ATTACHMENT B

Findings of Fact and Statement of Overriding Considerations

FINDINGS OF FACT

I. INTRODUCTION

The California Air Resources Board (ARB) proposes to adopt the Renewable Electricity Standard (RES) as a new regulation. If adopted, the regulation would advance the standard for the proportion of electricity generation by eligible renewable sources from 20 percent, as established in 2002 by the California Renewables Portfolio Standard (RPS), to 33 percent. ARB determined that adoption and implementation of the proposed RES constitutes a "project" as defined by the California Environmental Quality Act (CEQA, Public Resources Code section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations section 15000 et seq., as amended).

In this context, "Project" means the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment. Although the policy aspects of the proposed RES would not result in any direct change in the physical environment, CEQA Guidelines section 15378(a) specifically includes any action undertaken by a public agency that has the potential to result in a reasonably foreseeable indirect physical change.

ARB has prepared a functionally equivalent environmental document in compliance with CEQA and the State CEQA Guidelines. The document contains an analysis of potential significant environmental impacts of the proposed RES, and identifies potential mitigation that could feasibly be implemented to alleviate, minimize or avoid potentially significant environmental impacts.

As described in the environmental analysis, ARB used the best available data to represent the results of the proposed regulation and a reasonable set of assumptions upon which to assess impacts. However, the manner in which renewable energy projects actually come on line cannot be known with certainty. The number of potential future combinations of renewable resource mix, location, and timing, and degree that would satisfy RES requirements is nearly infinite and will depend upon myriad economic, political, and environmental factors. The scenarios identified by ARB and modeled using the RES Calculator represent a reasonable characterization of the way in which the future could unfold. Therefore, environmental impacts and their mitigation approaches are also considered conceptual.

In addition, as with the existing RPS, renewable energy projects that contribute to compliance with the RES will not be carried out by ARB, but will be proposed by others, reviewed and approved by other federal, State, and local agencies, and permitted by

agencies with authority over resources affected by individual projects. Responsibility to mitigate for potentially significant effects identified at the project-specific level will lie with lead agencies with the decision-making authority to approve such projects.

State CEQA Guidelines section 15097 directs lead agencies to adopt a program for the monitoring or reporting on the revisions it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. ARB's analysis identifies reasonably foreseeable, but conceptual, environmental effects from projects necessary to achieve compliance with the regulation, but those projects will be carried out by others. Because ARB has no authority to mitigate, adoption of a mitigation monitoring or reporting program is not required.

CEQA and the State CEQA Guidelines provide that:

No public agency shall approve or carry out a project for which an environmental [document] has been certified which identifies one or more significant effects on the environment that would occur if the project is approved or carried out unless both of the following occur:

(a) The public agency makes one or more of the following findings with respect to each significant effect:
(1) Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.
(2) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.
(3) Specific economic, legal, social, technological, other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental [document].

(b) With respect to significant effects which were subject to a finding under paragraph (3) of subdivision (a), the public agency finds that specific overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects on the environment. [Public Resources Code section 21081]

Because the environmental document identified significant effects that may occur as a result of the regulation, and in accordance with the provisions of the guidelines presented above, ARB adopts these findings as part of the approval of the RES.

I. PROJECT DESCRIPTION

In accordance with ARB policy, CEQA, and the State CEQA Guidelines, ARB conducted an analysis of the potential impacts associated with adoption of the RES, which would increase the proportion of electricity generation by eligible renewable

sources from 20 percent, as established in 2002 by the California Renewables Portfolio Standard (RPS), to 33 percent. State CEQA Guidelines also require evaluation of a range of reasonable alternatives to the project (Section 15126.6(a)), including a "no-project" alternative (Section 15126.6(e)). Accordingly, a No Project Alternative (continuation of the existing RPS) was analyzed, as well as an alternative scenario in which the incremental difference in energy between the 20 percent RPS program and the proposed 33 percent RES comes from resources within California; no out-state resources would be used.

A. THE PROPOSED PROJECT

The proposed RES regulation requires California's electricity providers to demonstrate, by 2020, that 33 percent of the electricity sold to their customers was generated from renewable energy resources. Increasing the portion of electricity supplied from renewable resources will reduce greenhouse gas (GHG) emissions by displacing electricity produced by fossil fuel-fired electrical generating facilities. The proposed regulatory language is contained in new sections 97000 through 97012 of title 17, California Code of Regulations (see Appendix A of the RES Staff Report).

Achievement of the 33 percent renewable standard is phased in through multi-year compliance intervals starting with the 2012 to 2014 time period. The proposed regulation would establish a renewable electricity standard (RES) obligation that would be equal to the regulated party's sales to retail end-use customers, summed over a compliance interval and multiplied by the renewable energy credit (REC) percentage for the relevant compliance interval. Compliance with the obligation would be demonstrated by the retirement of Western Renewable Energy Generation Information System (WREGIS) certificates from eligible renewable energy resources. Parties that are subject to the regulation would meet the percentage of retail sales requirements if the amount of RECs at the end of the compliance period is equal to, or greater than, the percentage required during that period.

The proposed RES regulation applies statewide in California. As such, the primary project area is the State of California. However, as part of the Western Interconnection power grid (overseen by the Western Electricity Coordinating Council [WECC]), California is part of a service territory that extends from Canada to Mexico and includes the provinces of Alberta and British Columbia; the northern portion of Baja California, Mexico; and all or portions of the 14 states in between. As such, some of the renewable electricity that may contribute to compliance with the RES may be generated in out-of-state facilities. For purposes of this analysis, therefore, the project area is coincident with the WECC service area (See RES Staff Report Figure III-1).

The analysis of potential impacts of implementation of the RES is based on possible compliance scenarios developed by the ARB. To develop those scenarios, ARB used a model known as the RES Calculator. The model was originally developed by Energy and Environmental Economics, Incorporated (E3) in 2009 to conduct a 33 percent RPS Implementation Analysis for the California Public Utilities Commission (CPUC). The

calculator accomplishes the task by using a series of inputs related to the availability of renewable energy both inside and outside California, energy load demand forecast, transmission line requirements, cost impacts, and environmental rankings. (See Chapter V, Section F for more detail.)

The RES calculator was used to generate different sets of plausible compliance scenarios used to illustrate a range of potential renewable resource mixes that could power the California grid in 2020 in compliance with the proposed 33 percent RES requirements. The scenarios reflect changes in retail loads due to varying degrees of energy efficiency, combined heat and power (CHP), and distributed solar generation (solar DG). Although the scenarios may not fully incorporate parameters related to permitting, construction, and ideal load balancing, these aspects are under evaluation and will be used to facilitate implementation of the 33 percent RES regulation.

Each of the scenarios are based on RES calculator output that is separated into two primary categories referred to as the high and low load conditions. These conditions represent the highest and lowest amounts of energy expected in 2020 assuming varying degrees of Energy Efficiency, CHP, and Solar DG according to Scoping Plan measures. See Table V-13 in Chapter V of the ARB Staff Report for the details and assumptions of the two load conditions.

The 33 percent RES scenarios represent feasible pathways that State utilities can use to comply with a 33 percent renewable target in 2020. The results present two renewable pathways beyond 2008 renewable energy levels using the latest 2009 California Energy Commission's (CEC) Integrated Energy Policy Report (IEPR) energy demand forecast. The High Net Load includes some embedded energy reduction strategies while the Low Net Load incorporates full implementation of the Climate Change Scoping Plan measures. These results were calculated using the same methodology as used to develop the 20 percent scenarios. However, the RES calculator was reprogrammed to estimate a 33 percent renewable energy need.

B. ALTERNATIVES ANALYZED

1. No Project

CEQA requires a specific alternative of "No Project" to be evaluated, and this alternative essentially serves as ARB's baseline for analysis. CEQA documents typically assume that the adoption of a "no project" alternative would result in no further action by the project proponent or lead agency. This would mean that there would be no Renewable Electricity Standard regulation, but the Renewable Portfolio Standard, which requires that 20 percent of California's electricity come from renewable resources, would still be in effect. Under this Alternative, ARB's legal mandate to reduce GHG emissions to 1990 levels would be jeopardized. Some of the measures that would reduce GHG emissions that are included in ARB's Scoping Plan are already underway and would not be expected to change as a result of the RES regulation.

Under the no-project alternative, ARB would not adopt the proposed RES and the existing RPS would remain in effect. For purposes of analysis, therefore, ARB developed 20 percent scenarios, also referred to as the "reference scenarios," to serve as a benchmark for comparison between the 20 percent RPS and 33 percent RES programs in 2020. These scenarios represent California's likely renewable energy mix in 2020 based on current State law and existing RPS contracts. As such, these scenarios provide the most relevant benchmark against which to measure incremental cost and environmental implications of increasing renewable resources to a 33 percent target.

2. Incremental In-State Generation

The In-State Generation alternative considers a scenario in which the incremental difference in energy between the 20 percent RPS program and the proposed 33 percent RES comes from resources within California; no out-state resources would be used. Therefore, these scenarios (Incremental In-State high and low load) represent the use of up to 20 percent in-state and out-of-state bundled resources with an energy delivery requirement, and 13 percent renewable resources from within California.

II. IMPACT SUMMARY

A. IMPACTS DETERMINED TO BE LESS THAN SIGNIFICANT

1. Air Quality

Impact B-2: Long-Term Operational Impacts to Air Quality from Out-of-State Project-Generated Emissions of Criteria Air Pollutants and Precursors.

Finding: This impact would be less than significant.

Facts in Support of Finding: Because renewable generation produces lower levels of criteria air pollutants per unit of electricity output than the fossil-fuel generation it would displace, and less total electricity would be generated out-of-state in comparison to existing conditions, these projects would not be anticipated to result in significant environmental impacts (e.g., generate levels that conflict with applicable air quality plans, violate or contribute substantially to an existing or projected violation, or result in a cumulatively considerable net increase in nonattainment areas).

Impact C-5: Conflict with adopted HCPs, NCCPs, other conservation plans or other policies to protect natural resources.

Finding: This impact would be less than significant.

Facts in Support of Finding: The future development of renewable energy projects under the proposed regulation change could conflict with adopted HCPs, NCCPs, other conservation plans or other policies to protect natural resources. However, because a

project would not be likely to be approved if it was not consistent with these plans, it is assumed that any renewable energy project would be consistent.

2. Hazards and Hazardous Materials

Impact G-1: Routine transport, use or disposal of hazardous materials.

Finding: This impact would be less than significant.

