RESOLUTION NO. Z-14-39 OF
THE EAST COUNTY BOARD OF ZONING ADJUSTMENTS
ADOPTED AT THE HEARING OF NOVEMBER 12, 2014
APPROVING CONDITIONAL USE PERMIT PLN2012-00214,
ADOPTING FINDINGS, MITIGATION MONITORING AND REPORTING PROGRAM,
AND STATEMENT OF OVERRIDING CONSIDERATIONS, IN COMPLIANCE WITH
THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

WHEREAS PATTERSON PASS WIND FARM, LLC filed an application for CONDITIONAL USE PERMIT, PLN2012-00214, to decommission and remove 336 wind turbines from the existing 21.8 megawatt (MW) windfarm, to install up to 12 new turbines with a combined nameplate capacity of 19.8 MW, and to make improvements to related infrastructure, on three parcels north of Patterson Pass Road encompassing roughly one and a half square miles, approximately two miles southwest of Midway Road, bearing Assessor Parcel Numbers: 099A-1800-001-00; 099A-1800-002-01; and 099B-7985-001-02; and

WHEREAS the Applicant, Patterson Pass Wind Farm, LLC Patterson Pass Wind Farm, LLC, is an operating subsidiary of EDF Renewable Energy (EDF RE) (formerly ENXCO), which currently operates a windfarm in the project location pursuant to Conditional Use Permit C-8263, ENXCO, Inc. / Patterson Pass Farms-Fields, approved by the Alameda County Board of Supervisors on September 22, 2005 by its Resolution R-2005-453 and amended by the Board of Supervisors on January 11, 2007 by its Resolution R-2007-111; and

WHEREAS the subject project is part of an overall program to repower the entire Altamont Pass Wind Resource Area (APWRA) by replacing older generation turbines with newer, generally larger turbines that serve to improve turbine efficiency but also have the potential to substantially reduce avian mortality, especially for raptor species; and

WHEREAS the East County Board of Zoning Adjustments held a public hearing on said application at the hour of 1:00 p.m. on the 12th day of November, 2014, in the City of Pleasanton Council Chambers, 200 Old Bernal Avenue, Pleasanton, California; and

WHEREAS it satisfactorily appears from affidavits on file that proper notice of said public hearing was given in all respects as required by law; and

WHEREAS this application has been reviewed in accordance with the provisions of the California Environmental Quality Act and it was determined that the proposed project would result in potentially significant adverse environmental impacts and therefore is a project subject to the California Environmental Quality Act (CEQA), and that preparation of an Environmental Impact Report (EIR) would be required; and

WHEREAS, a Draft Program EIR, released for public review on June 6, 2014, evaluated repowering of the APWRA on a programmatic level and simultaneously evaluated two projects, including the subject project, on a project-specific level; and

WHEREAS a Final Program EIR, including responses to public comments on the Draft Program EIR, was completed on October 31, 2014; and

WHEREAS the Final Program EIR indicates that the Subject Project would result in significant and unavoidable adverse impacts on avian wildlife species including golden eagle and other focal raptor species, as described in a separate draft Resolution presented to the East County Board of Zoning Adjustments as the decision-making body with responsibility both for certifying the Final Program EIR and for approving the CUP application; and

WHEREAS, on November 12, 2014, the East County Board of Zoning Adjustments adopted Resolution Z-14-39 which certified the Final Program EIR as being in compliance with CEQA, that the Final Program EIR was presented to the Board, which has reviewed and considered the information in the Final Program EIR prior to adopting said Resolution, and that the Final Program EIR reflects the County's independent judgment and analysis; and

WHEREAS, the Planning Department submitted a Staff Report to the East County Board of Zoning Adjustments for its hearings of November 12, 2014, summarizing the facts and circumstances of the repowering program and currently proposed projects; and

WHEREAS, in compliance with Section 15091 of the CEQA Guidelines, the Planning Department has prepared Written Findings of Significant Effects, attached herein as Exhibit A, which makes written findings for each of the significant effects of the project, accompanied by a brief explanation of the rationale for each finding, supported by substantial evidence in the record, that changes or alterations have been required in or incorporated into the project, including by identified mitigation measures which would avoid or substantially lessen some but not all identified significant environmental effects, and furthermore that certain mitigation measures or project alternatives identified in the Final Program EIR are infeasible due to specified economic, legal, social, technological, or other considerations; and

WHEREAS, further in compliance with Section 15091 of the CEQA Guidelines, the Planning Department has prepared a Mitigation Monitoring and Reporting Program, attached herein as Exhibit B, which is required to be implemented by the Permittee and by the County as a condition of approval of the project and that are fully enforceable through permit conditions, agreements, or other measures; and

WHEREAS, in compliance with Section 15093 of the CEQA Guidelines the Planning Department has prepared a Statement of Overriding Considerations, attached herein as Exhibit C, which states specific reasons, supported by substantial evidence in the record, why the Planning Department and the Board would approve the project although certain significant adverse environmental effects of the project would not be avoided or substantially lessened by the identified mitigation measures; and

WHEREAS, the East County Board of Zoning Adjustments has determined that approval of the project as conditioned herein, including the implementation of the Mitigation Monitoring and Reporting Program attached herein as Exhibit B, would provide for all of the significant effects on the environment to have been eliminated or substantially lessened where feasible, as indicated in the Written Findings of Significant Effects attached herein as Exhibit A,

and that there are remaining significant effects on the environment found to be unavoidable which are acceptable due to overriding concerns as indicated in the Statement of Overriding Considerations attached herein as Exhibit C; and

WHEREAS, adoption of the programs, requirements, procedures, legal and financial commitments and all other specifications as set forth in the conditions of approval for the conditional use permits, is found to be necessary for the public health and safety and as a necessary prerequisite to ensure that the proposed decommissioning, construction and operation of the facilities are managed in such a way as to serve the goals and objectives of the Alameda County General Plan; and

WHEREAS, the Staff Report was submitted recommending the application be approved subject to the proposed conditions of approval herein below, and adoption of the draft Resolutions; and

WHEREAS a representative present on behalf of the Applicant appeared at said public hearing and presented testimony in support of the application; and

WHEREAS the Board did hear and consider all reports, recommendations and testimony as hereinabove set forth and asserts the information contained in the Final Program EIR reflects the independent judgment of the Board;

NOW THEREFORE

BE IT RESOLVED that the Board finds that:

1. The use is required by the public need in that wind energy production in the Altamont Pass Wind Resource Area (APWRA) represents a major source of renewable energy that is currently under-utilized by aged, underperforming or defunct wind turbines with documented adverse effects on avian species. The proposed Project would replace existing turbines with more efficient turbines, with the potential to reduce avian impacts. The project would generate and supply 100% emissions-free electricity to California, would support California's renewable energy goals, and would help reduce dependence on fossil fuels, a primary factor in global warming or climate change.

2. The use will be properly related to other land uses and transportation and service facilities in the vicinity in that as an existing wind farm, the Project site is well-suited from a planning and practical perspective for continued use as a windfarm. The Project parcels have been developed with wind power project uses for over 30 years and are located a substantial distance away from substantial residential, commercial and industrial uses. Existing supporting facilities will continue to be utilized to transmit the power generated to satisfy the electricity needs of California.

3. The use, if permitted, under all the circumstances and conditions of this particular case, will not materially affect adversely the health or safety of persons residing or working in the vicinity, or be materially detrimental to the public welfare or injuries to property or improvements in the neighborhood, The proposed project would serve the goals and objectives of the Alameda County East County Area Plan and other County economic development and environmental objectives, would have limited impacts on County services and infrastructure, and as mitigated with the measures to be adopted under the Mitigation Monitoring and Reporting Program attached herein as Exhibit B and the conditions of approval, would not negatively impact the surrounding community or environment. As the site is currently occupied by wind turbines and supporting facilities, once construction is complete and the wind turbines have been repowered, environmental conditions as they currently exist would be maintained, if not improved.

   Furthermore: a) the subject turbines would be sited in a manner that reduces risks to avian and bat species and according to specified minimum setbacks to reduce any health, safety or aesthetic concerns to any residents close proximity; b) proper maintenance and operation efforts would be in effect to ensure the safe operation of the turbines; c) fire prevention and security measures would be in place to protect the public and local property; d) construction activities will be conducted in a manner that reduces potential health, safety and environmental concerns; e) the proposed use would not substantially hinder the continued use of the project sites and surrounding land for cattle grazing as the primary property use; f) any access roads improved for the proposed use would provide improved access to the grazing lands; g) land owners would benefit from the lease payments made by the applicant, which further supports grazing operations; and h) other improvements, such as roadways, railroads, electrical substations and landfills are not adversely affected by the presence of wind turbines and their associated infrastructure because they proposed Project would replace and/or continue to use existing facilities.

