holders with WREGIS as part of RPS compliance.

This provision appears to require all parties to participate in WREGIS as a condition of eligibility. PG&E has been an enthusiastic supporter of WREGIS development, but for reasons detailed later in these comments, believes that the January 1, 2008 WREGIS participation deadline cannot be achieved. Because of this, the requirement would be impossible to meet and the consequent loss of RPS eligibility would be punitive. WREGIS participation should be required either on January 1, 2008 or the date on which the WECC and WREGIS committee have adopted and approved the WREGIS terms of use, whichever occurs first.

- **Clarification of “remarketing” condition**

On page 32, the Committee Draft reiterates the following language of the March 2007 version of the Eligibility Guidelines -- “The Energy Commission will compare the amount of RPS-eligible electricity generated by the RPS-eligible facility per calendar year with the amount of electricity delivered into California for the same calendar year and the lesser of the two amounts may be counted as RPS-eligible procurement (for more discussion see ‘verification of delivery’).”

This provision allows the retail seller to compensate for the irregularity of intermittent generation by scheduling deliveries of energy on a firm, seasonal basis. However, to accomplish the banking of the renewable generation, it must be sold into the market when and where it is generated, otherwise, the renewable generation would have to be delivered to California on a real time basis, which could add transactional costs and reduce the value of banking and shaping. The addition of the phrase, “remarketed consistent with any applicable CPUC rules” to the requirement that California delivery quantities match the procurement from the RPS-eligible facility introduces ambiguity that may constrain the retail seller’s ability to accept power from the generating facility under the Energy Commission’s banking and shaping rules. PG&E proposes this alternative instead:

The electricity from the RPS-eligible facility may be remarketed **as necessary consistent with any applicable CPUC rules** so long as a quantity of electricity is delivered into California that matches the amount originally procured from the out-of-state RPS-eligible facility. The delivery of electricity to an in-state market hub or in-state point of delivery located within California must be made consistent with North American Electric Reliability Corporation (NERC) rules and documented with a NERC E-tag as

described below. **Energy delivered into California may be remarketed in California consistent with CPUC rules.**

III. Certification Process

C. Additional Required Information for Biofuels, Hydroelectric, and Out-of-State Facilities

3. Instructions for Additional Required Information for Out-of-State facilities

- **Environmental Showing by Out-of-State Facilities**

The representatives of out-of-state facilities seeking RPS-certification must provide a comprehensive list of all California environmental quality laws, etc. (laws, ordinances, regulations, and standards or “LORS”). PG&E understands that the applicant must demonstrate that its project will not cause a violation of the environmental protection LORS to occur in the region of California most likely to be affected by the facility’s development or operation. (Committee Draft pp. 49-50.) However, the description of the LORS is not so specific. The applicant is to provide “(a) A comprehensive list and description of all California environmental quality LORS that may be directly or indirectly violated by the facility’s development or operation, and (b) An assessment as to whether the facility’s development or operation will cause or contribute to a violation of any of these LORS in California” (emphasis added). PG&E suggests that applicants’ concerns over the potential breadth of the showing could be alleviated by the following clarification:

(b) An assessment as to whether the facility’s development or operation will cause or contribute to a violation of any of these LORS in **the region of California most likely to be affected by the facility’s development or operation.**

- **Environmental Showing by Out-of-Country Facilities**

The eligibility requirements for out-of-country facilities on page 51 implement the statutory requirement that the facility “is developed and operated in a manner that is as protective of the environment as a similar facility located in the state.” The Committee Draft does this by extending the requirement that out-of-state facilities identify and describe the California LORS that would be applicable to a similar facility if it were located within California at a site designated by the applicant. The applicant is then required to explain how its development of a facility in a foreign jurisdiction would meet the identified LORS.

PG&E believes this framework is incomplete, because an out-of-country development will be subject to the LORS of the foreign jurisdiction – asking the developer to vow to

comply with California law is unrealistic. The issue should be approached from the perspective of the developer; the determination of whether the project will be developed and operated in a manner that is as protective of the environment must be based upon the LORS governing that project's development. A model template is attached to these comments. (See, Attachment 1.)