Facts in Support of Finding: The proposed renewable energy facilities would generally be located substantial distances from highways, major developments, and other sensitive receptors, and the operators of proposed renewable energy facilities would be required to comply with all applicable Federal, State, and local laws regarding the transportation of hazardous materials.

Impact G-3: Hazardous emission release within one quarter mile of a school.

Finding: This impact would be less than significant.

Facts in Support of Finding: No school facilities are known to be located within any CREZ or within ¼-mile of any of CREZ.

Impact G-4: Location within an area that is included on a hazardous materials list compiled pursuant to Government Code Section 65962.5.

Finding: This impact would be less than significant.

Facts in Support of Finding: Renewable energy projects within the identified CREZs would not be located on sites included on lists of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment.

Impact G-5: Hazards associated with proximity to a public or private airport or location within an Airport Land Use Plan.

Finding: This impact would be less than significant.

Facts in Support of Finding: No public or private airports are known to be located within any CREZ or within 2 miles of any CREZ and therefore, no airport land use plans would apply within any CREZ.

Impact G-6: Conflicts with an adopted emergency response plan.

Finding: This impact would be less than significant.

Facts in Support of Finding: Renewable energy projects would be subject to local land use approvals, which would require that the proposed facilities provide adequate emergency response and access to and from the site.

Impact G-7: Wildland fire risk.

Finding: This impact would be less than significant.

Facts in Support of Finding: Renewable energy projects would be required to use construction/maintenance equipment with appropriate spark-suppression controls and would be required to provide adequate fire suppression equipment and facilities onsite.

3. Land Use Planning and Agricultural Resources

Impact I-1: Physically divide an existing community.

Finding: This impact would be less than significant.

Facts in Support of Finding: Depending upon the resource type, implementation of industrial scale renewable energy projects required to achieve compliance with the RES would be constructed on large tracts of land, which may be removed from existing urbanization. Smaller-scale projects would also need to be appropriately sited, with sufficient land available for equipment, transmission, and support facilities. As such it is unlikely that renewable electricity projects would physically divide an existing community.

Impact I-3: Conflict with applicable Habitat Conservation Plan or Natural Communities Conservation Plan.

Finding: Potential HCP/NCCP conflicts would be less than significant.

Facts in Support of Finding: Implementation of renewable electricity projects necessary for compliance with the proposed 33 percent RES that are proposed within or in the vicinity of areas subject to HCPs or NCCPs would be required to comply with provisions of any HCP or NCCP and would require coordination with DFG, USFWS and other appropriate resource agencies.

4. Noise

Impact J-2: Impacts to People Residing or Working in the Project Area from Exposure to Excessive Airport-Related Noise Levels. This impact would only apply to projects that may be constructed near airports.

Finding: This impact would be less than significant.

Facts in Support of Finding: No public or private airports are known to be located within any CREZ. No impact from airport-related noise would occur.

5. Public Services, Utilities, and Solid Waste

Impact L-3: Exceed Wastewater Treatment Requirements (i.e., cause violation of a water quality or treatment standard).

Finding: This impact would be less than significant.

Facts in Support of Finding: Renewable energy projects that would be served by a municipal wastewater service provider or would operate individual septic systems or on-site wastewater treatment plants would not cause violation of a water quality standard because municipal treatment facilities would operate under approved wastewater treatment requirements and would be monitored by appropriate regulatory agencies to ensure compliance.

Impact L-4: Violate Solid Waste Regulations.

Finding: This impact would be less than significant.

Facts in Support of Finding: Renewable energy projects would be provided solid waste services from an appropriately certified provider that would haul the solid waste to an approved and permitted disposal facility. None of the renewable energy projects (in-State or out-of-state) would be anticipated to result significant impacts related to violation of solid waste regulations.

B. IMPACTS EXPECTED TO BE MITIGABLE TO LESS THAN SIGNIFICANT LEVELS

1. Air Quality

Impact B-1: Short-Term Construction Impacts to Air Quality from Out-of-State Project-Generated Emissions of Criteria Air Pollutants and Precursors.

Finding: Impacts to air quality would be potentially significant for all renewable energy types under the 33 percent RES (high and low load). Although changes or alterations have been identified which would avoid or substantially lessen the significant environmental effect as identified in the environmental document, such changes or alterations are within the responsibility and jurisdiction of another public agency, and not ARB. Recommended mitigation can and should be adopted by agencies responsible for project-specific approvals.

Facts in Support of Finding: The specific air quality impacts of the 33 percent RES cannot be identified with any certainty, and construction activities associated with these projects could generate levels that conflict with applicable air quality plans, violate or

contribute substantially to an existing or projected violation, or result in a cumulatively considerable net increase in nonattainment areas.

The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of renewable energy projects and mitigation. ARB is not a land use agency and would not be responsible for ensuring that mitigation is implemented. Potentially significant short-term construction impacts to air quality from out-of-state project-generated emissions of criteria air pollutants and precursors should be mitigated in the following ways:

- Proponents for the proposed renewable energy project shall coordinate with local land use agencies to seek entitlements for development of the project including completing all necessary environmental review requirements (e.g., NEPA). The local land use agency or governing body shall certify that the project-specific environmental document was prepared in compliance with applicable regulations and shall be responsible for project approval.
- Based on the results of the environmental review, proponents shall implement all mitigation identified in the environmental document to reduce or substantially lessen the environmental impacts of the project.
- Comply with local plans, policies, ordinances, rule, and regulations regarding air quality-related emissions and associated exposure.
- Apply for, secure, and comply with all appropriate air quality permits for project construction and operations from the local agencies with air quality jurisdiction and from other applicable agencies (e.g., EPA), if appropriate, prior to construction mobilization.
- Prepare and comply with a dust abatement plan that addresses emissions of fugitive dust during construction and operation of the project.

Impact B-3: Impacts to Sensitive Receptors in the Project Area from Exposure to Substantial Pollutant Emissions (e.g., localized criteria air pollutants, toxic air contaminates) and Odors. The specific out-of state air quality impacts of the 33 percent RES cannot be identified with any certainty, and these projects could potentially expose sensitive receptors to substantial localized criteria air pollutants, toxic air contaminant, or odors.

Finding: Impacts to air quality would be potentially significant for all renewable energy types under the 33 percent RES (high and low load). Although changes or alterations have been identified which would avoid or substantially lessen the significant environmental effect as identified in the environmental document, such changes or alterations are within the responsibility and jurisdiction of another public agency, and not ARB. Recommended mitigation can and should be adopted by agencies responsible for project-specific approvals.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be

responsible for ensuring that this mitigation is implemented. However, ARB has identified the following mitigation measures which, if implemented, would mitigate the impact to a less-than-significant level.

- Proponents for the proposed renewable energy project shall coordinate with local land use agencies to seek entitlements for development of the project including completing all necessary environmental review requirements (e.g., NEPA). The local land use agency or governing body shall certify that the environmental document was prepared in compliance with applicable regulations and shall approve the project for development.
- Based on the results of the environmental review, proponents shall implement all mitigation identified in the environmental document to reduce or substantially lessen the environmental impacts of the project.
- Comply with local plans, policies, ordinances, rule, and regulations regarding air quality-related emissions and associated exposure.
- Apply for, secure, and comply with all appropriate air quality permits for project construction and operations from the local agencies with air quality jurisdiction and from other applicable agencies (e.g., U.S. EPA), if appropriate, prior to construction mobilization.
- Prepare and comply with a dust abatement plan that addresses emissions of fugitive dust during construction and operation of the project.

2. Biological and Forestry Resources

Impact C-1: Loss of special status species. The future development of renewable energy projects and transmission lines under the proposed regulation change could result in the loss of special-status plants and animals due to construction, operation, and maintenance of energy generating structures and transmission lines. Special-status species may be afforded protection under the federal or California endangered species acts, California Fish and Game Code, CEQA or other regulations.

Finding: Loss of special-status species would be potentially significant. Although changes or alterations have been identified which would avoid or substantially lessen the significant environmental effect as identified in the environmental document, such changes or alterations are within the responsibility and jurisdiction of another public agency, and not ARB. Recommended mitigation can and should be adopted by agencies responsible for project-specific approvals.

Facts in Support of Finding: Proponents for proposed renewable energy projects shall coordinate with local land use agencies to seek entitlements for development of the project including completing all necessary environmental review requirements (e.g., CEQA and/or NEPA). The local land use agency or governing body shall certify that the environmental document was prepared in compliance with applicable regulations and shall approve the project for development.

Based on the results of the environmental review, proponents shall implement all mitigation identified in the environmental document to reduce or substantially lessen the environmental impacts of the project. As part of the environmental analysis, mitigation to avoid, minimize, and compensate for impacts to special-status species shall be developed, as appropriate, by the lead agency. The mitigation would be designed to reduce the magnitude, severity, or duration of impacts to special-status species. The mitigation should follow the Best Management Practices & Guidance Manual: Desert Renewable Energy Projects (CEC 2009) as applicable. It provides recommendations to renewable energy developers, and federal, state, local and Tribal governments for improving the efficiency of the regulatory process in California and protecting environmental and cultural resources, and human health and safety.

Recommendations include: 1) guidance for preparing applications for renewable energy projects located in the California desert region and 2) best management practices for the permitting/pre-construction, construction, operation, repowering or retrofitting, and decommissioning phases of desert renewable energy facilities. The manual also provides recommendations for project design features to be considered when developing such renewable energy projects.

This may include the following types of activities during project siting and design:

- To the extent feasible, site facility construction and other ground disturbing activities to avoid areas federally designated as critical habitat for listed species, identified as core areas in recovery plans for listed species, or otherwise identified as essential habitat for the conservation of state or federally listed species.
- Follow the California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development (CEC and DFG 2007).
- Follow Suggested Practices for Avian Protection on Power Lines (APLIC 2006) or the standard at the time of project design for reducing avian mortality from power lines and transmission poles.

This may include the following types of activities prior to construction:

- Conduct pre-construction surveys for special-status species that could be affected by the project.
- Consult with USFWS, DFG, or other regulatory agency as appropriate in compliance with federal and state regulations to develop appropriate avoidance and minimization measures.
- If take of listed species cannot be avoided, secure appropriate incidental take permits from USFWS and/or DFG and implement terms and conditions of the permits.
- Compensate for impacts to special-status species that cannot be avoided or minimized. This may include developing a compensatory mitigation plan that will result in no net loss of acreage, function, and value of affected habitat. Unavoidable effects could be mitigated through a combination of creation,

preservation, and restoration of habitat or purchase of credits at a mitigation bank approved by the regulatory agencies.