4. The use will not be contrary to the specific intent clauses or performance standards established for the District in which it is to be considered in that the proposed project is located in the A (Agriculture) zoning district, which has as its stated intent: "to promote implementation of General Plan land use policies for agriculture and other nonurban uses; to conserve and protect existing agricultural uses; and to provide space for and encourage such uses in places where more intensive development is not desirable or necessary for the general welfare." The proposed project would be consistent with this intent because the development of wind power projects is both allowed and encouraged in the APWRA by the East County Area Plan, the project removes minimal land from agricultural production, and the use is appropriately located in non-urban areas and serves the public welfare.

BE IT FURTHER RESOLVED that the Board adopts the Written Findings of Significant Effects contained in Exhibit A of this Resolution, the Mitigation Monitoring and Reporting Program contained in Exhibit B of this Resolution; and the Statement of Overriding Considerations contained in Exhibit C of this Resolution, which Exhibits are incorporated herein as if fully set forth.

BE IT FURTHER RESOLVED that the Board does hereby approve the said application as shown by plans labeled "Exhibit D, PLN2012-00214" on file with the Alameda County Community Development Agency, Planning Department, 224 West Winton, Rm. 111, Hayward, CA, 94544), subject to the following conditions:

AUTHORIZATION

1. Approval. Approval of this Permit authorizes Patterson Pass Wind, LLC (a subsidiary of EDF Renewable Energy, LLC) to decommission and remove 336 wind turbines from the existing 21.8 megawatt (MW) windfarm, to install up to 12 new turbines with a combined nameplate capacity of 19.8 MW, and to make improvements to related infrastructure, on three parcels north of Patterson Pass Road encompassing roughly one and a half square miles, approximately two miles southwest of Midway Road, bearing Assessor Parcel Numbers: 099A-1800-001-00; 099A-1800-002-01; and 099B-7985-001-02.

2. Compliance and Conditions. Permittee agrees to comply with all applicable regulations, rules and requirements of the County of Alameda and its Agencies, all subdivisions and departments of such agencies, and to comply with specific conditions of approval described herein by the representatives of said agencies, including but not limited to:

   a. Community Development Agency, Planning Department
   b. Public Works Agency, Building Inspection Department
   c. Public Works Agency, Land Development Department
   d. Public Works Agency, Grading Division
   e. Fire Department
   f. County Sheriff
   g. Health Services Agency, Environmental Health Department

   Failure to act in compliance with the conditions herein will be construed as a violation of Zoning and enforcement proceedings shall commence as provided for by Section 17.58 of the Alameda County Zoning Ordinance.

   Permittee further agrees to comply with all applicable regulations, rules and requirements of the State of California and United States agencies, including but not limited to the following:

   h. California Public Utilities Commission
   i. California Energy Commission

j. California State Department of Fish and Wildlife

k. California State Water Quality and Control Board - San Francisco and Central Valley Regions

l. Bay Area Air Quality Management District

m. United States Fish and Wildlife Service

n. Federal Aviation Administration

3. Insurance: A Comprehensive General Liability insurance policy in the minimum amount of $1,000,000 and in the form prescribed in the document "INSURANCE REQUIREMENTS, ALAMEDA COUNTY PLANNING DEPARTMENT, November 12, 2014," in addition to insurance requirements of other agencies listed in Condition 2 shall be provided to the County within 20 business days following approval of this Conditional Use Permit and provided again within 20 business days of each annual anniversary thereof.

4. Utility Tax Compliance. Within 60 days of this approval, the Permittee shall submit to the Alameda County Planning Department evidence of business registration with the Alameda County Business Tax Unit in the form of a valid business certificate to ensure compliance with the County's utility tax regulations.

5. Liability. By exercise of this Conditional Use Permit, the Permittee agrees to defend, indemnify and hold harmless the County of Alameda, its officers, employees, agents and servants for any and all liability caused by the negligence or wrongful act of the Permittee arising out of the exercise of this Conditional Use Permit, and to pay all claims, damages, judgments, legal costs, adjuster fees, and attorney fees related thereto.

6. Indemnification. The Permittee shall defend, indemnify, and hold harmless Alameda County or its agents, officers, and employees from any claim, action, or proceeding against Alameda County or its, agents, officers or employees to attack, set aside, void, or annul Conditional Use Permit, PLN2012-00214, the Program Environmental Impact Report (PEIR) and its analysis of project impacts, the California Environmental Quality Act (CEQA) findings, determination of significant impacts, the Mitigation Monitoring and Reporting Program (MMRP), or any combination thereof. Such indemnification shall include, but not be limited to, an award of costs and attorney's fees incurred by Alameda County in its defense. The County shall promptly notify Permittee of any such challenge.

7. Planning Review and Permit Administration Costs. The Permittee shall be responsible for payment of all additional Planning Department and Public Works Agency staff and material costs for completing these agencies' reviews up to the time of this approval, including costs billed against the original application deposit, costs which exceeded the deposit and for a deposit of an additional $2,000.00 for similar costs associated with administration and enforcement of the conditions herein, independently of Inspection Costs as required below (Condition 8). If all or any part of said cash deposit is depleted by such administration activities, the Permittee shall restore the balance of the deposit to the original $2,000.00. The Permittee shall also be responsible for payment to the

Planning Department of an proportion of the California Department of Fish & Wildlife (CDFW) CEQA filing fee of $3,029.75 (as of January 1, 2014 or as applicable) for the PEIR, based on the rated nameplate capacity in MW of the Project, in proportion to the MW evaluated at a project level in the PEIR.

The Permittee shall compensate the County for expenditures to retain a biological and avian resource consultant necessary to monitor implementation of these conditions and the project MMRP during Planning Department review of the building permit, during construction, not to exceed $15,000 for the project plus $100.00 per proposed MW.

The Permittee shall compensate the County for expenditures to retain a County technical representative to the Technical Advisory Committee, as necessary to review monitoring reports and advise the County regarding implementation of these conditions and the project MMRP during each year of post-construction monitoring as specified in Conditions 85, 86 and 87 (Mitigation Measures BIO-11g, BIO-14b and BIO-14c). Such compensation shall be paid annually in proportion to the installed or rated MW capacity of the facility (as a proportional percentage of all wind repowering projects, which may be prorated on a monthly basis), not to exceed $15,000 for all repowering projects (adjusted annually for inflation).

8. Inspections and Cost Recovery. The Permittee shall allow staff of the Alameda County Planning Department, Alameda County Public Works Agency, the California Department of Fish & Wildlife, and any other responsible agency to conduct site inspections during construction and operation of the project in order to ensure compliance with approved permits, plans, and conditions of approval. Inspections shall be conducted at the discretion of said agencies. Discovery of noncompliance may be cause for commencement of proceedings to revoke this Conditional Use Permit, and for payment of applicable bonds. Public Works Agency staff is also authorized to inspect structural and pavement conditions of County roads serving the construction site prior to and after construction to identify needed repairs and to assess cost recovery requirements.

   The Permittee or its successors shall be responsible for payment of all reasonable costs associated with necessary inspections of the facility, including costs incurred by the Planning Department, the County Fire Department, the Building Inspection Division, the Public Works Agency or any other applicable Federal, State or County department or agency. Each County Agency shall have the authority to require deposits of $4,000.00 prior to plan review, for plan review, inspections or other necessary costs. State and federal agencies shall be responsible for collecting established fees and related compensation where required by statute.

9. Bonds. Application for Building Permits to implement any portion of this Conditional Use Permit shall be accompanied by the following bonds:

   a. A $2,000.00 cash bond shall be deposited to be used in the investigation and evaluation of a noise complaint as provided in Condition 81 herein below. If all or

any part of said cash bond is depleted by such activities, the Permittee shall restore the balance of the bond to the original $2,000.00.

b. A security bond or other acceptable instrument shall be recorded with the Director of Public Works to guarantee repair and restoration of roads serving the project area that may be damaged in the course of construction of the project, consistent with the requirements of the Transportation Control Plan as set forth in Condition 43 below.

c. A surety bond or other acceptable security instrument shall be recorded with the Director of Public Works to guarantee implementation of the restoration and reclamation plan as required by Conditions 11 and 12 below.