Recognition of this reality requires only a minor modification of the Committee Draft that will link the LORS that protect the California environment with the LORS with which the developer must comply. PG&E recommends the following change to the 3rd bullet on page 51:

An explanation as to how the facility's developer and/or operator will ~~meet~~ **protect the environment to the same extent as provided by these LORS for a similar facility located in California** in developing or operating the facility, including whether the developer and/or operator will secure and put in place mitigation measures to ensure that these LORS are followed.

The final RPS Eligibility Guidebook should incorporate a model template that indicates the kind of information, i.e., an identification and description of the LORS of California and the foreign jurisdiction, required by the CEC to certify an out-of-country generating facility. PG&E has provided a sample to demonstrate how this analysis can be used to make the necessary findings. (See, Attachment 2.)

IV. Generation Tracking and Verification System

- **Mandatory Use of WREGIS**

The Energy Commission developed the Western Renewable Energy Generation Information System (WREGIS) to facilitate the verification of RPS performance. At page 57 of the Committee Draft, the Commission requires RPS certified facilities, retail sellers, and procurement entities to participate in WREGIS as part of RPS compliance. PG&E has been an active participant in the development of WREGIS and fully supports its use. As a retail seller, PG&E will become a WREGIS account holder, so that its procurement, transfers, and retirement of renewable energy certificates will be recorded and its compliance with RPS requirements can be verified through electronic means.

However, a couple of administrative issues have postponed the initiation of WREGIS and make it all but impossible for PG&E to participate in WREGIS effective January 1, 2008. These issues were raised in PG&E's October 26, 2007 comments on the Staff Draft and are still being addressed by WREGIS stakeholders.

The outstanding issue concerns indemnification for potential infringement of intellectual property rights, including patent and copyright infringement, participation in the WREGIS by the California Independent System Operator (CAISO), and actions by the WREGIS governing board. Although the Energy Commission has obtained

indemnification rights for intellectual property infringement from the software provider, Associated Power Exchange (APX), these rights do not extend to any of the end users. The IOUs have been unable to secure indemnification rights from the APX. Because the circumstances surrounding the risk and the amount of potential exposure are uniquely within the knowledge and control of a third party, APX, the CEC should not demand that the IOUs take on an unknown risk or face a finding of noncompliance with the RPS program.

The second obstacle concerns the CAISO's essential role as the recipient, repository, and sender of electronic generation data. The terms of the CAISO's participation in WREGIS have not been formalized, yet, so even if retail sellers sought to use WREGIS on January 1, 2008, they and the generating facilities would have no means to conduct electronic transactions.

Even if the issue of liability for infringement of intellectual property rights were immediately resolved, the WREGIS terms of use, which govern the parties' responsibilities, could not become mutually effective prior to January 1, 2008 because of the WREGIS committee approval processes. All these factors indicate that the January 1, 2008 WREGIS participation deadline cannot be achieved. Because the Guidebook directs PG&E to do the impossible, the consequences of inaction, i.e., the loss of RPS eligibility, would be punitive and could not be sustained on review. Given these circumstances, the Committee Draft should be revised as follows:

Effective January 1, 2008 or the date on which the WECC and WREGIS committee have adopted and approved the WREGIS terms of use, whichever occurs first, the Energy Commission requires RPS certified facilities, retail sellers, and procurement entities to participate in WREGIS as part of RPS compliance. Consequently, 2008 is the first ...
(p. 57, second full paragraph).