This may include the following types of activities during construction and operation:

- Minimize disturbance to natural vegetation to the extent feasible. If potential habitat for special-status species is present and can be avoided on the project site, establish appropriate sized buffers prior to ground disturbing activities and maintain them until ground disturbing activities in that area are completed.
- If special-status species or their habitat are present and can be avoided, implement additional measures such as worker awareness training, dust and erosion control plans, and periodic biological monitoring to ensure minimization measures are being maintained.
- Consider other minimization measures as needed, such as speed limits for vehicles during construction, prevention of invasive species, lighting and noise minimization measures, fire hazard reduction, and safe handling, transport and storage of toxic materials.
- The projects would comply with other laws and regulations protecting special-status species. If federally listed would be affected, a biological opinion (BO), which may include an incidental take permit, from USFWS may be required. The project applicant(s) would abide by conditions in the BO (including conservation and minimization measures). If take of California state listed species would occur, a 2081(b) incidental take permit from DFG would be required. DFG requires impacts to listed species to be minimized and fully mitigated. No Section 2081(b) permit may authorize the take of "fully protected" species and "specified birds" (Fish and Game Code Sections 3505, 3511, 4700, 5050, 5515, and 5517). If a project is planned in an area where a fully protected species or a specified bird occurs, an applicant must design the project to avoid all take; DFG cannot provide take authorization for the species under CESA.
- CEC, DFG, USFWS and BLM are developing a Desert Renewable Energy Conservation Plan (DRECP). The geographic area in the DRECP focuses on the Mojave and Colorado Desert bioregions. The goal of DRECP will coordinate and consider desert land uses and activities during the planning process and will identify areas for conservation and declining species management. As the DRECP is developed, renewable energy projects in the Mojave and Colorado Desert bioregions should coordinate with this planning effort, which may help streamline agency approvals and endangered species permitting.

Impact C-2: Removal, Degradation, and Fragmentation of Sensitive Habitats. The future development of renewable energy projects under the proposed regulation could result in the placement of fill material into waters of the United States, including wetlands, or removal of riparian or other habitats considered sensitive by resource agencies.

Finding: The removal, degradation and fragmentation of sensitive habitats, including waters of the United States, would be potentially significant. Although changes or

alterations have been identified which would avoid or substantially lessen the significant environmental effect as identified in the environmental document, such changes or alterations are within the responsibility and jurisdiction of another public agency, and not ARB. Recommended mitigation can and should be adopted by agencies responsible for project-specific approvals.

Facts in Support of Finding: In order to reduce potential impacts to waters of the United States and other sensitive habitats, the lead agency for renewable energy development projects shall conduct a project-specific analysis and evaluate the potential impacts to waters of the United States and sensitive habitats in accordance with CEQA. As part of the CEQA analysis, mitigation to avoid, minimize, and compensate for impacts to sensitive habitats would be developed by the lead agency. The mitigation would be designed to reduce the magnitude, severity, or duration of impacts to sensitive habitats. The mitigation should follow the Best Management Practices & Guidance Manual: Desert Renewable Energy Projects (CEC 2009) as applicable.

This may include the following types of activities:

- Redesign or modify the project to avoid direct and indirect impacts on sensitive habitats, if feasible.
- If waters of the United States and other sensitive habitats can be avoided on site, installing barrier fencing between the construction site and the sensitive areas to avoid indirect or accidental impacts.
- Avoid construction activities in saturated or ponded wetlands and streams during the wet season to the maximum extent possible. Where such activities are unavoidable, protective practices, such as use of padding or vehicles with balloon tires, will be employed.
- Develop other minimization measures such as stormwater pollution prevention plan (SWPPP) and erosion control plans and others to protect sensitive habitats and waters of the United States.
- Before the approval of grading and improvement plans and before any groundbreaking activity associated with each distinct project phase, the project applicant(s) for each project requiring fill of wetlands or other waters of the United States or waters of the state would obtain all necessary permits under Sections 401 and 404 of the CWA or the State's Porter-Cologne Act for the respective phase. The project applicant(s) would commit to replace, restore, or enhance on a "no net loss" basis (in accordance with USACE and the appropriate RWQCB) the acreage of all wetlands and other waters of the United States that would be removed, lost, and/or degraded with implementation of project plans for that phase. Wetland habitat would be restored, enhanced, and/or replaced at an acreage and location and by methods agreeable to USACE, the RWQCB, and other regulatory agencies, as appropriate, depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes.

As part of the Section 404 permitting process, a draft wetland mitigation and monitoring plan (MMP) would be developed for the project on behalf of the project applicant(s).

Before any ground-disturbing activities that would adversely affect wetlands and before engaging in mitigation activities associated with each phase of development, the project applicant(s) would submit the draft wetland MMP to USACE, the appropriate RWQCB, and other appropriate regulatory agencies for review and approval of those portions of the plan over which they have jurisdiction. Once the MMP is approved and implemented, mitigation monitoring would continue for a minimum of 5 years from completion of mitigation, or human intervention (including recontouring and grading), or until the performance standards identified in the approved MMP have been met, whichever is longer.

As part of the MMP, the project applicant(s) would prepare and submit plans for the creation of aquatic habitat at an adequate mitigation ratio to offset the aquatic functions and services that would be lost at the project site, account for the temporal loss of habitat, and contain an adequate margin of safety to reflect anticipated success. Restoration of previously altered and degraded wetlands would be a priority of the MMP for offsetting losses of aquatic functions and values on the project site because it is typically easier to achieve functional success in restored wetlands than in those created from uplands. The MMP must demonstrate how the aquatic functions and values that would be lost through project implementation will be replaced.

The habitat MMP for jurisdictional wetland features would be consistent with USACE's and EPA's April 10, 2008 Final Rule for Compensatory Mitigation for Losses of Aquatic Resources (33 CFR Parts 325 and 332 and 40 CFR Part 230). In keeping with these guidelines, mitigation banks would be used to the maximum extent possible for compensatory mitigation for project impacts on aquatic habitats. According to the Final Rule, mitigation banks should be given preference over other types of mitigation because a lot of the risk and uncertainty regarding mitigation success is alleviated by the fact that mitigation bank wetlands must be established and demonstrating functionality before credits can be sold. This also alleviates temporal losses of wetland function while compensatory wetlands are being established. Mitigation banks also tend to be on larger, more ecologically valuable parcels and are subjected to more rigorous scientific study and planning and implementation procedures than typical permittee-responsible mitigation sites (USACE and EPA, 2008).

The project would comply with other laws and regulations protecting waters of the United States and sensitive habitats. If these resources would be affected, permits may be required. Examples of these include a Section 408 permit under the Clean Water Act for work in navigable waters or Section 1600 permit under the California Fish and Game Code for stream or lakebed alteration. All terms and conditions of these permits would be implemented.

Impact C-3: Loss and Fragmentation of Wildlife Habitat or Plant Community. The future development of renewable energy projects under the proposed regulation change could result in loss, degradation, or fragmentation of common habitats. The WECC service area supports a number of native habitats that are important to wildlife. Large areas of

native habitat could be substantially reduced or fragmented on a regional scale due to renewable energy development.

Finding: The removal, degradation, and fragmentation of native habitats would be potentially significant. Although changes or alterations have been identified which would avoid or substantially lessen the significant environmental effect as identified in the environmental document, such changes or alterations are within the responsibility and jurisdiction of another public agency, and not ARB. Recommended mitigation can and should be adopted by agencies responsible for project-specific approvals.

Facts in Support of Finding: In order to reduce potential impacts to common native habitats, the lead agency for renewable energy development projects would conduct a project-specific analysis and evaluate the potential impacts to important wildlife habitats and plant communities in accordance with CEQA, and other applicable environmental laws and regulations. As part of the CEQA analysis, mitigation to avoid, minimize, and compensate for impacts to common native habitats would be developed by the lead agency. The mitigation would be designed to reduce the magnitude, severity, or duration of impacts to common habitats. The mitigation should follow the Best Management Practices & Guidance Manual: Desert Renewable Energy Projects (CEC 2009) as applicable. This may include the following types of activities:

- Avoiding siting new renewable facilities in areas of important native habitats or fragmenting large areas of contiguous habitat
- Minimizing loss of native habitats by designing compact facilities to the extent feasible
- Using existing roads for access rather than creating new roadways

Impact C-4: Interference with Wildlife Movement. The future development of renewable energy projects under the proposed regulation change could interfere with wildlife movement or impede the migration of fish populations. These projects could reduce the ability of terrestrial wildlife populations to move unimpeded through an area. In addition, impacts to aquatic habitat, such as diversion of stream flows, could impede movement of native fishes and aquatic wildlife.

Finding: Impacts to wildlife movement would be potentially significant. Although changes or alterations have been identified which would avoid or substantially lessen the significant environmental effect as identified in the environmental document, such changes or alterations are within the responsibility and jurisdiction of another public agency, and not ARB. Recommended mitigation can and should be adopted by agencies responsible for project-specific approvals.

Facts in Support of Finding: In order to reduce potential impacts to wildlife and fisheries movement corridors, the lead agency for renewable energy development projects would conduct a project-specific analysis and evaluate the potential impacts to movement corridors in accordance with CEQA. As part of the CEQA analysis, mitigation to avoid, minimize, and compensate for impacts to movement corridors would be developed by the lead agency. The mitigation would be designed to reduce the magnitude, severity,

or duration of impacts to movement corridors. The mitigation should follow the Best Management Practices & Guidance Manual: Desert Renewable Energy Projects (CEC 2009) as applicable. This includes the following types of activities:

- Avoiding siting new renewable facilities in areas of important movement corridors for native fish or wildlife
- Avoid developing areas identified as essential habitat and corridor linkages between wildlands as identified in The California Essential Habitat Connectivity Project (http://www.dfg.ca.gov/habcon/ connectivity/) or other scientifically defensible source such as recovery plans for listed species, federally designated critical habitat maps, or agency management plans.
- Provide for passage of native species by designing fish ladders on dams, undercrossing on roadways, or other proven methods to allow for fish and wildlife movement.

Impact C-6: Loss or conversion of forest land. The future development of renewable energy projects under the proposed regulation change could result in the loss or conversion of forest lands.

Finding: The impacts to forest lands would be potentially significant. Although changes or alterations have been identified which would avoid or substantially lessen the significant environmental effect as identified in the environmental document, such changes or alterations are within the responsibility and jurisdiction of another public agency, and not ARB. Recommended mitigation can and should be adopted by agencies responsible for project-specific approvals.