10. Mitigation Monitoring and Reporting Program. The Permittee shall implement all applicable mitigation measures identified in the Mitigation Monitoring and Reporting Program (MMRP) attached herein as Exhibit B, and as specified individually herein. These conditions of approval incorporate the individual mitigation measures and present them either in summarized form or by reference only, and in certain cases provide additional clarification and guidance on the manner, timing and responsibility for implementation of the mitigation measures. The incorporation of the mitigation measures into the conditions of approval (i.e., their replication and representation herein) is not intended to revise, modify or add to any mitigation measure, or add any new obligation to the Permittee under CEQA, but only to augment the understanding of how each mitigation measure shall be implemented. Each mitigation measure is presented within the applicable phase of project development used herein, beginning with design, and continuing through permit applications, pre-construction tasks, obligations during construction, performance during operation, and for periodic review through the life of the permit.

These conditions of approval are intended to and shall be interpreted by reading Exhibit B and the enumerated conditions together, as a whole, in a manner that gives the maximum effect to both and, to the extent necessary, harmonizes them to avoid any inconsistencies or superfluous terms. If the Permittee, the County or other public agency responsible for implementation of a mitigation measure finds any discrepancy between Exhibit B and these conditions, Exhibit B shall be relied upon unless the conditions herein provide greater clarification of the time or performance or the manner of implementation of the MMRP, when determined to be necessary for the effective implementation of the MMRP. Any remaining questions of interpretation shall be resolved by the Planning Director.

11. Restoration and Reclamation Plan: Prior to issuance of building permits the Permittee shall submit for review and approval by the County Planning Director and the Director of Public Works, a reclamation plan for removal at the end of this permit term (or by major default by the Permittee as described below) of all wind turbines, foundations and ground equipment to a depth of three feet below finished grade. Roads and above-ground facilities installed pursuant to this permit shall also be removed unless the property owner

has requested in writing as part of the reclamation plan that they be left in place, subject to approval of the Planning Director. The reclamation plan shall include provisions for:

a. Removal of roads and staging areas within the subject property or properties not needed for maintenance and operations or for other allowed property uses by the property owner;

b. Regrading and revegetation to return the subject property or properties to rangeland or pre-windfarm use conditions, with site-specific characteristics of topography, vegetation, drainage and other unique environmental features, subject to approval of the California Department of Fish and Wildlife;

c. Repair of County roadways from damage that may result from off-haul of materials, movement of oversized loading or heavy-haul vehicle, traffic management and a substantial increase in volume of vehicle trips;

d. A transportation control plan for conveyance of oversize turbine components.

The reclamation plan shall include a cost estimate of labor and material costs, prepared by a licensed contractor to implement the proposed reclamation plan, and the Planning Director shall have the authority to request additional details of specific cost elements. The reclamation plan shall include a guarantee by the Permittee to carry out the reclamation plan upon determination by the Planning Director and Director of Public Works that the permitted wind farm operations have been abandoned or have produced less than 5 percent of the rated output of the wind farm in one year.

The Planning Director and Director of Public Works may instead make a determination that more than 50% of the turbines are in disrepair and there is no other demonstrated plan, satisfactory to the Planning Director, to restore the equipment to a productive operating condition. Under such circumstances the Planning Director may order the Permittee or property owners to execute the reclamation plan.

12. Restoration and Reclamation Bond. Prior to issuance of building permits, and based on County approval of the reclamation plan as above, the Permittee shall post a security in the form of a surety bond. The security shall remain with the County for the life of the project, except upon replacement as provided below and upon replacement shall be adjusted for inflation using the appropriate construction price index, as determined by the Director of the Public Works Agency. In the event ownership of the turbines changes from the current Permittee to another person or entity, the new owner shall replace the surety bond of the original Permittee with a surety bond in the name of the new owner within 30 days of the change of ownership.

13. Ten Year Review. No more than ninety (90) calendar days after the tenth anniversary of the initial approval and within ninety (90) days of the subsequent twentieth anniversary, the Planning Director shall, after notice as provided for in the initial hearing and except as provided for under Conditions 81 and 94 below, set this matter for public hearing by the East County Board of Zoning Adjustments for the purpose of reviewing and verifying

compliance with the conditions of approval so as to validate the findings of this conditional use permit.

14. Post-Construction Monitoring Review. Upon completion of the post-construction avian fatality monitoring program required by Mitigation Measures 11g and if required, after implementation of adaptive management program review required by Mitigation Measures 11i, this matter may be set by the Planning Director for a public hearing, after notice as provided for in the initial hearing, for the purpose of assessing the effectiveness of avian protection plans, adaptive management measures, conservation or other strategies to improve or mitigate avian species safety concerns raised in the Program Environmental Impact Report (PEIR). This review may allow the Planning Director to modify conditions previously imposed or add conditions directly related to the results of the post-construction avian fatality monitoring program (Mitigation Measures 11g) and the recommendations of the Technical Advisory Committee.

15. Commencement Date. Pursuant to Section 17.52.050, building permits shall be obtained and construction activity commenced within 3 years of approval or this permit shall be of no force or effect.

PRIOR TO DESIGN SUBMITTAL

16. Preconstruction Surveys For Special-Status Plant Species (MM BIO-1a). As required by Mitigation Measure BIO-1a in the MMRP, no more than 3 years prior to ground-disturbing repowering activities, and during the appropriate identification periods for special-status plants as specified in the MMRP and the PEIR, the Permittee shall have a qualified biologist (as determined by the Alameda County Planning Director) conduct field surveys to identify special-status plant species within and adjacent to the project site. The Permittee shall submit a report documenting the survey results to the Planning Director for review and approval, meeting the requirements of Mitigation Measure BIO-1a, prior to ground-disturbing activities and before issuance of building permits.

17. Preconstruction Surveys For Habitat For Special-Status Wildlife Species (MM BIO-3a). As required by Mitigation Measure BIO-3a in the MMRP, no more than 3 years prior to ground-disturbing repowering activities, the Permittee shall have a qualified biologist (as determined by Alameda County) conduct field surveys within decommissioning, repowering, and restoration work areas and their immediate surroundings to determine the presence of habitat for special-status wildlife species. The Permittee shall submit a report documenting the survey results and meeting the requirements of Mitigation Measure BIO-3a to the Planning Director for review and approval, prior to conducting any ground-disturbing repowering activities and before issuance of building permits.

18. Preconstruction Bat Roost Surveys (MM BIO-12a). As required by Mitigation Measure BIO-12a in the MMRP, prior to any ground-disturbing activity the Permittee shall have a roost habitat assessment prepared by a qualified bat biologist to identify potential colonial

roost sites of special-status and common bat species within 750 feet of the construction area. If suitable roost sites are to be removed or otherwise significantly affected by the proposed project, the bat biologist will conduct targeted roost surveys of all identified sites that would be affected. Surveys shall conform to the protocols and guidelines set forth in Mitigation Measure BIO-12a in the MMRP, and a report shall be submitted to the Planning Director following such surveys as specified by Mitigation Measure BIO-12a of the MMRP and prior to issuance of building permits.

19. Preconstruction Survey and Planning for Cultural Resources (MMs CUL-2a and CUL-2b). As required by Mitigation Measure CUL-2a in the MMRP, prior to ground-disturbing activities and issuance of the building permit, the Permittee shall have qualified personnel conduct an archaeological field survey of the project area to determine whether significant cultural resources exist within the project area. Documentation of the field survey results shall comply with Mitigation Measure CUL-2a.

    As required by Mitigation Measure CUL-2b, if any significant resources are identified through the preconstruction survey, a treatment plan with measures that could include site avoidance, capping, or data recovery will be developed and implemented by the Permittee and approved by the Planning Director subject to applicable requirements.

20. Environmental Site Assessment to Identify Possible Site Contamination (MM HAZ-4). As required by mitigation measure HAZ-4 in the MMRP, the Permittee shall have a Phase I Environmental Site Assessment (ESA) prepared for any project area proposed for ground-disturbing activities and submit it to the Alameda County Health Services Agency – Environmental Health Department, as the authorized regulatory oversight agency. The Phase I ESA shall be in conformance with the minimum requirements described in Mitigation Measure HAZ-4 in the MMRP.