A. Reports to the Energy Commission

- **Annual True-Up of Generation and Deliveries to Allow for Seasonality**

As noted above, the Eligibility Guidebook calculates the amount of RPS-eligible deliveries received through banking and shaping as the lesser of the metered output of the RPS-eligible generator and the deliveries documented by NERC E-tags on which the generator's RPS certification or pre-certification number is noted. (See, Delivery Requirements, p. 32, third full paragraph and Verification of Delivery, p. 60, second paragraph). Based on previous submissions at the CEC, PG&E believes that the CEC consciously adopted an annual comparison between generation and delivery to allow banking and shaping to compensate for the seasonal nature of intermittent resources and transmission availability. Counting the lesser of generation and deliveries on a monthly basis would penalize PG&E because during months when generation is being banked,

and deliveries are zero, RPS procurement would appear to be zero; and during months when there is no generation but deliveries are made, RPS procurement would also appear to be zero.

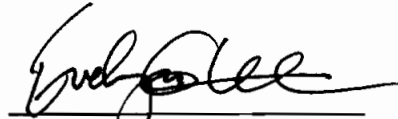
Deliveries need not occur in the same months as generation by the renewable resource in order to count toward RPS compliance. The following passage at the top of page 61 is wrong and should be corrected as shown:

The monthly information on NERC E-Tag data for each facility will be compared to the monthly generation procured from an RPS-eligible facility per LSE, with the lesser of the two annual totals considered to eligible California RPS procurement.

III. Conclusion

PG&E hopes that the Renewables Committee finds its recommendations on the Committee Draft to be helpful and incorporates these suggestions into the adopted RPS Eligibility Guidebook.

Dated: December 14, 2007



Evelyn C. Lee
Attorney, PG&E Law Department

ATTACHMENT 1

**Pre-Certification Supplement – Out-of-Country
California Renewables Portfolio Standard Program**

Proposed instructions: The applicant for pre-certification must provide one worksheet for each of the environmental areas identified under “Instructions for Additional Required Information for Out-of-State Facilities.”

Section I: Applicant Information

Section II: Facility Information

Section III: Laws, Ordinances Regulations, and Standards

Protected Resource (i.e., Cultural Resources, Land Use, etc).			
California LORS		LORS of Foreign Jurisdiction	
Citation to Applicable Law	Description	Citation to Applicable Law	Description

Section IV: Compare and explain how development and operation of the proposed renewable energy electric generating facility under the LORS of the foreign jurisdiction would be as protective of the environment as if the facility were being constructed in California at a location selected by the applicant and subject to the California LORS.

Address how development and operation of the facility will provide the same protection in terms of the following tasks:

- Definition of the protected resource
- Documentation of existing resource values
- Protection standard
- Identification of project impact and mitigation
- Enforcement

ATTACHMENT 2

LAWS, ORDINANCES, REGULATIONS & STANDARDS

Biology

CALIFORNIA Laws Ordinances, Regulations & Standards Citations to applicable law	Description	CANADIAN Laws Ordinances, Regulations & Standards Citations to applicable law	Description
<p>Federal</p> <p>Federal Endangered Species Act (Title 16, United States Code, section 1531 et seq., and Title 50, Code of Federal Regulations, part 17.1 et seq.)</p> <p>Migratory Bird Treaty (Title 16, United States Code, sections 703 through 711)</p>	<p>Designates and provides for protection of threatened and endangered plant and animal species, and their critical habitat.</p> <p>Makes it unlawful to take or possess any migratory nongame bird (or any part of such migratory nongame bird) as designated in the Migratory Bird Treaty Act.</p>	<p>Federal</p> <p><i>Species at Risk Act</i>, S.C. 2002, c. 29</p> <p><i>Migratory Birds Convention Act</i> S.C. 1994, c-22</p>	<p>Designates and provides protection for threatened and endangered plants, animal species and their critical habitat</p> <p>enacts international agreement between Canada and the U.S. for the protection of migratory birds. The deposit of oil, oil waste or other substances harmful to such birds is prohibited, except as authorized by regulation. Harm to birds or disturbance of the nests of migratory birds is an offence, except in accordance with a permit.</p> <p>Provides for the creation of migratory birds sanctuaries.</p>