Facts in Support of Finding: In order to reduce potential impacts to forestry resources, the lead agency for renewable energy development projects would conduct a project-specific analysis and evaluate the potential impacts to forest and timber land in accordance with CEQA. As part of the CEQA analysis, mitigation to avoid, minimize, and compensate for loss of forest or timberland would be developed by the lead agency. The mitigation would be designed to reduce the magnitude, severity, or duration of the impact. This includes the following types of activities:

- Develop compensation for loss of forest consist with lead agency, local government, agencies with regulatory or management authority, or other applicable standards. For example, oak woodland in California is often subject to county policies which require specific compensation and replacement. Compensation may be in the form of replacement plantings at specific ratios or contribution of funds to the Oak Woodlands Conservation Fund, as established under subdivision (a) of Section 1363 of the Fish and Game Code, for the purpose of purchasing oak woodlands conservation easements.
- Compile with other laws and regulations pertaining to forests. For removal of trees for commercial timber land (or Timber Production Zone), a Timber Harvest Plan (THP) may need to be prepared. The THP would provide details on planned logging operations and the steps that will be taken to minimize environmental impacts of these operations. CAL FIRE enforces the laws that regulate logging

on privately-owned lands in California, including the Forest Practice Act and rules enacted by the State Board of Forestry and Fire Protection. For federal lands, USFS, BLM, and other federal land managers maintain rules and regulations protecting forest lands.

3. Land Use Planning and Agricultural Resources

Impact I-2: Conflict with Land Use Plans, Policies or Regulations. Implementation of the proposed 33 percent RES would likely result in conflicts with certain applicable land use plans, policies, or regulations of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Finding: Impacts related to conflict with land use plans, policies, and regulations would be potentially significant. Although changes or alterations have been identified which would avoid or substantially lessen the significant environmental effect as identified in the environmental document, such changes or alterations are within the responsibility and jurisdiction of another public agency, and not ARB. Recommended mitigation can and should be adopted by agencies responsible for project-specific approvals.

Facts in Support of Finding: Although conflicts with land use plans, policies or regulations would be potentially significant, the impacts of these conflicts may be effectively mitigated. In order to reduce potential impacts related to conflicts with land use plans, policies or regulations, the following mitigation measures should be employed:

- Renewable electricity projects shall be designed and sited so as to avoid or minimize conflicts with land use plans, policies, and regulations of any agency with jurisdiction over the project, including general plans, specific plans, and zoning ordinances.
- Comply with ordinances, regulations and standards including the Subdivision Map Act, California Land Conservation Act, and local permitting requirements.
- Meet with local agencies and elected officials before filing permit or approval applications to ensure that the project is to be located on land zoned appropriately with no zoning, land use, or height restrictions. Include a statement from the local agency and the governing body that they have reviewed the proposed project and that it would be consistent with General Plan, zoning ordinances, and height restrictions. If a conditional use permit is required by the local agency, include a copy of the conditional use permit application with applications to lead agencies. Processing of applications for projects requiring land use designation changes will likely be delayed.
- Consult the Office of Planning and Research mapping tool to identify whether their proposed project is located in the vicinity of military bases and military airspace. This mapping tool will help developers comply with legislation that requires the military to be notified of certain development applications and general plan actions.

- DOD entities request early notification with the military on proposed energy development to provide an opportunity for DOD to address potential concerns with the proposed energy development project as it may relate to current and future military testing and training missions to include, but not limited to: Military Operating Areas; Military Training Routes; air space; Special Use Airspace; airfield surfaces; Terminal Operations; air and ground safety operations; Remote Support Sites (radars, microwaves and communications towers); and installation access.
- If the BLM Resource Management Plan must be amended, include a completed BLM application.
- Provide U.S. Census Bureau data to determine whether the facility would be located within a two-mile radius of a minority population or a population where fifty percent or more of the residents have an income below the poverty level.
- Ensure the proposed facility site contains adequate area for construction laydown and staging, parking for construction and operation worker vehicles and site traffic circulation aisles).

Impact I-4: Conversion of Designated Farmland. Implementation of the proposed 33 percent RES could result in the conversion Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural uses or involve other changes in the existing environment, which, due to their location, could result in the conversion of farmland to non-agriculture uses.

Finding: Impacts to designated farmlands would be potentially significant. Although changes or alterations have been identified which would avoid or substantially lessen the significant environmental effect as identified in the environmental document, such changes or alterations are within the responsibility and jurisdiction of another public agency, and not ARB. Recommended mitigation can and should be adopted by agencies responsible for project-specific approvals.

Facts in Support of Finding: Although impacts to designated farmland would be potentially significant, these impacts may be able to be successfully mitigated. The following mitigation measures should be employed to reduce impacts to designated farmlands.

- Renewable electricity projects shall be designed and sited so as to avoid or minimize impacts to, and conversion to non-agricultural uses of prime farmland, unique farmland, and farmland of Statewide importance, as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency.
- On privately-owned lands, assess the impacts of the proposed project on agriculture, farmland, and grazing operations through use of the California Agricultural Land Evaluation and Site Assessment model. Develop feasible measures to reduce the significance of impacts. Project developers should avoid

when possible, the conversion of Prime Farmland, Unique Farmland or farmland of Statewide Importance, or lands under a current Williamson Act contract.

Impact I-5: Conflict with Existing Agricultural Zoning or Williamson Act Contract. Implementation of projects necessary for compliance with the proposed 33 percent RES have the potential to conflict with existing zoning for agricultural use or a Williamson Act contract.

Finding: Impacts resulting from conflict with existing agricultural zoning or Williamson Act Contracts are potentially significant. Although changes or alterations have been identified which would avoid or substantially lessen the significant environmental effect as identified in the environmental document, such changes or alterations are within the responsibility and jurisdiction of another public agency, and not ARB. Recommended mitigation can and should be adopted by agencies responsible for project-specific approvals.

Facts in Support of Finding: Implementation of projects necessary for compliance with the proposed 33 percent RES has the potential to conflict with existing zoning for agricultural use or a Williamson Act contract. To mitigate this impact, renewable electricity projects shall be designed and sited so as to avoid or minimize conflicts with lands zoned for agriculture and lands under Williamson Act Contracts.

C. POTENTIALLY SIGNIFICANT IMPACTS WHICH MAY NOT BE MITIGATED TO A LEVEL OF INSIGNIFICANCE

1. Aesthetics

Impact A-1: Adverse Effects on Scenic Vistas, Scenic Resources, and Visual Character. Depending upon their location, size, and character, development of renewable energy projects and transmission lines necessary for compliance with the 33 percent RES may result in adverse effects on designated scenic vistas, scenic resources, and visual character by degrading or substantially modifying the visual environment of renewable development areas.

Finding: This would be a potentially significant impact. While mitigation is recommended to reduce significant visual impacts, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce the impact to a less-than-significant level. Therefore, for purposes of analysis, this impact is concluded to be significant and unavoidable for all renewable energy types under the 33 percent RES (high and low load conditions). Potential adverse effects on scenic vistas, scenic resources, and visual character would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: Scenic resources, including trees, rock outcroppings, and historic buildings within a State scenic highway could be directly or indirectly impaired. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. The following mitigation measures have been identified to mitigate adverse impacts to visual character:

- Proponents for the proposed renewable energy project shall coordinate with local land use agencies to seek entitlements for development of the project including completing all necessary environmental review requirements (e.g., CEQA and/or NEPA). The local land use agency or governing body shall certify that the environmental document was prepared in compliance with applicable regulations and shall approve the project for development.
- Based on the results of the environmental review, proponents shall implement all mitigation identified in the environmental document to reduce or substantially lessen the environmental impacts of the project.
- The project proponent shall color and finish the surfaces of all project structures and buildings visible to the public to ensure that they: (1) minimize visual intrusion and contrast by blending with the landscape; (2) minimize glare; and (3) comply with local design policies and ordinances. Project components shall be non-specular and non-reflective. The project proponent shall submit a surface treatment plan to the lead agency for review and approval. The surface treatment plan shall include:
    - A description of the overall rationale for the proposed surface treatment, including the selection of the proposed color(s) and finishes
    - A list of each major project structure and building, specifying the color(s) and finish proposed for each. Colors must be identified by vendor, name, and number; or according to a universal designation system;
    - One set of color brochures or color chips showing each proposed color and finish;
    - A specific schedule for completing the treatment; and
    - A procedure to ensure proper treatment maintenance for the life of the project.
- To the extent feasible, the sites selected for use as construction staging and laydown areas shall be areas that are already disturbed and/or are in locations of low visual sensitivity. Where possible, construction staging and laydown areas for equipment, personal vehicles, and material storage shall be sited to take advantage of natural screening opportunities provided by existing topography and vegetation. All construction-related areas shall be kept clean and tidy by storing construction materials and equipment within the proposed construction staging and laydown areas and/or generally away from public view.
- Where screening topography and vegetation are absent, natural-looking earthwork berms and vegetative or architectural screening shall be used where possible to minimize visual impacts.

- All operation and maintenance areas shall be kept clean and tidy by storing all renewable energy equipment, parts, and supplies in areas that are screened from view and/or are generally not visible to the general public.
- To protect landscape character and promote visual quality, the project proponent shall construct project facilities using the existing and already maintained network of access roads to the greatest practical extent. The project proponent shall submit plans for any new access roads and any maintenance plans for un-maintained access roads to the CPUC for review and approval at least 60 days prior to the start of construction.
- The project proponent shall revegetate and regrade disturbed soil areas that must be cleared during the construction process to restore the area to an appearance that will blend back into the overall landscape context. The project proponent shall submit plans for revegetation and revegetation to the CPUC for review and approval at least 60 days prior to the start of construction.
- Among the FAA-approved lighting devices available, the project proponent shall use those that are designed to be least visible from ground level of the surrounding landscape.
- Because the eye is naturally drawn to prominent landscape features, siting projects and their associated elements next to such features shall be avoided to the greatest extent practical.
- Because the landscape setting observed from national historic sites, national trails, and cultural resources may be a part of the historic context contributing to the historic significance of a proposed site for development, project siting shall avoid locating facilities to the greatest extent practical that would alter the visual setting such that they would reduce the historic significance or function.

Impact A-2: Adverse Effects of Light and Glare. Depending upon their location, size, and character, and proximity to sensitive receptors, development of renewable energy projects necessary for compliance with the RES regulation may generate new sources of substantial light or glare that would adversely affect day or nighttime views in areas of renewable energy development.