    If the Phase I ESA indicates likely soil contamination a Phase II ESA shall be prepared by a qualified environmental professional under a work plan approved by the Environmental Health Director, including proposed soil sampling, remediation and disposal of contaminants if necessary. The Phase II ESA shall include the components outlined in Mitigation Measure HAZ-4, and shall be provided to the Planning Director and Environmental Health Director, the latter of which may require remediation of soil or groundwater or disposal of hazardous building materials subject to a work plan approved by the Environmental Health Director. Review of a work plan and Phase II ESA will require a deposit of $6,000.00 (as of this approval date) with the County Health Services Agency – Environmental Health Department, and may require opening a Site Cleanup Program (SCP) file. Any contaminated soil identified on a project site must be properly disposed of in accordance with the State Department of Toxic Substance Control (DTSC) regulations in effect at the time the Phase II ESA is submitted to the Environmental Health Director.

21. Safety Setbacks. New wind turbines shall have a minimum setback from other land uses as stated below.

    a. From a parcel boundary on which a separate windfarm operation is proposed or approved: 1.1 times (or 110% of) the rotor length.

    b. From a parcel boundary on which no windfarm operation is proposed or approved: 1.25 times (or 125% of) the total turbine height.

    c. From a Dwelling Unit: three times (or 300% of) the total turbine height.

    d. From a public road, interstate highway, public trail, commercial or residential zoning: 2.5 times (or 250% of) the total turbine height.

    e. From a recreation area or property approved for an outdoor recreation use: 1.25 times (or 125% of) the total turbine height.

    f. From a high-tension electrical transmission line: 2 times (or 200% of) the total turbine height.

    The setbacks specified above shall be increased by one (1) percent of the total turbine height (to the top of the rotor blade at the 12:00 o'clock position) per ten (10) feet of elevation that the turbine's ground elevation is above the ground elevation of the affected parcel or use, specifically the nearest affected parcel boundary, recreation area or property, dwelling unit, road or highway right-of-way, trail, commercial or residential zone district boundary, or the center of a transmission or conductor line. The setback may be decreased by one (1) percent of such total turbine height per ten (10) feet of elevation that the turbine's ground elevation is below the ground elevation of affected parcels or uses.

    Furthermore, the setbacks specified above, as adjusted according to turbine elevation above or below an affected parcel or use, may be reduced by 50% to an alternative minimum (i.e., to one-half the resulting setback), if a notarized agreement or a recorded easement from the affected property owner (except in the case of setbacks from a public road, interstate highway or transmission line) is approved by the Planning Director, with the following exceptions and conditions:

        i. The setback from a parcel on which no windfarm operation is proposed or approved may be reduced to no less than 1.1 times (or 110% of) the rotor length.

        ii. The setback from a recreation area or property approved for an outdoor recreation use shall not be reduced to less than 1.0 times (100% of) the total turbine height.

        iii. The setback from a public road, interstate highway, public trail, commercial or residential zoning, or high-tension transmission line shall only be reduced to such minimum with the submittal of a report by a qualified professional, to be approved by the Planning Director with substantial evidence that public safety

will not be compromised, and property owner agreement or easements shall be required only from private properties with commercial or residential zoning.

Adjustments based on the ground elevation of a turbine shall be limited to whole ten-foot increments, disregarding any smaller portion. Total turbine height shall always be measured from ground elevation to the top of the rotor at the 12:00 o'clock position (i.e., at the furthest upward reach of the rotor blade). For adjoining parcels under the same windfarm use permit, no setback is required. Knowledge of existing, proposed or approved windfarm use permits on adjacent parcels shall be based on the best available information at the time of the subject application. The Planning Director shall reserve the right to reject all or part of an alternative minimum setback based on substantial evidence that a wind turbine will have adverse noise, safety or visual impacts on a dwelling unit that have not been previously disclosed publicly, or that a required report requires additional information before such a minimum is approved.

22. Safety Setbacks for Meteorological Towers. New temporary and permanent meteorological towers (met towers) shall have a minimum setback from the exterior project boundary, shown in the permit application, equal to the total height of the met tower plus 25 feet.

23. Undergrounding of Utility Lines. All electrical utility collection and distribution connection lines shall be installed underground, except as required by the utility company for final connections to major substations.

24. Color Treatment. All wind turbines, blades, towers and structures shall be treated and maintained with a generally uniform off-white paint scheme in order to blend with the surroundings and minimize adverse visual effect. Exceptions may include experimental measures if recommended by the TAC and approved by the Planning Director to allow any turbine to be painted as a mitigation for bird collisions.

25. Lighting Guidelines. Lighting design for turbine tower entries, substations and permanent operations and maintenance buildings shall be submitted for review and approval by the Planning Director and included in the building permit application. New lighting shall be downward casting and shielded, utilizing motion detection systems if appropriate and shall not unnecessarily "wash out" into surrounding areas. Lenses and bulbs shall not protrude from light fixtures. Fixtures intended to be lit for long periods of time shall utilize low-pressure sodium lamps or devices with similar properties (i.e., long-lasting and energy efficient). Fixtures shall be mounted at the lowest feasible height. If industrial design standards or FAA safety protocols require lighting designs that conflict with the requirements of this condition, such standards and protocols shall take precedence subject to approval by the Planning Director and Building Official with respect to other applicable conditions and mitigation measures.

26. Tower Access. Each wind turbine tower shall be fully enclosed with interior access controlled by the Permittee with security measures approved by the Building Official, and ladder or lift safety measures.

27. Operational Safety. Each turbine generator shall be equipped with both manual and automatic controls to limit the rotational speed of the blade within the design limits of the overall turbine. Generators shall be designed, installed and operated to prevent emissions of electromagnetic interference that are disruptive to adjacent land uses.

28. Meteorological Tower Design Standards. Temporary meteorological towers (met towers) shall be shown on site plans submitted for building permits, and may be guyed (supported by guy-wires) with colored avian marker balls or spirals at appropriate intervals. Met towers installed for operation of more than two years (24 months) shall be free-standing and not supported by guy-wires. Permanent or temporary met towers in excess of 200 feet (or 60 meters) shall be referred to the Federal Aviation Administration for consideration of lighting requirements and paint treatment (e.g., aviation orange).

29. Permanent Signage. Permittee shall provide signage on the entry gates to the subject property(ies) providing basic contact information for use in case of an emergency, including the name of the project, names, titles, and phone numbers of individuals responsible for operations, non-emergency phone numbers, and the Planning Department general contact information. The turbine towers, rotors, cabinets, or mountings shall not be used for advertising.

30. Turbine and Infrastructure Design and Siting to Reduce Avian Mortality (MMs BIO-11b, BIO-11c and BIO-11d). As required by Mitigation Measures BIO-11b, BIO-11c and BIO-11d in the MMRP, the Permittee shall utilize a siting process and prepare a siting analysis, using analyses of landscape features and location-specific bird use and behavior data to determine the specific turbine site locations with the potential to reduce avian collision risk and fatalities and otherwise minimize potential impacts on bird and bat species. Proponents will utilize existing data as well as collect new site-specific data as part of the siting analysis. Permittee shall implement Mitigation Measure BIO-11b as set forth in the project MMRP.

    Permittee shall use turbines with certain characteristics recognized to reduce the collision risk for avian species. Permittee shall implement the design-related measures set forth by Mitigation Measure BIO-11c as set forth in the project MMRP. Permittee shall also utilize specific measures outlined in Mitigation Measure 11d when designing and siting turbine-related infrastructure in order to reduce the risk of bird electrocution and collision.

31. Retrofit Existing Infrastructure to Minimize Risk to Raptors (MM BIO-11e). As required by Mitigation Measure BIO-11e, the Permittee shall have any existing power lines in its project area, that are owned or operated by the Permittee and that are associated with electrocution of an eagle or other raptor retrofitted within 30 days of any recorded

electrocution, or prior to the start of commercial operation, to make them raptor-safe according to Avian Power Line Interaction Committee guidelines. All other existing structures to remain in a project area during repowering will be retrofitted, as feasible, according to specifications of Condition 30 and Mitigation Measure BIO-11c prior to repowered turbine operation.

32. Site Management to Discourage Prey For Raptors (MM BIO-11f). As required by Mitigation Measure BIO-11f in the MMRP, the Permittee shall prevent the use of rodenticides, allow rock piles only over 500 meters from any new turbine, and use gravel around turbine foundations, when designing and siting turbine-related infrastructure and other site improvements, and operating the wind turbines, in order to minimize opportunities for fossorial mammals to become established and thereby create a prey base that could become an attractant for raptors.