<p>Clean Water Act (Title 33, United States Code, sections 1251 through 1376, and Code of Federal Regulations, part 30, section 330.5(a)(26))</p>	<p>Requires the permitting and monitoring of all discharges to surface water bodies. Section 404 requires a permit from the U.S. Army Corps of Engineers for a discharge from dredged or fill materials into waters of the U.S., including wetlands. Section 401 requires a permit from a regional water quality control board for the discharge of pollutants.</p>	<p><i>Canadian Environmental Assessment Act</i>, S.C. 1992, c. 77</p>	<p>Reviewable, renewable energy projects proponents required to identify impacts on biological resources and appropriate mitigation and/or preventative measures.</p>
<p>State California Endangered Species Act of 1984 (Fish and Game Code, sections 2050 through 2098)</p>	<p>Protects California's rare, threatened, and endangered species.</p>	<p><i>Fisheries Act</i>, R.S.C. 1985, c. F-14 <i>Navigable Waters Protection Act</i>, R.S.C. 1985, c. N.22</p>	<p>s.35 and s.36 prohibit the deposit of deleterious substances into fish bearing waters or the harmful alteration, disruption or destruction of fish habitat except as authorized by regulation or permit. Construction in or about navigable waters without a permit is prohibited.</p>
<p>Provincial <i>Wildlife Act</i>, R.S.B.C. 1996, c. 488</p>	<p>Provides general protection for all wildlife species. Wildlife cannot be harmed unless under permit. Includes specific protections for birds and birds' nests, and has provisions that do not allow raptors and their nesting areas to be harmed in any circumstances. Provides protection from harm for species considered to be threatened or endangered.</p>	<p>Allows for designation of wildlife</p>	<p>Allows for designation of wildlife</p>

<p>California Code of Regulations (Title 14, sections 670.2 and 670.5)</p> <p>Fully Protected Species (Fish and Game Code, sections 3511, 4700, 5050, and 5515)</p>	<p>Lists the plants and animals of California that are declared rare, threatened, or endangered.</p> <p>Designates certain species as fully protected and prohibits the take of such species or their habitat unless for scientific purposes (see also California Code of Regulations Title 14, section 670.7).</p>	<p>habitat areas which provides for prohibitions on use of land</p> <p>Allows for designation of critical wildlife areas and wildlife sanctuaries. Agencies may prohibit activities that harm species in such areas</p> <p>Creates offences for violations of the Act</p>
<p>Nest or Eggs (Fish and Game Code section 3503)</p>	<p>Protects California's birds by making it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird.</p>	<p>Lists species considered to be threatened or endangered.</p> <p>Regime governing use of public lands for forest and range practices includes provisions for protection of identified plants and animals.</p>
	<p>Government Actions Regulation, B.C. Reg. 582/2004</p>	<p>Designates plant and animal species as endangered, threatened or vulnerable. Allows for designation of wildlife habitat areas and general wildlife measures in such areas.</p> <p>Creates offences for violations of the Act</p>

<p>Migratory Birds (Fish and Game Code section 3513)</p>	<p>Protects California's migratory birds by making it unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame birds.</p> <p>Designates certain areas such as refuges, natural sloughs, riparian areas, and vernal pools as significant wildlife habitat.</p> <p>Designates state rare, threatened, and endangered plants.</p>	<p>Provides for the preservation of provincial land for ecological purposes. Can be specifically used to set aside areas where endangered native plants and animals may be preserved</p>
<p>Local City or County General Plans</p>	<p>Some General Plans have Conservation Elements that contain objectives to conserve, develop, and utilize resources within the City or County jurisdictional boundaries.</p>	<p>Some legal governments have objectives to conserve, develop and enhance resources within their boundaries</p>
<p>Significant Natural Areas (Fish and Game Code section 1930 et seq.)</p> <p>Native Plant Protection Act of 1977 (Fish and Game Code section 1900 et seq.)</p>	<p>Ecological Reserve Act, R.S.B.C. 1996, s. 103</p>	

The table above identifies laws and regulatory schemes designed to protect Biological Resources in California and in B.C. B.C. law relies on a similar methodology and mechanisms to ensure that species are identified and protected. The following is a comparison and explanation of this methodology.