Finding: This is a potentially significant impact. While mitigation is recommended to reduce significant visual impacts, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce the impact to a less-than-significant level. Therefore, for purposes of analysis, this impact is concluded to be significant and unavoidable for all renewable energy types under the 33 percent RES (high and low load conditions). Potential adverse effects of additional light and glare would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable

energy project and its mitigation. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified numerous mitigation measures to reduce this impact:

- Prior to start of commercial operation, the project proponent shall design and install all temporary lighting for project construction and permanent lighting for project operation such that light bulbs and reflectors are not visible from public viewing areas and illumination of the vicinity and the nighttime sky is minimized during both project construction and operation. The project proponent shall develop and submit a lighting plan for the project to the CPM for review and approval. The lighting plan shall include:
    - Lighting shall be designed so that during both construction and operation, highly directional, exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of this outdoor lighting shall be such that the luminescence or light source is shielded to prevent light trespass outside the project boundary, consistent with operational safety and security;
    - High illumination areas not occupied on a continuous basis such as maintenance platforms shall be provided with switches or motion detectors to light the area only when occupied; and
    - A lighting complaint resolution form shall be used by facility operators, to record all lighting complaints received and to document the resolution of those complaints. All records of lighting complaints shall be kept in the onsite compliance file.
- At least 90 days prior to ordering any permanent exterior lighting, the project proponent shall contact the lead agency to discuss the documentation required in the lighting mitigation plan.
- At least 60 days prior to ordering any permanent exterior lighting, the project proponent shall submit to the lead agency for review and approval a plan that describes the measures to be used and that demonstrates that the requirements of this condition will be satisfied. The submittal to the CPM shall include the county's comments. The project proponent shall not order any exterior lighting until receipt of lead agency approval of the lighting mitigation plan.
- At least thirty (30) days prior to start of commercial operation, the project proponent shall notify the lead agency that the lighting has been completed and is ready for inspection.

2. Cultural Resources

Impact D-1: Adverse Impacts to Cultural Resources from Ground Disturbance. All new renewable energy projects proposed for construction as part of the 33 percent RES no matter their location in-State or out-of-state would have the potential to result in significant impacts to cultural and paleontological resources depending on their location in proximity to cultural resources and their potential to result in ground disturbance.

Finding: This would be a potentially significant impact. While mitigation is recommended to reduce this impact, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce these impacts to a less-than-significant level. Therefore, for purposes of analysis, this impact is concluded to be significant and unavoidable for all renewable energy types under the 33% RES (high and low load conditions). Potential adverse impacts to cultural resources would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified numerous mitigation measures to reduce this impact. Proponents of new renewable energy projects shall:

- Coordinate with local land use agencies to seek entitlements for development of the projects including completing all necessary environmental review requirements (e.g., CEQA and/or NEPA).The local land use agency or governing body shall certify that the environmental documents are prepared in compliance with applicable regulations and shall approve the projects for development.
- Implement all mitigation identified in the environmental documents to reduce or substantially lessen the environmental impacts of the projects.
- Retain the services of cultural resources specialists with training and background that conforms to the U.S. Secretary of Interior's Professional Qualifications Standards, as published in Title 36, Code of Federal Regulations, part 61 (36 CFR Part 61).
- Seek guidance from the state and federal lead agencies, as appropriate, for coordination of Nation-to-Nation consultations with the Native American Tribes.
- Consult with lead agencies early in the planning process to identify the potential presence of cultural properties. The agencies will provide the project developers with specific instruction on policies for compliance with the various laws and regulations governing cultural resources management, including coordination with regulatory agencies and Native American Tribes.
- Define the area of potential effect (APE) for each project, which is the area within which project construction and operation may directly or indirectly cause alterations in the character or use of historic properties. The APE should include a reasonable construction buffer zone and laydown areas, access roads, and borrow areas, as well as a reasonable assessment of areas subject to effects from visual, auditory, or atmospheric impacts, or impacts from increased access.
- Retain the services of a paleontological resources specialist with training and background that conforms with the minimum qualifications for a vertebrate paleontologist as described in Measures for Assessment and Mitigation of Adverse Impacts to Non-Renewable Paleontologic Resources: Standard

Procedures, Society of Vertebrate Paleontology, 1995 http://www.vertpaleo.org/society/polstateconfomimpactmigig.cfm.

- Conduct initial scoping assessments to determine whether proposed construction activities would disturb formations that may contain important paleontological resources. Whenever possible potential impacts to paleontological resources should be avoided by moving the site of construction or removing or reducing the need for surface disturbance. The scoping assessment should be conducted by the qualified paleontological resources specialist in accordance with applicable agency requirements.
- The project proponent's qualified paleontological resources specialist should determine whether paleontological resources would likely be disturbed in a project area on the basis of the sedimentary context of the area and a records search for past paleontological finds in the area. The assessment may suggest areas of high known potential for containing resources. If the assessment is inconclusive a surface survey is recommended to determine the fossilferous potential and extent of the pertinent sedimentary units within the project site. If the site contains areas of high potential for significant paleontological resources and avoidance is not possible, prepare a paleontological resources management and mitigation plan that addresses the following steps:
    - a preliminary survey (if not conducted earlier) and surface salvage prior to construction;
    - physical and administrative protective measures and protocols such as halting work, to be implemented in the event of fossil discoveries;
    - monitoring and salvage during excavation;
    - specimen preparation;
    - identification, cataloging, curation and storage; and
    - a final report of the findings and their significance.
- Choose sites that avoid areas of special scientific value.

3. Geology, Soils and Mineral Resources

Impact E-1: Seismic Hazard Impacts Related Fault Rupture, Ground Shaking, Ground Failure/Liquefaction or Landslides. Strong seismic ground shaking could cause damage to structures and access roads, blocking access and posing safety hazards to people. The CREZs with the greatest risk of seismic hazards are Solano, Tehachapi, Fairmont, and Pisgah because of their close proximity to major active faults and/or crossing of Alquist-Priolo Earthquake Fault Zones.

Finding: Seismic impacts would be potentially significant. The specific design details, siting locations, and seismic hazards for a particular renewable energy project are not known at this time. Therefore, for purposes of analysis, the risk of impact to the proposed project due to strong seismic ground shaking would be considered potentially significant for all renewable energy project types under the 20 percent RPS and 33 percent RES (low and high load conditions). While mitigation is recommended to reduce significant geology, soils, and mineral resource impacts, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be

able to reduce these impacts to a less-than-significant level. Therefore, for purposes of analysis, this impact is concluded to be significant and unavoidable for all renewable energy types under the 33 percent RES (high and low load conditions). Potential seismic impacts would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified numerous mitigation measures to reduce this impact The following mitigation measures are available to proponents:

- Proponents for the proposed renewable energy project shall coordinate with local land use agencies to seek entitlements for development of the project including completing all necessary environmental review requirements (e.g., CEQA and/or NEPA). The local land use agency or governing body shall certify that the environmental document was prepared in compliance with applicable regulations and shall approve the project for development.
- Prior to the issuance of any development permits, proponents for the proposed renewable energy projects shall prepare a geotechnical investigation/study, which shall include an evaluation of the depth to the water table, liquefaction potential, physical properties of subsurface soils including shrink-swell potential (expansion), soil resistivity, slope stability, minerals resources and the presence of hazardous materials.
- Proponents shall provide a complete site grading plan, and drainage, erosion, and sediment control plan with applications to applicable lead agencies. Proponents shall avoid locating facilities on steep slopes, in alluvial fans and other areas prone to landslides or flash floods, or with gullies or washes, as much as possible.
- Proponents shall submit a draft Notice of Intent and a draft Storm Water Pollution Prevention Plan (SWPPP) to the State Water Resources Control Board (SWRCB) or RWQCB for advance review. Ensure the SWPPP is prepared by a qualified consultant. If the facility will be subject to the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Construction Permit), ensure the plan addresses the latest SWRCB requirements and is submitted to the SWRCB. Structures and/or facilities shall be designed to meet all applicable Federal, State and local regulations. If found to be situated in areas where seismic hazards cannot be mitigated to less-than-significant levels subsequent to the findings of the required geotechnical investigations and implementation of the applicable engineering standards, the affected structures and/or facilities shall be relocated.

Impact E-2: Substantial soil erosion or the loss of topsoil. All identified CREZs are susceptible to erosion and loss of topsoil, although not all areas within any particular CREZ would exhibit similar vulnerability.

Finding: The impacts to soil erosion would be potentially significant. The specific design details, siting locations, and soil erosion hazards for a particular renewable energy project are not known at this time. While mitigation is recommended to reduce significant mineral resource impacts, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce these impacts to a less-than-significant level. Therefore, for purposes of analysis, the potential soil erosion hazard impacts would be considered potentially significant for all renewable energy project types under the 20 percent RPS and 33 percent RES (low and high load conditions). Potential adverse impacts relative to soil erosion would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified numerous mitigation measures, including the mitigation measures identified with respect to Impact E-1 above, to reduce soil erosion impacts.

Impact E-3: Unstable Geologic Unit or Soil Impacts. Proposed renewable energy projects located within the identified CREZs and transmission footings for lines along delivery routes could be potentially located on a geologic unit or soil that is unstable, or would become unstable as a result of the project, and potentially could result in on- or off-site landslide, subsidence, liquefaction or collapse.

Finding: Soil stability hazard impacts would be potentially significant. The specific design details, siting locations, and soil stability hazards for a particular renewable energy project are not known at this time. While mitigation is recommended to reduce significant mineral resource impacts, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce these impacts to a less-than-significant level. Therefore, for purposes of analysis, the potential soil stability hazard impacts would be considered potentially significant for all renewable energy project types under the 20 percent RPS and 33 percent RES (low and high load conditions). Potential adverse soils impacts would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified numerous mitigation measures, including the mitigation measures identified with respect to Impact E-1 above, to reduce soil stability impacts.

Impact E-4: Adverse Impacts from Construction on Expansive Soil. All proposed CREZs are potentially susceptible to the presence of expansive soils particularly in areas of fine-grained sediment accumulation typically associated with playas, valley bottoms, and local low-lying areas.

Finding: Impacts from construction on expansive soil would be potentially significant. The specific design details, siting locations, and expansive soil hazards for a particular renewable energy project are not known at this time. While mitigation is recommended to reduce significant mineral resource impacts, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce these impacts to a less-than-significant level. Therefore, for purposes of analysis, the potential expansive soil impacts would be considered potentially significant for all renewable energy project types under the 20 percent RPS and 33 percent RES (low and high load conditions). Potential adverse impacts relative to expansive soil would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified numerous mitigation measures, including the mitigation measures identified with respect to Impact E-1 above, to reduce impacts from construction on expansive soil.