33. Turbine Siting and Selection to Minimize Potential Bat Mortality (BIO-14a). Permittee shall use the best information available to site turbines and to select from turbine models in such a manner as to reduce bat collision risk. The siting and selection process will take into account bat use of the area and landscape features known to increase collision risk (trees, edge habitats, riparian areas, water bodies, and wetlands). Measures include but are not limited to siting turbines the greatest distance feasible up to 500 meters (1,640 feet) from still or flowing bodies of water, riparian habitat, known roosts, and tree stands. Permittee shall implement Mitigation Measure BIO-14a as set forth in the project MMRP.

34. Design of Circuit Breakers to Minimize Sulfur Hexafluoride ($SF_{6)}$ Leakage (MM GHG-2b). The Permittee shall ensure that any new circuit breaker installed at a substation has a guaranteed Sulfur Hexafluoride (SF_6) leak rate of 0.5% by volume or less. The Permittee shall provide the Building Official with documentation of compliance, such as specification sheets, prior to installation of the circuit breaker. In addition, the Permittee shall monitor the SF6-containing circuit breakers at the substation consistent with the California Air Resources Board's Scoping Plan Measure H-6 for the detection and repair of leaks.

CONSTRUCTION PERMIT REQUIREMENTS

35. Building Permit Application Requirements (including MM GHG-2d). The Permittee shall apply for and obtain approval for separate building permits for the removal and demolition of existing turbines and associated facilities, and the construction of new turbines, and shall conform to the following requirements.

    a. Soils report and/or geological/geotechnical study will be required.

    b. Comply with building codes and submittal requirements in effect at the time of submitting for building permits.

c. A California licensed architect or engineer shall be designated as the design professional responsible and in charge of the project submittal. Submittal documents may be signed and sealed by multiple licensed architects or engineers.

d. The Permittee's designated California-licensed land surveyor shall be responsible for the property information filed with the Building Permit application.

e. The demolition and construction debris diversion plan shall comply with applicable policies of the Public Works Agency's Construction & Demolition Debris Management Program. In particular, the Permittee shall implement Mitigation Measure GHG-2d as set forth in the MMRP, to comply with the County's revised Green Building Ordinance regarding construction and demolition debris to achieve the following minimum standards: 1) 100% of inert waste and 50% wood/vegetative/scrap metal not including Alternative Daily Cover (ADC) and unsalvageable material will be put to other beneficial uses at landfills; and 2) 100% of inert materials (concrete and asphalt) will be recycled or put to beneficial reuse.

f. Plans filed for the Building Permit application shall obtain Zoning Approval (i.e., Planning Department approval for consistency determination that the plans are consistent with this permit), and shall be drawn to scale, indicating the location of each wind turbine, the location and function of all structures within 1,000 feet of any wind turbine, as well as all trailers and major ground equipment to be put in place for use during construction.

g. Evidence of a proposed interconnection agreement and any technical requirements and specifications required by the interconnection authority.

h. Evidence of filing a notice of proposed construction with the Federal Aviation Administration (FAA) and the required referral to the Alameda County Airport Land Use Commission.

36. Use of Recycled Content in New Building Materials (MM GHG-2c). The Permittee shall require the construction of all new substation and other permanent buildings to incorporate materials for which the sum of post-consumer recycled content plus one-half of the post-industrial content constitutes at least 10% of the total value of the materials in the project.

37. Fire Department Approval Requirements. Permittee shall contact the Alameda County Fire Department, Fire Prevention Bureau, to obtain a fire clearance certificate. The Bureau may be reached by telephone at (510) 670-5853. The Permittee shall install a Knox Box at all entry gates, provide an emergency contact to the Department, and maintain a fire extinguisher in each ground equipment area. Water tanks meeting NFPA 1142 standards shall be provided at each construction staging area and shown on Building Permit application site plans. Permittee shall be responsible for compliance with Exhibit C, the Altamont Pass Windfarms Fire Requirements dated September 22, 2005 and as updated or revised herein.

38. Grading Permit Application and Geotechnical Investigation Requirements (MM GEO-1). Prior to any grading, ground-disturbing or construction activities on the project site, the Permittee shall submit a preliminary grading plan and a site-specific geotechnical investigation to the County Grading Department. The geotechnical investigation/report shall be prepared by a qualified geotechnical firm in conformance with Chapter 15.36.320 and subsequent applicable sections of the Alameda County Grading Ordinance, for review by the County for the purpose of obtaining a grading permit in accordance with the provisions of the Grading Ordinance and the following requirements.

    a. The site-specific geotechnical/geologic report shall be prepared by a licensed geotechnical engineer or engineering geologist with local expertise in geotechnical investigation and design, based on data collected from subsurface exploration, laboratory testing of samples, and surface mapping. The report shall contain all of the elements listed under the Alameda County Grading Ordinance Chapter 15.36.350, as required, and address the following and any additional issues as required by the Director of Public Works.

        - Potential for surface fault rupture related to known and suspected earthquake fault lines, such as the Greenville, Corral Hollow-Carnegie, and the Midway faults (as appropriate to each location).
        - Turbine foundation and power infrastructure siting limitations and recommendations based on the location of such faults relative to proposed site plans.
        - Potential for strong ground shaking, slope failure or unstable cut or fill slopes, presence of expansive soils, unusual terrain or geological characteristics, and appropriate design recommendations for the design of turbine foundation and power collection systems to accommodate such soil or geological conditions.

    b. The geotechnical/geologic report may be subject to a professional review by the County's consulting geotechnical engineer/geologist. It shall be the Permittee's responsibility to provide sufficient funds to the County for this professional review service if required.

    c. Permittee shall implement the design recommendations in the geotechnical report, including revised recommendations resulting from the professional review, if such a review is required.

    d. No grading work will be allowed during the rainy season, from October 1 to April 30, except upon a clear demonstration, to the satisfaction of the Director of the Public Works Agency, that at no stage of the work will there be any substantial risk of increased sediment discharge from the site.

    e. Any proposal for grading work associated with fire access roads must be reviewed and approved by the Alameda County Fire Department prior to issuance of a grading permit.

f. The grading permit shall be subject to approval of the Alameda County Flood Control and Water Conservation District.

39. Stormwater Control Plan. Permittee shall prepare a Stormwater Control Plan (SCP) in compliance with the technical requirements of Provisions C.3 and C.6 of the Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (Municipal Regional Permit, or MRP) and the County Building and Stormwater Management and Discharge Control Ordinances for the purpose of long-term (post-construction) stormwater control. The SCP shall be submitted to the Director of Public Works for approval prior to issuance of a County Stormwater Permit. The SCP shall include:

a. Plan drawings showing the locations, sizing and Drainage Management Areas discharging to the proposed stormwater treatment system(s), the planned site design and source control measures, and any required hydromodification management (HM) facilities or devices.

b. A preliminary written plan that describes the operation and maintenance (O&M) (including inspection) of all installed stormwater treatment systems and HM controls both during construction and following construction.

c. A draft of a statement from the Permittee and property owner accepting long-term responsibility for the O&M of the installed stormwater treatment systems and HM controls, along with continuing upkeep of any required source control and site design measures, until such responsibility is legally transferred to another entity.

d. A draft of an agreement to include written conditions in any sales or lease agreements or deed for the project that requires a buyer or lessee to assume long-term responsibility for the O&M of the installed stormwater treatment systems and HM controls, and the upkeep of the source control and site design measures, until such responsibility is legally transferred to another entity.

e. A signed statement from the Permittee and property owner(s) granting site access to all representatives of the County, local mosquito and vector control agency staff, and Water Board staff, for the sole purpose of performing O&M inspections of the installed stormwater protection systems (treatment systems, HM controls, source controls and site design measures).

f. A written statement from the Permittee and property owner(s) and successors acknowledging that the County may conduct annual inspections of all installed stormwater protection systems and that the Permittee agrees to pay for those inspection costs on a time and materials basis.

g. The plan shall specify that all new or modified drainage facilities shall be designed to ensure no net increase in stormwater discharge rates, flow velocities, or sediment transport would result from project implementation.

h. Discharges from these facilities shall be designed so as to avoid concentration of flow and subsequent downstream scouring or sedimentation in natural creek beds.

i. Proposed roadways shall be designed so as to ensure that potential for slope failure and erosion is minimized.

j. The Stormwater Control Plan shall be incorporated into all design drawings and specifications as appropriate, and shall meet the following standards:

k. The Permittee shall design and construct all storm drainage facilities in compliance with the County Public Works Design Standards.

l. The Permittee shall prevent storm drainage from draining across driveway(s) or onto adjacent properties in a concentrated manner.

m. The Permittee shall obtain a drainage permit under applicable County Ordinances for the installation of new drainage culverts.