DEFINITION OF PROTECTED RESOURCE

California
In California, the regulatory scheme protects endangered or threatened species and species of special concern ("listed

PG&E Sample Out-of-State Analysis
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species"). Additionally, identification and protection of any "non-listed" species is authorized by the lead agency on a case by case analysis. Species can be aquatic or terrestrial mammals, plants or insects. The California scheme builds upon the federal scheme and requires consultation with various resource agencies to during the permitting process to ensure that species are protected. A primary component of the protection scheme is the listing process whereby data is gathered, public input is attained and species are characterized as endangered, threatened, or species of special concern.

British Columbia

In British Columbia, identification and protection of endangered species takes place through a combination of federal and provincial programs and laws. These programs have arisen under an agreement reached in 1995 between the federal and provincial governments, the *Accord for the Protection of Species at Risk*, which established a framework for the manner in which the governments approach protection of endangered species. The identification of species is an ongoing process carried out by the Committee on the Status of Endangered Species in Canada ("COSEWIC"), which includes representatives from federal and all provincial governments as well as the broad scientific community. Mammals, birds, amphibians, reptiles, fish, molluscs, arthropods, plants, lichens and mosses are designated in four categories of risk: extirpated, endangered, threatened or of special concern. B.C. also has a separate process to identify those species not studied by COSEWIC. Species identified as in need of protection may be legally listed under the federal *Species at Risk Act*, or the provincial *Wildlife Act* and *Forest and Range Practices Act*. Legal listing triggers protections against harm to the species or their residences as well as extensive recovery planning and identification of critical habitat. The provincial Identified Wildlife Management Strategy is incorporated into land planning and approval processes.

DOCUMENTATION OF EXISTING RESOURCE VALUES

The primary protection method in California and B.C. is avoidance of impacts to listed species and its habitat. This is accomplished by surveying the area to be disturbed including outside the immediate disturbance area for evidence of various listed plant and animal species. Survey methodologies include physical terrestrial surveys and literature searches and are conducted according to various protocols specific to the species being investigated. Both bodies of law empower the lead agency permitting a project to require preconstruction surveys to determine and document the presence or absence of potentially protected species. In British Columbia, surveys are undertaken by qualified professionals under federal and provincial guidelines such as the federal *Environmental Assessment Best Practice Guidance for Wildlife at Risk in Canada* and the provincial *Develop with Care: Environmental Guidelines for Urban and Rural Land Developments in British Columbia*. Agencies publish guidelines setting out appropriate survey methods and management planning for specific species.

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PROTECTION STANDARD

No numerical protection standard exists for California or for B.C. as each body of law allows standards to be developed to protect species determined to need special protection. While California may deem a particular species, such as the California Condor, to need special protection, B.C. law may recognize different species important to the resource agencies in Canada. Each lead agency ultimately approving a permit for a project, however, is empowered to determine whether a project will adversely affect a protected species or habitat and require avoidance or special protection. Under both regulatory schemes, identification and avoidance are the first measures employed if feasible.

PROJECT IMPACT AND MITIGATION

Mitigation for impacts to protected species is avoidance in both California and B.C, which depending on the species, may take the form of moving a project, to construction and/or operation during certain times of the year. If avoidance is not feasible, both regulatory schemes allow for the creation of suitable habitat under certain circumstances to provide an overall benefit to the species as a whole. These can take the form of mitigation banking and the creation of wildlife preserves with special protection in perpetuity. In some instances, avoidance is the only option and redesign of the project will be necessary. In the case of significant adverse effects discovered during construction, both regulatory schemes allow the stoppage of work, further assessment by qualified individuals and measures to be implemented to protect, remove, avoid, or otherwise protect the resource.

ENFORCEMENT

Both California and B.C. empower the lead agency to enforce the statutory protections and the provisions of permit and/or mitigation conditions. Enforcement includes civil and criminal penalties.