Impact E-5: Adverse Soils Impacts from Septic Tanks or Alternative Waste Water Disposal Systems. The soils in the identified CREZs could support materials that would not be able to adequately support septic tanks or alternative wastewater disposal systems.

Finding: Impacts to soils from septic tanks or alternative waste water disposal systems would be potentially significant. The specific design details, siting locations, and hazards for a particular renewable energy project are not known at this time. While mitigation is recommended to reduce significant mineral resource impacts, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce these impacts to a less-than-significant level. Therefore, for purposes of analysis, the impacts related to adequately supporting septic tanks or

alternative wastewater disposal systems would be considered potentially significant for all renewable energy project types under the 20 percent RPS and 33 percent RES (low and high load conditions). Potential adverse impacts to soils from septic tanks or alternative wastewater systems would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified numerous mitigation measures, including the mitigation measures identified with respect to Impact E-1 above, to reduce impacts to soil from septic tanks or alternative waste water disposal systems.

Impact E-6: Loss of Mineral Resource of Value to Region and the Residents of the State and Loss of Locally Important Mineral Resources. All identified CREZs support mines or other regionally or locally important mineral resources.

Finding: Loss of mineral resources of value to a region and the residents of the state and loss of locally important mineral resources are potentially significant impacts. The specific design details, siting locations, and regionally or locally significant mineral resources for a particular renewable energy project are not known at this time. While mitigation is recommended to reduce significant mineral resource impacts, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce these impacts to a less-than-significant level. Therefore, for purposes of analysis, because mineral resources could be affected with implementation of renewable energy projects, this impact would be considered potentially significant for all renewable energy project types under the 20 percent RPS and 33 percent RES (low and high load conditions). Potential adverse impacts to mineral resources would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified numerous mitigation measures, including the mitigation measures identified with respect to Impact E-1 above, to reduce loss of mineral resources.

4. Hazards and Hazardous Materials

Impact G-2: Upset and accident conditions involving the release of hazardous materials into the environment. The project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Finding: This would be a potentially significant impact under the 20 percent RPS and 33 percent RES (low and high load conditions). While mitigation is recommended to reduce significant hazards and hazardous material impacts, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce these impacts to a less-than-significant level. Therefore, for purposes of analysis, this impact is concluded to be significant and unavoidable for all renewable energy types under the 33% RES (high and low load conditions). Potential adverse impacts related to risk of upset would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified the following mitigation measures available to proponents for proposed renewable energy projects:

- Proponents for the proposed renewable energy project shall coordinate with local land use agencies to seek entitlements for development of the project including completing all necessary environmental review requirements (e.g., CEQA and/or NEPA). The local land use agency or governing body shall certify that the environmental document was prepared in compliance with applicable regulations and shall approve the project for development.
- Based on the results of the environmental review, proponents shall implement all mitigation identified in the environmental document to reduce or substantially lessen the environmental impacts of the project.
- Handling of potentially hazardous materials/wastes should be performed under the direction of a licensed professional with the necessary experience and knowledge to oversee the proper identification, characterization, handling and disposal or recycling of the materials generated as a result of the project. As wastes are generated, they shall be placed, at the direction of the licensed professional, in designated areas that offer secure, secondary containment and/or protection from stormwater runoff. Other forms of containment may include placing waste on plastic sheeting (and/or covering with same) or in steel bins or other suitable containers pending profiling and disposal or recycling.
- The temporary storage and handling of potentially hazardous materials/wastes should be in areas away from sensitive receptors such as schools or residential areas. These areas should be secured with chain-link fencing or similar barrier with controlled access to restrict casual contact from non-Project personnel. All

project personnel that may come into contact with potentially hazardous materials/wastes will have the appropriate health and safety training commensurate with the anticipated level of exposure.

5. Hydrology, Water Quality and Water Supply

Impact H-1: Potential Operations-Related Effects to Groundwater Hydrology and Water Supply. Relative to existing conditions and the 20 percent RPS, there would be a substantial increase in the energy generation facilities constructed under the 33 percent RES that would likely rely on groundwater resources for steam generation, evaporative cooling, washing of solar panels, dust control, and domestic use by the workforce. In areas where groundwater resources are limited, reliance on groundwater has the potential to result in net lowering of groundwater levels and adversely affect resources on offsite properties.

Finding: The impact to groundwater resources would be potentially significant under the 20 percent RPS and 33 percent RES (high and low load scenarios). While mitigation is recommended to reduce this impact, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce these impacts to a less-than-significant level. Further, because the quantity and location of suitable groundwater resources in the arid western United States, particularly in desert regions, can be highly variable, the technical and economic feasibility of the mitigation to avoid and minimize potential offsite groundwater effects is uncertain. Therefore, for purposes of analysis, this impact is concluded to be significant and unavoidable for all renewable energy types under the 33% RES (high and low load conditions). Potential adverse impacts to groundwater hydrology and water supply would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified several mitigation measures to reduce impacts to groundwater hydrology and water supply:

- As part of the subsequent project-level planning and environmental review for solar thermal, solar photovoltaic, geothermal, and biogas facilities, the project proponent shall coordinate with the local county groundwater management authority and prepare a detailed hydrogeologic analysis of the potential project-related effects on groundwater resources prior to issuance of any permits. The proponent shall mitigate for identified adverse changes to groundwater by incorporating technically achievable and feasible modifications into the project to avoid offsite groundwater level reductions, use alternative technologies or changes to water supply operations, or otherwise compensate or offset the

groundwater reductions that occur to offsite properties. Consistent with state policies, the feasibility of using alternative water sources, such as treated municipal wastewater, shall be considered for use as source water for non-consumption purposes. The feasibility of alternative energy unit cooling methods should be considered that use less water, such as dry cooling methods. A program of monitoring and adaptive management during project implementation should be considered to evaluate the effects of the project and effectiveness of mitigation actions.

- For any planned use of water, identify the water sources, legal entitlements, water rights, adequacy of capacity to serve project demands while maintaining aquatic and riparian resources, quantity of water used for project construction and operational needs, and water discharges, including but not limited to construction, systems testing, and process and cooling needs.
- Where a groundwater well is proposed to be drilled or used, submit an application to the appropriate local jurisdiction for a permit. Where use of surface water is proposed for industrial purposes, provide a "will serve" and an approved water service agreement with applications to appropriate lead agencies.

Impact H-2: Potential Construction- and Operations-Related Effects to Stormwater Drainage and Flooding Hazards. Relative to existing conditions and the 20 percent RPS, there would be a substantial increase in the energy generation facilities constructed under the 33 percent RES that may create new compacted or paved impervious surfaces that would increase the amount of stormwater runoff. Additional stormwater runoff may contribute to localized drainage-related problems such as increased drainage channel flows and streamflows, potential increases or exceedances of channel capacities leading to flooding, increased erosion and sedimentation, or damage from inundation of property and structures from increased drainage volumes. Facilities that encroach on floodplains may contribute to increased floodwater elevations and exposure of people to flood hazards.

Finding: The impact to stormwater drainage and flooding hazards would be potentially significant under the 20 percent RPS and 33 percent RES (high and low load scenarios). While mitigation is recommended to reduce this impact, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce these impacts to a less-than-significant level. Therefore, for purposes of analysis, this impact is concluded to be significant and unavoidable for all renewable energy types under the 33 percent RES (high and low load conditions). Potential adverse impacts relative to stormwater drainage and flooding would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be

responsible for ensuring that this mitigation is implemented. However, ARB has identified several mitigation measures to reduce stormwater drainage and flooding impacts resulting from construction and operations:

- Proponents for the proposed renewable energy project shall coordinate with local land use agencies to seek entitlements for development of the project including completing all necessary environmental review requirements (e.g., CEQA and/or NEPA). The local land use agency or governing body shall certify that the environmental document was prepared in compliance with applicable regulations and shall approve the project for development.
- Under the oversight of the local lead agency, prior to issuance of any construction permits, the proponents for the proposed renewable energy project shall prepare a stormwater drainage and flood control analysis and management plan. The plans shall be prepared by a qualified professional and shall summarize existing conditions and the effects of project improvements, shall include all appropriate calculations, a watershed map, changes in downstream flows and flood elevations, proposed on- and off-site improvements, features to protection downstream uses, and property and drainage easements to accommodate downstream flows from the site. Project drainage features shall be designed to ensure no change in existing downstream flow conditions that would result in new or increased severity of offsite flooding.
- Establish drainage performance criteria for off-site drainage, in consultation with county engineering staff, such that project-related drainage is consistent with applicable facility designs, discharge rates, erosion protection, and routing to drainage channels, which could be accomplished by, but is not limited to: (a) minimizing directly connected impervious areas; (b) maximizing permeability of the site; and, (c) stormwater quality controls such as infiltration, detention/retention, and/or biofilters; and basins, swales, and pipes in the system design.
- The project proponent shall design and construct new facilities to provide appropriate flood protection such that operations are not adversely affected by flooding and inundation. These designs shall be approved by the local land use agency. The project proponent shall also consult with the appropriate flood control authority on the design of offsite stream crossings such that the minimum elevations are above the predicted surface-water elevation at the agency's designated design peak flows. Drainage and flood prevention features shall be inspected and maintained on a routine schedule specified in the facility plans, and as specified by the county authority.

Impact H-3: Temporary Construction-Related Water Quality Effects. Project-related construction activities for renewable energy facilities implemented in response to the RES have the potential to result in temporary soil erosion, discharges of construction-related contaminants, and off-site transport of wastes in stormwater runoff.