A Stormwater Control Plan, Waste Discharge Identification (WDID) Number, Notice of Intent (NOI) and a Storm Water Pollution Prevention Plan (SWPPP) must be submitted to the Public Works Agency prior to issuance of the County Grading and Stormwater Permits.

40. NPDES Permit Requirements to Prevent Stormwater Pollution During Construction (MM WQ-1). As required by Mitigation Measure WQ-1 in the MMRP, the Permittee shall submit a Notice of Intent (NOI) and obtain coverage under the Construction General Permit (CGP) authority of the National Pollutant Discharge Elimination System (NPDES) for both the Central Valley and San Francisco Bay Regional Water Boards, before the onset of any construction activities for the purpose of preventing stormwater pollution during construction. The Permittee shall have a specific project Storm Water Pollution Prevention Plan (SWPPP) prepared by a Qualified SWPPP Developer and ready for implementation prior to construction. This SWPPP shall be kept onsite during construction activity and provided upon request to representatives of the County and Water Board staffs.

Permittee shall apply for a County Stormwater Permit prior to the start of any construction; this application shall include proof of coverage under the CGP and a copy of the project SWPPP. This SWPPP must provide for the implementation of pollutant discharge controls that utilize Best Management Practices (BMPs) and technology to reduce erosion, sedimentation, and other discharges to the water quality standards of the CGP and the County Stormwater Permit. BMPs may consist of a wide variety of protective measures taken to reduce pollutants in stormwater and other nonpoint-source runoff, including but not limited to, the following practices:

a. Installation of temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) to control erosion and sedimentation from disturbed areas.

b. Construction of dry detention basins (typically dry except after a major rainstorm, when it will temporarily fill with stormwater), designed to decrease runoff from the

work site during storm events and to prevent flooding of the construction areas. Basin BMPs must include maintenance schedules for the periodic removal of sediments, excessive vegetation, and debris that may clog basin inlets and outlets.

c. The application of covers or nontoxic soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more) that could contribute sediment to waterways.

d. The enclosure and coverage of exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways.

e. The control of run-on that could deposit sediment or other materials from areas adjacent to the work site.

f. The assurance that no earth or organic material will be deposited or placed where it may be directly carried into a stream, marsh, slough, lagoon, or body of standing water.

g. The application of controls that would preclude the following types of materials from being rinsed or washed into the County stormdrain system, the "waters of the United States," or adjacent properties: concrete, concrete wash, solvents and adhesives, thinners, paints, fuels, sawdust, dirt, gasoline, asphalt and concrete saw slurry, and heavily chlorinated water.

h. The establishment of grass or other vegetative cover on the construction site as soon as possible after disturbance.

The Permittee (and the selected contractor) shall select a combination of appropriate BMPs, consistent with the above and with the requirements of the CGP and the County Stormwater Permit, which is expected to minimize runoff and remove contaminants from stormwater discharges. The final selection of BMPs will be subject to approval by the County and by the San Francisco Bay Regional Water Board or the Central Valley Water Board.

The Permittee (and the selected contractor) shall verify that a Notice of Intent (NOI) has been filed with the appropriate State Water Board having jurisdiction, that the said Water Board has issued a Waste Discharge Identification (WDID) Number, that a project SWPPP has been prepared, and that a County Stormwater Permit has been issued before allowing construction to begin. The selected contractor shall perform regular inspections of the construction area, to verify that the BMPs specified in the SWPPP are properly implemented and maintained. The contractor will notify the appropriate Regional Water Board and the County immediately if there is a noncompliance issue. If necessary, the contractor shall require that additional BMPs be designed and implemented if those originally constructed do not achieve the identified performance standard of the CGP or the County Permit.

41. Roadway Encroachment Permit. Permittee shall apply to the Public Works Agency for separate roadway encroachment permits for temporary and permanent access and

facilities. Improvement plans shall be prepared by a registered Civil Engineer for approval by the Director of Public Works, accompanied by the required review and inspection fees, as well as insurance and security deposits if required by the Public Works Agency.

42. Gate Entries. The Permittee shall provide designs to the Director of Public Works for roadway widening, pavement transitions, shoulder widening, necessary longitudinal and transverse drainage, and any driveway profile adjustments in conformance with County Roadway Standards. The new pavement section shall match, at a minimum, the full roadway section of each affected County roadway. No gates or fences shall be located within any County road right-of-way, and gates shall not swing out towards the public road.

43. Construction Traffic Control Plan (MM TRA-1). Prior to starting construction-related activities, the Permittee shall prepare and implement a Traffic Control Plan (TCP) as required by Mitigation Measure TRA-1 in the MMRP to reduce or eliminate impacts associated with the project. The TCP shall adhere to Alameda County and Caltrans requirements, and must be submitted for review and approval of the County Public Works Agency prior to implementation. The TCP shall include the elements listed in Mitigation Measure TRA-1 such as controlling the peak hours of construction worker commuting, truck access during peak hours, notification of contractors of local road weight and speed limits, etc.; however, the County and Caltrans may require additional elements to be identified during their review and approval of the TCP.

When lane/road closures occur during delivery of oversized loads, provide advance notice (no less than five working days) to the County Fire Department, Sheriff's Office, and California Highway Patrol (CHP) to ensure that alternative evacuation and emergency routes are designated to maintain service response times. The names and 24-hour contact numbers of the Project construction superintendent and foreman shall be included as part of the advance notification.

For oversized loads transported on County roads, if road closures are required, the Permittee shall comply with transportation permit requirements of Caltrans, California Highway Patrol, and the Public Works Agency for oversized loads. To implement a road closure, a request should be submitted to the Alameda County Public Works Agency, Road Division, at least two months before the planned closure. Copies of the road closure request should be provided to Caltrans and the Alameda County Sheriff's Office. If determined to be necessary by the County Director of Public Works due to slow moving trucks, delivery of some or all large components or construction equipment may be restricted to night-time hours. Procedures include but are not limited to the following:

i. Loads wider than the vehicle code limit of 8'-6" will require a Public Works Agency Oversize Move Permit (OMP), for which the Permittee shall provide a description of the largest vehicle/load combination (overall height, width, and length and axle loadings).

ii. Notice of request for an OMP will be referred to the CHP, and based upon coordination between the PWA and CHP may provide the basis for a Repetitive OMP.

iii. Prior to commencement of any construction activities, including grading and site preparation, Permittee shall give written notice to the Planning Director with a copy to the Director of Public Works of the commencement date, proposed access route and estimated duration in years of any construction activities.

The Transportation Control Plan shall also address the following requirements:

a. Permittee shall submit video footage of pavements on County roads to be used for transport of major turbine components and construction equipment with the building permit or grading permit applications, and post a security bond to guarantee that the Permittee shall reconstruct any failed, cracked, or deteriorated portions of County road pavements that resulted from project construction. The Permittee shall calculate the amount of the required security bond and submit the calculation to the County Director of Public Works for review and approval.

b. The Permittee shall monitor roads during project construction to identify any damage that requires immediate repair. Complete road repairs on local public roads as needed during construction to prevent excessive deterioration. This work may include construction of temporary roadway shoulders to support any necessary detour lanes.

c. Repair or restore County road rights-of-way to original condition or better upon completion of the work.

d. Emergency road repairs shall be completed at the Permittee's expense. Any potentially hazardous road segment must be flagged until the road is repaired.

e. Coordinate project-related construction activities, including schedule, truck traffic, haul routes, and the delivery of oversized or overweight materials, with Alameda County, Caltrans, and affected cities to identify and minimize overlap with other area construction projects.

44. Watercourse Protection Ordinance. If any ground disturbing work is proposed within or near a watercourse, a watercourse encroachment permit or a grading permit shall be secured from the Public Works Agency in accordance with the Alameda County Watercourse Protection Ordinance. Watercourse setbacks shall be delineated on the exhibit plan per the provisions of Article V of the Watercourse Ordinance. The Ordinance establishes a setback of 20 feet from the top of the creek bank. However, for existing bank slopes at 2 horizontal to 1 vertical, or steeper, establish the setback by drawing a line on a cross-section at a 2 horizontal to 1 vertical slope from the toe of the existing bank to a point where it intercepts the ground surface and then add 20 feet. As provided by the Watercourse Protection Ordinance (Section 13.12.310, item G), the Director of Public Works shall make the determination as to setback limits and any permitted development within a setback.