Finding: The potential construction-related impact to water quality would be potentially significant under the 20 percent RPS and 33 percent RES (high and low load conditions). While mitigation is recommended to reduce this impact, it is unknown at

this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce these impacts to a less-than-significant level. Therefore, for purposes of analysis, this impact is concluded to be significant and unavoidable for all renewable energy types under the 33% RES (high and low load conditions). Potential construction related water quality impacts would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified several mitigation measures to temporary construction-related water quality effects:

- Proponents of new renewable energy projects shall coordinate with local land use agencies to seek entitlements for development of the project including completing all necessary environmental review requirements (e.g., CEQA and/or NEPA). The local land use agency or governing body shall certify that the environmental document was prepared in compliance with applicable regulations and shall approve the project for development.
- Under the oversight of the local lead agency, prior to issuance of any construction permits, the proponents of new renewable energy projects shall comply with applicable construction grading and erosion control ordinances. Additionally, in compliance with the requirements of the SWRCB general NPDES stormwater permit for construction (Order No. 2009-0009-DWQ), the project proponent shall prepare a Stormwater Pollution Prevention Plan (SWPPP) and identify and implement construction-related BMPs to avoid and minimize erosion and contaminant runoff. The SWPPP describes the site, erosion and sediment controls, means of waste disposal, control of post-construction sediment and erosion control measures and maintenance responsibilities, water quality monitoring and reporting during storm events, corrective actions for identified water quality problems and non-storm water management controls. These measures included in the SWPPP shall ensure compliance with applicable regional, state and federal water quality standards. The project proponent shall obtain authorization under the statewide NPDES stormwater permit for general construction activity (or via local agency if construction activity is managed locally) before beginning work.
- Construction BMPs should include, but may not be limited to the following:
    - Limit construction access routes and stabilize access points;
    - Stabilize denuded areas with seeding, mulching or other methods;
    - Stake/mark construction limits;
    - Designate specific areas of the site, away from storm drain inlets and drainage features for the storage, preparation and disposal of construction

materials, chemical products and waste; for auto equipment parking; and for routine vehicle and equipment maintenance;
- Store stockpiled materials and wastes under a roof or plastic sheeting; berm around stockpile/storage areas to prevent contact with runoff;
- Perform major maintenance, repair and vehicle and equipment washing offsite or in designated and controlled areas on-site;
- Sweep up spilled dry construction materials (cement, fertilizer, etc.) immediately; water would not be used to wash them away; and
- Clean up liquid spills on paved or impermeable surfaces using "dry" clean-up methods (e.g. absorbent materials, cat litter, rags) and dispose of clean-up materials properly.

Impact H-4: Long-term Operations-Related Effects to Surface and Groundwater Quality. Long-term operations-related discharges from renewable energy facilities implemented in response to the RES that use steam power for energy generation (solar thermal, geothermal, solid-fuel biomass, and biogas) have the potential to result in discharges of contaminants in stormwater runoff from industrial activity, and from cooling water discharges to surface water bodies.

Finding: The operations-related impact to water quality would be potentially significant under the 20 percent RPS and 33 percent RES (high and low load conditions). While mitigation is recommended to reduce this impact, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce these impacts to a less-than-significant level. Therefore, for purposes of analysis, this impact is concluded to be significant and unavoidable for all renewable energy types under the 33% RES (high and low load conditions). Potential operational water quality impacts would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified several mitigation measures to reduce long-term operations-related impacts to surface and groundwater quality:

- Project proponents of solar thermal, geothermal, solid-fuel biomas, biogas proposed renewable energy projects shall comply with the requirements of the SWRCB general NPDES stormwater permit for industrial activity (Order 97-003-DWQ) and shall prepare a Stormwater Pollution Prevention Plan (SWPPP) and identify and implement BMPs to avoid and minimize contaminant runoff from the industrial sites. The SWPPP shall describe the site, and proposed BMPs for contaminant storage and handling controls, stormwater runoff management and treatment, non-storm water management controls, waste disposal measures,

water quality monitoring and reporting during storm events, and corrective actions for identified water quality problems. BMPs in the SWPPP shall be implemented to avoid and minimize contaminant discharges offsite, and ensure compliance with applicable state and federal water quality standards.

- Project proponents of solar thermal, geothermal, solid-fuel biomas, biogas proposed renewable energy projects shall comply prepare a Report of Waste Discharge (ROWD) for authorization of an individual NPDES discharge permit. The effects of the discharge of cooling water to the receiving water shall be evaluated by a qualified professional to assess the potential effects to aquatic life. The allowable discharge operations shall be identified that are necessary to avoid adverse effects to the receiving water beneficial uses. Such measures may include, but not be limited to: (a) controlling the allowable temperature in the discharge; and (b) stipulating the configuration of the allowable size, location, and required dilution of the discharge at the point of discharge to the stream.

6. Noise

Impact J-1: Impacts to Sensitive Receptors from Project-Generated Short-Term Construction and Long-Term Operational Noise (and Vibration) Levels. Construction and operation of new renewable energy and transmission projects could result in substantial increases in ambient noise levels and expose persons to or generate noise levels in excess of applicable standards.

Finding: Impacts from project-generated short-term construction and long-term operational noise would be potentially significant. The specific noise (and vibration) impacts of the 33 percent RES cannot be identified with any certainty, and the renewable energy projects could potentially result in significant environmental impacts for which it is unknown whether mitigation would be available to reduce the impact to a less-than-significant level, this impact is considered potentially significant under the 20 percent RPS and 33 percent RES. While mitigation is recommended to reduce significant noise impacts, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce the impact to a less-than-significant level. Therefore, for purposes of analysis, this impact is concluded to be significant and unavoidable for all renewable energy types under the 33 percent RES (high and low load conditions). Potential construction noise impacts would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified several mitigation measures to reduce long-term and short-term noise impacts:

- Proponents for the proposed renewable energy project shall coordinate with local land use agencies to seek entitlements for development of the project including completing all necessary environmental review requirements (e.g., CEQA and/or NEPA). The local land use agency or governing body shall certify that the environmental document was prepared in compliance with applicable regulations and shall approve the project for development.
- Based on the results of the environmental review, proponents shall implement all mitigation identified in the environmental document to reduce or substantially lessen the environmental impacts of the project.
- Comply with local plans, policies, and ordinances regarding acceptable noise and vibration levels.
- Ensure noisy construction activities (including truck deliveries, pile driving and blasting) are limited to the least noise-sensitive times of day (e.g., weekdays during the daytime hours) for projects near sensitive receptors.
- Consider use of noise barriers such as berms and vegetation to limit ambient noise at property lines, especially where sensitive receptors may be present.
- Ensure all project equipment has sound-control devices no less effective than those provided on the original equipment.
- All construction equipment used shall be adequately muffled and maintained.
- Consider use of battery powered forklifts and other facility vehicles.
- Ensure all stationary construction equipment (i.e., compressors and generators) is located as far as practicable from nearby sensitive receptors.
- If blasting or other noisy activities are required during the construction period, notify nearby sensitive receptors and the permitting agencies 24 hours in advance.
- Properly maintain mufflers, brakes and all loose items on construction and operational-related vehicles to minimize noise and ensure safe operations. Keep truck operations to the quietest operating speeds. Advise about downshifting and vehicle operations in sensitive communities to keep truck noise to a minimum.
- Use noise controls on standard construction equipment; shield impact tools.
- Consider use of flashing lights instead of audible back-up alarms on mobile equipment.
- Install mufflers on air coolers and exhaust stacks of all diesel and gas-driven engines.
- Equip all emergency pressure relief valves and steam blow-down lines with silencers to limit noise levels.
- Contain facilities within buildings or other types of effective noise enclosures.
- Employ engineering controls, including sound-insulated equipment and control rooms, to reduce the average noise level in normal work areas.

7. Recreation

Impact K-1: Impact to Recreation Resources, Opportunities, or Uses. The construction of substantial additional renewable generation and transmission capacity in California and the Western U.S. would occur as a result of the RES, with much of it expected to be

on public land which could directly disrupt, indirectly interfere with use of, or reduce the recreational resource qualities.

Finding: This impact would be potentially significant for all renewable energy types under the 33 percent RES (high and low load). While mitigation is recommended to reduce significant impacts associated with recreation resources, opportunities, and use, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce the impact to a less-than-significant level. Therefore, for purposes of analysis, this impact is concluded to be significant and unavoidable for all renewable energy types under the 33 percent RES (high and low load conditions). Potential impacts on recreation resources would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: Public land in the West currently supports extensive recreation resources and use. The potential exists to directly disrupt, indirectly interfere with use of, or reduce the recreation resource qualities and availability of public lands. Also, new renewable energy generation and transmission facilities could directly disrupt, indirectly interfere with use of, or reduce the recreational resource qualities of private land occupied by or located near renewable energy projects. While the specific location of projects cannot be identified with any certainty, the magnitude of increased renewable energy facilities could result in significant recreational impacts.

The proponents and land management agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation for recreation impacts. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified several mitigation measures to reduce impacts to recreation. Proponents for proposed renewable energy projects shall coordinate with Federal, State, and regional/local land management agencies with responsibilities for providing outdoor recreation opportunities where facilities are proposed on land supporting outdoor recreation resources, opportunities, or use. If facilities would displace, disrupt, reduce access to, or otherwise adversely affect recreation resources, opportunities, or use, the project siting and/or design shall be modified to the extent feasible to avoid or minimize the impact. Proponents shall also consult with affected outdoor recreation user groups. The information demonstrating that all feasible measures are being taken to avoid or minimize the recreation impact shall be included in the necessary environmental review (i.e., CEQA and/or NEPA). For proposed renewable energy project that would indirectly reduce the recreation resource qualities of public lands, as part of the public involvement process for environmental reviews of proposed renewable energy projects, proponents shall consult with affected land management agencies with recreation responsibilities and affected outdoor recreation user groups to identify and implement potential, feasible mitigating solutions.

8. Public Services, Utilities and Solid Waste

Impact L-1: Impacts to Public Services, Utilities, and Solid Waste Services. Development of renewable electricity projects could increase demand for public services and utilities, including law enforcement, fire protection, emergency medical response, solid waste facilities, electricity, natural gas, wastewater services, and water supply services.

Finding: The specific public service, utilities, and solid waste impacts of renewable electricity projects needed to comply with the 33 percent RES cannot be identified with any certainty, and these projects could potentially result in significant environmental impacts for which it is unknown whether mitigation would be available to reduce the impact to a less-than-significant level, for purposes of analysis, this impact is considered potentially significant for all renewable energy types under the 33 percent RES (high and low load). While mitigation is recommended to reduce significant impacts associated with the provision of public services and utilities, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce the impact to a less-than-significant level. Therefore, for purposes of analysis, this impact is concluded to be significant and unavoidable for all renewable energy types under the 33 percent RES (high and low load conditions). Potential impacts to public services and utilities would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified several mitigation measures to reduce impacts to public services, utilities and solid waste services:

- Proponents for the proposed renewable energy project shall coordinate with local land use agencies to seek entitlements for development of the project including completing all necessary environmental review requirements (e.g., CEQA and/or NEPA). The local land use agency or governing body shall certify that the environmental document was prepared in compliance with applicable regulations and shall approve the project for development.
- Based on the results of the environmental review, proponents shall implement all mitigation identified in the environmental document to reduce or substantially lessen the environmental impacts of the project.
- Comply with local plans and policies regarding the provision of public service, utilities, and solid waste services.
- Where an on-site septic treatment system is proposed, submit a permit application to the appropriate local jurisdiction and include the application with applications to appropriate lead agencies.