45. Other Watercourse Requirements. The Permittee shall be responsible, prior to any work near or within a recognized watercourse, for securing other permits (e.g., Streambed Alteration Agreement) or other approvals required for work which is regulated by any other public agency (i.e., the California Department of Fish and Wildlife, Army Corp of Engineers, etc.).

46. Project-Specific Avian Protection Plan (BIO-11a). The Permittee shall prepare a project-specific Avian Protection Plan (APP) as required by Mitigation Measure BIO-11a in the MMRP to specify measures and protocols consistent with the program-level mitigation measures that address avian mortality. The project-specific APPs will include, at a minimum, the following components.

    a. Information and methods used to site turbines to minimize risk.
    b. Documentation that appropriate turbine designs are being used.
    c. Documentation that avian-safe practices are being implemented on project infrastructure.
    d. Methods used to discourage prey for raptors.
    e. A detailed description of the postconstruction avian fatality monitoring methods to be used (consistent with the minimum requirements outlined in Mitigation Measure BIO-11g).
    f. Methods used to compensate for the loss of raptors (consistent with the requirements of Mitigation Measure BIO-11h).

    The Permittee shall prepare and submit a draft project-specific APP to the County within 10 days of submitting the Building Permit application. The draft APP will be reviewed by the TAC for consistency and the inclusion of appropriate mitigation measures that are consistent with the PEIR and recommended for approval by the County. The Permittee must obtain approval from the Planning Director of the draft APP prior to commercial operation, and obtain recommendations from the TAC for preparation of the Final APP within six months of commercial operations. The Final APP shall be subject to approval by the Planning Director.

47. Stop Work Procedures for Encounters With Cultural Resources, Human Remains and Paleontological Resources During Ground-Disturbing Activities (MMs CUL-2d, CUL-3 and GEO-7c). Permittee shall ensure that construction specifications include a stop-work order if paleontological, prehistoric, or historic-era cultural resources, or human remains are unearthed during ground-disturbing activities. Specific procedures are set forth in Conditions 63, 64 and 65.

PRIOR TO ISSUING BUILDING PERMIT

48. Implement Best Management Practices (BMPs) to Avoid and Minimize Impacts on Special-Status Plant and Animal Species (MMs BIO-1b, BIO-5a and BIO-7a). The

Permittee shall ensure that the following BMPs, in accordance with practices established in the East Alameda County Conservation Strategy (EACCS), will be incorporated into the project design and construction documents.

a. Employees and contractors performing decommissioning, reclamation or construction activities will receive environmental sensitivity training. Training will include review of environmental laws, mitigation measures, permit conditions, and other requirements that must be followed by all personnel to reduce or avoid effects on special-status species during decommissioning, reclamation or construction activities.

b. Environmental tailboard trainings will take place on an as-needed basis in the field. These trainings will include a brief review of the biology of the covered species and guidelines that must be followed by all personnel to reduce or avoid negative effects on these species during decommissioning and reclamation activities. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines.

c. Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable.

d. Offroad vehicle travel will be avoided.

e. Material will be stockpiled only in areas that do not support special-status species or sensitive habitats.

f. Grading will be restricted to the minimum area necessary.

g. Prior to ground-disturbing activities in sensitive habitats, project construction boundaries and access areas will be flagged and temporarily fenced during construction to reduce the potential for vehicles and equipment to stray into adjacent habitats. Vehicles or equipment will not be refueled within 100 feet of a wetland, stream, or other waterway unless a bermed and lined refueling area (i.e., a created berm made of sandbags or other removable material) is constructed.

h. Erosion control measures will be implemented to reduce sedimentation in nearby aquatic habitat when activities are the source of potential erosion. Plastic monofilament netting (erosion control matting) or similar material containing netting will not be used at the project. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

i. Significant earth moving-activities will not be conducted in riparian areas within 24 hours of predicted storms or after major storms (defined as 1-inch of rain or more).

Work sites for project activities shall not allow: trash dumping, firearms, open fires (such as barbecues) not required by the activity, hunting, and pets.

49. <u>Measures to Avoid, Minimize and Mitigate Impacts On Special-Status Wildlife Species (MMs BIO-3b, BIO-4a, BIO-5a, BIO-6, BIO-7a, BIO-8a, BIO-8b, BIO-9 and BIO-10a)</u>. The Permittee shall implement Mitigation Measures BIO-3b, BIO-4a, BIO-5a, BIO-6, BIO-7a, BIO-8a, BIO-9 and BIO-10a, as identified in the project MMRP to address

special-status invertebrates, amphibians, reptiles, nesting birds and mammals, which are based on the EACCS and which have been modified and supplemented in the project MMRP. The MMRP measures shall address the following species:

a. Vernal pool branchiopods (invertebrates, including longhorn fairy shrimp, vernal pool fairy shrimp and vernal pool tadpole shrimp)
b. Curved-footed hygrotus diving beetle
c. Valley elderberry longhorn beetle
d. California tiger salamander
e. Western spadefoot
f. California red-legged frog
g. Foothill yellow-legged frog
h. Western pond turtle
i. Blainville's horned lizard
j. Alameda whipsnake
k. San Joaquin coachwhip
l. Western burrowing owl
m. Tri-colored blackbird
n. Other non-special-status migratory birds
o. San Joaquin kit fox
p. American badger

Where impacts cannot be avoided or minimized, compensatory mitigation will be undertaken in accordance with mitigation ratios and requirements provided in the EACCS (Appendix C2 in the Final PEIR). In the event that an incidental take permit is obtained, the scope and timing for providing compensatory mitigation will be undertaken in accordance with the terms of the permit in consultation with United States Fish and Wildlife Service (USFWS).

Implementation of some Mitigation Measures identified in the MMRP will require that the Permittee obtain incidental take permits from USFWS and CDFW (e.g., Alameda whipsnake) before construction begins. Additional conservation measures may be required in applicable project permits (i.e., ESA incidental take permit).

50. Implement Best Available Control Technology for Heavy-Duty Vehicles (MM GHG-2a). The Permittee shall require existing trucks/trailers to be retrofitted with the best available technology and/or ARB-approved technology consistent with the ARB's *Truck and Bus Regulation* (California Air Resources Board 2011). The ARB Truck and Bus Regulation applies to all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. The Permittee shall comply with the specific requirements of Mitigation Measure GHG-2a as set forth in the MMRP to mitigate for potentially significant cumulative construction and operations and maintenance contributions to greenhouse gas emissions.

PRIOR TO GROUND-DISTURBING ACTIVITIES

51. Establish Activity Exclusion Zones for Special-Status Plant Species (BIO-1c). As required by Mitigation Measure BIO-1c in the MMRP, where pre-construction surveys determine that a special-status plant species is present in or adjacent to a project area, the Permittee shall establish activity exclusion zones to avoid direct and indirect impacts of

the project on such species. No ground-disturbing activities shall take place within these designated activity exclusion zones, including construction of new facilities, construction staging, or other temporary work areas. Activity exclusion zones for special-status plant species will be established around each occupied habitat site, the boundaries of which will be clearly marked with standard orange plastic construction exclusion fencing or its equivalent. The establishment of activity exclusion zones will not be required if no construction-related disturbances will occur within 250 feet of the occupied habitat. The size of activity exclusion zones may be reduced through consultation with a qualified biologist and with concurrence from CDFW based on site-specific conditions.

52. Best Management Practices to Avoid and Minimize Effects on Special-Status Amphibians (MM BIO-5a). The Permittee shall implement BMPs and other appropriate measures consistent with Mitigation Measure BIO-5a in the project MMRP to address special-status amphibians and shall ensure that, in accordance with measures developed for the EACCS, such BMPs are incorporated into the appropriate design and construction documents. Implementation of some of these measures will require that the project proponent obtain incidental take permits from USFWS (e.g., California red-legged frog and California tiger salamander) and from CDFW (California tiger salamander only) before construction begins. Additional conservation measures or conditions of approval may be required in applicable project permits (e.g., ESA or CESA incidental take authorization). Permittee shall comply with the specific requirements of Mitigation Measure BIO-5a in the MMRP to mitigate for effects on amphibians, including, but not limited to limits on the season in which ground-disturbing activities may occur, installation of barrier fencing, identifying appropriate relocation areas and preparing a relocation plan.