Impact L-2: Water Supply Impacts. Some renewable resources would have minimal water demand (i.e., wind power, solid-fuel biomass, geothermal, and biogas gas), but solar thermal, solar photovoltaic, and small hydroelectric renewable energy projects could have substantial water demand for electricity generation, operation, and/or maintenance.

Finding: Because the specific water supply impacts of renewable electricity projects needed to comply with the 33 percent RES cannot be identified with any certainty and the renewable energy projects could potentially result in significant environmental impacts for which it is unknown whether mitigation would be available to reduce the impact to a less-than-significant level, for purposes of analysis, this impact is considered potentially significant for all renewable energy types under the 33 percent RES (high and low load). While mitigation is recommended to reduce significant impacts associated with the provision of water, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce the impact to a less-than-significant level. Therefore, for purposes of analysis, this impact is concluded to be significant and unavoidable for all renewable energy types under the 33 percent RES (high and low load conditions). Potential water supply impacts would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified potential measures to mitigate impacts to water supply. In addition to the mitigation measures identified with respect to Impact L-1 above, the following mitigation measures have been identified for this Impact L-2:

- Where appropriate, prepare a Water Supply Assessment (WSA) consistent with the requirements of Section 21151.9 of the Public Resources Code/ Section 10910 et seq. of the Water Code. The WSA shall be approved by the local water agency/purveyor prior construction of the project.
- Comply with local plans and policies regarding the provision of wastewater treatment services.

9. Transportation and Traffic

Impact M-1: Project-Generated Short-Term Construction and Long-Term Operational Impacts to Transportation and Traffic. New renewable electricity and transmission projects could result in substantial construction traffic, but are expected to result in generally moderate operational traffic. The specific transportation and traffic impacts of the 33 percent RES cannot be identified with any certainty, and these projects could potentially result in significant environmental impacts (e.g., conflict with applicable

programs, plans, ordinances, or policies; result in a change in air traffic patterns; substantially increase hazards due to a design feature; result in inadequate emergency access) for which it is unknown whether mitigation would be available to reduce the impact to a less-than-significant level.

Finding: This impact would be potentially significant for all renewable energy types under the 33 percent RES (high and low load). While mitigation is recommended to reduce significant impacts, it is unknown at this time whether feasible mitigation is available, or if available, if this mitigation would be able to reduce the impact to a less-than-significant level. Therefore, for purposes of analysis, this impact is concluded to be significant and unavoidable for all renewable energy types under the 33 percent RES (high and low load conditions). Potential construction and operational traffic impacts would be avoided with the "no project" alternative. However, specific economic, legal, social, technological, or other considerations render infeasible the "no project" alternative. A Statement of Overriding Considerations has been prepared (see below) to address the potentially significant and unavoidable impacts associated with adoption of the RES.

Facts in Support of Finding: The proponents and local land use agencies can and should be the parties responsible for the approval and implementation of the renewable energy project and its mitigation. ARB is not a land use agency and would not be responsible for ensuring that this mitigation is implemented. However, ARB has identified the following measures to mitigate this impact:

- Proponents for the proposed renewable energy project shall coordinate with local land use agencies to seek entitlements for development of the project including completing all necessary environmental review requirements (e.g., CEQA and/or NEPA). The local land use agency or governing body shall certify that the environmental document was prepared in compliance with applicable regulations and shall approve the project for development.
- Based on the results of the environmental review, proponents shall implement all mitigation identified in the environmental document to reduce or substantially lessen the environmental impacts of the project.
- Minimize the number and length of access, internal, service and maintenance roads and use existing roads when feasible.
- Provide for safe ingress and egress to/from the proposed project site. Identify road design requirements for any proposed roads, and related road improvements, in coordination with applicable federal, state, and local transportation agencies.
- If new roads are necessary prepare a road siting plan and consult standards contained in federal, state, or local requirements. The plans should include design and construction protocols to ensure roads will meet the appropriate standards and be no larger than necessary to accommodate their intended functions (e.g., traffic volume and weight of vehicles). Access roads should be located to avoid or minimize impacts to washes and stream crossings, follow natural contours and minimize side-hill cuts. Roads internal to a project site should be designed to minimize ground disturbance. Excessive grades on roads,

road embankments, ditches, and drainages should be avoided, especially in areas with erodible soils.

- Prepare a Construction Traffic Control Plan and a Traffic Management Plan.
- If railroad crossings need improvements to provide for safe crossing, consult with the appropriate railroad and CPUC for permitting requirements.
- Meet with the local Airport Land Use Commission. In applications to appropriate lead agencies, provide a copy of a letter stating that the proposed project is compatible with the Airport Land Use Compatibility Plan. The following locations and design features may contribute to a decision that the facility is incompatible with operations of a nearby airport:
    - Siting the facility within 20,000 feet (3.8 miles) of a runway that is at least 3,200 feet in actual length, or 5,000 feet from a heliport.
    - Locating any portion of a facility within a designated airport safety zone, airport influence area or airport referral area.
    - Introducing a thermal plume, visible plume, glare, or electrical interference into navigable airspace on or near an airport.
    - Proposing a structure that will exceed 200 feet in height above ground level.
- Consult with FAA regarding the heights of the project structures and avoid conflicts with aviation. Design the project to comply with FAA regulations, including lighting regulations, and to avoid potential safety issues associated with proximity to airports or landing strips.
- Complete FAA Form 7460, provide to FAA and include a copy in applications to appropriate lead agencies.
- Consult with representatives from the appropriate military installation for projects to be located under aircraft low fly zones. Design the project to address military concerns.

III. IMPACTS ASSOCIATED WITH PROJECT ALTERNATIVES

The no-project alternative (continuation of the RPS) would result in impacts from development of additional wind and solar resources and transmission lines, including potentially significant adverse impacts to: scenic resources, biological resources, cultural resources, soils, water resources, land use, noise, and recreation.

The Incremental in-State alternative would be substantially similar to the proposed RES and would result in similar impacts. Based on modeling by the RES Calculator, this alternative would result in a 10 percent increase in solar thermal generation and an approximately 8 percent increase in solar photovoltaic generation under the low load scenario, and a 5 percent increase in wind, a 4 percent increase in solar thermal, and a 3 percent increase in solar photovoltaic. The Incremental In-State alternative high load scenario would also require approximately 790 gigawatt hours (GWh) of new wind energy from the Palm Springs CREZ. Therefore, the Incremental In-State alternative would result in an increase in impacts to areas that support solar and wind, primarily the southeast desert areas. The alternative would consume additional desert lands, resulting in slightly greater direct and indirect impacts to desert species and habitat,

scenic qualities, and other desert areas and resources (e.g. recreation areas, communities). Air quality impacts would be similar to the proposed RES, but additional in-state renewable development would result in lower criteria air pollutant emissions. Potential impacts to other environmental resource areas (cultural resources, soils, water resources, land use, noise, and recreation) may also increase proportionately, As with the proposed RES, mitigation for significant and potentially significant impacts would be implemented on a project-specific basis and would likely include the same or similar measures recommended in the environmental analysis for the RES.

STATEMENT OF OVERRIDING CONSIDERATIONS

CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental impacts when determining whether to approve the project (CEQA Guidelines §15093(a)). If the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered acceptable (CEQA Guidelines §15093(a)).

I. SIGNIFICANT, UNAVOIDABLE IMPACTS

Based on the final FED and the record of proceedings, implementation of the RES regulation may result in significant and unavoidable impacts. There is a considerable amount of uncertainty surrounding the extent of the environmental impacts of the RES regulation, because the renewable energy projects and transmission needed to comply with the regulation have largely not been defined. Moreover, ARB is limited in the mitigation measures it can enforce, due to the fact that ARB's jurisdiction is limited to the State of California, and even within California, ARB is not a land use agency or vested with any approval authority over renewable generation projects. Therefore, with respect to projects physically located outside of California and impact areas not related to air, ARB can suggest certain mitigation measures, but lacks the jurisdiction necessary to require their implementation.

The process of constructing renewable energy projects and/or transmission lines creates the potential for accident conditions that could involve release of hazardous materials into the environment. Construction could also create temporary but substantial increases in construction-related noise and traffic.

After construction is completed, the existence of a renewable energy project or transmission lines have the potential to result in adverse aesthetic effects on scenic resources and light and glare. Depending on their location, renewable energy projects or transmission lines may also result in impacts to cultural and paleontological resources, recreation resources, and the geology, soils and mineral resources on and around the land where such projects are constructed. Public services, utilities and solid waste services may also be affected, but these impacts cannot be identified with any specificity at this time.

Both construction and continued operation of renewable energy projects may impact hydrology and water supply by increasing demand for groundwater resources, creating runoff/drainage issues, and presenting possibilities for releases of contaminants.

II. BENEFITS OF THE RES REGULATION

Notwithstanding the impacts identified above, ARB believes that the benefits of adopting and implementing the RES regulation outweigh the associated environmental consequences for the following reasons:

- The proposed RES will reduce GHG emissions from California's electricity sector by at least 12 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) in 2020, making it one of California's largest GHG emission reduction strategies.

- The proposed RES meets the Scoping Plan commitments for GHG emission reductions in 2020 and is needed to achieve the State's mandate for reducing GHG emissions to 1990 levels by 2020.

- In addition to reducing emissions of GHGs, the proposal would result in hundreds of tons of statewide reductions in both criteria and toxic air pollutants by displacing the use of dirtier fossil-fueled generation, thus providing health-related co-benefits.

- The proposal would reduce ROG, NOx, and $PM_{2.5}$ emissions from electricity generation in the state by approximately 10 percent, and SOx and CO emissions by approximately 5 percent.

- The expected NOx reductions would also result in reduced secondary $PM_{2.5}$ formation in the atmosphere. The reduced exposure to both primary and secondary $PM_{2.5}$ is anticipated to result in a reduction in the statewide number of premature deaths and hospitalizations due to exacerbated respiratory and cardiovascular diseases, as well as other adverse health effects.

- The proposed RES helps California diversify the current energy supply, promotes energy security, builds on California's leadership as a center for green technologies by fostering a growing market for renewable technologies, including wind and solar, and supports the creation of new green jobs as part of that growing market.

- Over 80 percent of the new renewable energy resources are expected to be built in California. This will result in the creation of between approximately 8,000 and 10,000 new permanent green jobs in 2020.