Permittee shall have a qualified biologist conduct preconstruction surveys immediately prior to ground-disturbing activities (including equipment staging, vegetation removal, grading). The biologist will survey the work area and all suitable habitats within 300 feet of the work area. If individuals (including adults, juveniles, larvae, or eggs) are found, work will not begin until USFWS and/or CDFW is contacted to determine if moving these life-stages is appropriate. If relocation is deemed necessary, it will be conducted in accordance with the relocation plan. Incidental take permits are required for relocation of California tiger salamander (USFWS and CDFW) and California red-legged frog (USFWS). Relocation of western spadefoot and foothill yellow-legged frog normally requires a letter from CDFW authorizing this activity; however, a biologist with a specific authorization (i.e., scientific collecting permit or MOU from CDFW) will be accepted for this purpose.

53. Preconstruction Surveys for Western Pond Turtle and Monitoring of Construction Activities (BIO-6). If determined as a result of pre-construction surveys pursuant to Mitigation Measure BIO-3a, that suitable aquatic or upland habitat for western pond turtle is identified within proposed work areas, Permittee shall implement Mitigation Measure BIO-6 as set forth in the project MMRP, consistent with measures developed for

the EACCS, to ensure that the proposed project does not have a significant impact on western pond turtle. The mitigation includes but is not limited to surveys conducted both one week before and immediately before (within 24 hours) of work activity, use of a biological monitor if needed, and approval by CDFW for any required relocation of turtles.

54. Plan for Restoration of Disturbed Annual Grasslands (BIO-5c). Within 30 days prior to any ground disturbance, Permittee shall have a qualified biologist prepare a Grassland Restoration Plan in coordination with CDFW and subject to CDFW approval, to ensure that temporarily disturbed annual grasslands and areas planned for the removal of permanent roads and turbine pad areas are restored to pre-project conditions. The Grassland Restoration Plan shall conform to the requirements of Mitigation Measure BIO-5c in the MMRP.

    The Grassland Restoration Plan shall include a requirement to monitor restoration areas annually (between March and October) for up to three years following the year of restoration. The restoration will be considered successful when the percent cover for restored areas is 70% absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites.

    The Permittee shall provide evidence to the Planning Director that CDFW has reviewed and approved the Grassland Restoration Plan. Additionally, the Permittee shall provide annual monitoring reports to the County by January 31 for three years or until restoration is deemed successful by the CDFW, summarizing the monitoring results and any remedial measures implemented (if any are necessary) during the previous year.

55. Pre-Construction Worker-Awareness Training for Archaeological Resources (MM CUL-2c). The Permittee shall provide for training overseen by a qualified professional archaeologist prior to the initiation of any site preparation and/or the start of construction. The Permittee shall ensure that all construction workers receive adequate training, and to ensure that forepersons and field supervisors can recognize archaeological resources (e.g., areas of shellfish remains, chipped stone or groundstone, historic debris, building foundations, human bone) in the event that any are discovered during construction.

DURING CONSTRUCTION

56. Implement Applicable BAAQMD Basic Construction Mitigation Measures (MM AQ-2a). The Permittee shall require all contractors to comply with the following requirements for all areas with active construction activities.

    a. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered two times per day.

    b. All haul trucks transporting soil, sand, or other loose material offsite will be covered.

c. All visible mud or dirt tracked out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

d. All vehicle speeds on unpaved roads will be limited to 15 mph.

e. All roadways, driveways, and sidewalks to be paved will be completed as soon as possible. Building pads will be laid as soon as possible after grading unless seeding or soil binders are used.

f. Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage will be provided for construction workers at all access points.

g. All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications. All equipment will be checked by a certified visible emissions evaluator.

h. Post a publicly visible sign with the telephone number and person to contact representing the Permittee regarding dust complaints. This person will respond and take corrective action within 48 hours. The Air District and County Building Official's phone numbers will also be visible to ensure compliance with applicable regulations.

57. Implement Applicable BAAQMD's Additional Construction Mitigation Measures (MM AQ-2b). The Permittee shall require all contractors and subcontractors to comply with the following requirements for all areas with active construction activities.

a. During construction activities, all exposed surfaces will be watered at a frequency adequate to meet and maintain fugitive dust control requirements of the relevant air quality management entities.

b. All excavation, grading, and/or demolition activities will be suspended when average wind speeds exceed 20 mph, as measured at the Livermore Municipal Airport.

c. Wind breaks (e.g., trees, fences) will be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50% air porosity.

d. Vegetative ground cover (e.g., fast-germinating native grass seed) will be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.

e. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time will be limited.

f. All trucks and equipment, including their tires, will be cleaned off prior to leaving the site or project area.

g. Site accesses to a distance of 100 feet from the paved road will be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.

h. Sandbags or other erosion control measures will be installed to prevent silt runoff to public roadways from sites with a slope greater than 1%.

i. The idling time of diesel-powered construction equipment will be minimized to 2 minutes, and idling of equipment using other types of combustion engines shall comply with the Basic Construction Mitigation Measures set forth in Condition 56 or Mitigation Measure AQ-2a in the MMRP.

j. The Permittee will develop a plan demonstrating that the offroad equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20% NOX reduction and 45% PM reduction compared to the most recent Air Resources Board (ARB)-defined fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.

k. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).

l. All construction equipment, diesel trucks, and generators will be equipped with BACT for emission reductions of NOX and PM.

m. All construction equipment shall meet ARB's most recent certification standard for offroad heavy duty diesel engines.

58. Compliance with NPDES Storm Water Requirements (MM WQ-1). Permittee shall implement the Storm Water Pollution Prevention Plan (SWPPP) required by Condition 40 and as required by Mitigation Measure WQ-1 in the MMRP, maintain compliance with the other requirements of the CGP and the County C.6 Stormwater Permit (inspection, sampling, reporting, etc.) and construct the stormwater treatment system(s) per the Stormwater Control Plan (SCP). The SCP, SWPPP, and the CGP and County Stormwater Permit inspection, sampling and reporting documentation shall be kept onsite during construction activity and shall be made available upon request to representatives of the County and Water Board staff.

59. Prevent Introduction, Spread, and Establishment of Invasive Plant Species (MM BIO-2). The Permittee shall implement Mitigation Measure BIO-2 as set forth in the MMRP, in order to avoid and minimize the introduction and spread of invasive nonnative plant species, including the following BMPs, and the other requirements of Mitigation Measure BIO-2.

a. Construction vehicles and machinery including tires will be cleaned prior to entering the construction area. Cleaning stations will be established at the perimeter of the construction area along all construction routes.

b. Vehicles will be cleaned only at approved areas. No cleaning of vehicles will occur at job sites.

c. To discourage the introduction and establishment of invasive plant species, seed mixtures and straw used within natural vegetation will be either rice straw or weed-free straw.

60. Retain a Biological Monitor During Ground-Disturbing Activities in Environmentally-Sensitive Areas (BIO-1e). As required by Mitigation Measure BIO-1e, the Permittee shall have a qualified biologist (as determined by the Alameda County Planning Director) conduct periodic monitoring of decommissioning, repowering, and reclamation activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands, etc.). Monitoring shall occur during initial ground disturbance where sensitive biological resources are present and weekly thereafter or as determined by the County in coordination with a qualified biologist. The biologist will assist the crew, as needed, to comply with all project implementation restrictions and guidelines. In addition, the biologist will be responsible for ensuring that the Permittee or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.

61. Protection of Valley Elderberry Longhorn Beetle Habitat (MM BIO-4a). Where pre-construction surveys completed pursuant to Condition 17 (Mitigation Measure BIO-3a) indicate valley elderberry longhorn beetle habitat is present within proposed work areas or within 100 feet of these areas, the Permittee shall implement Mitigation Measure BIO-4a in the MMRP related to avoiding removal of elderberry shrubs, protecting elderberry shrubs/clusters near construction areas, providing buffer areas approved by USFWS, fencing and monitoring.

Biological inspection reports on the presence and protective actions taken regarding valley elderberry longhorn beetle habitat will be provided to the Permittee, the County and USFWS.

62. Stop Work Procedures for Encounters With Hazardous Materials or Soil or Groundwater Contamination (MM HAZ-4). As required in part by Mitigation Measure HAZ-4 as set forth in the MMRP, the Permittee shall initiate stop-work procedures upon encounters with hazardous materials or soil or groundwater contamination during construction, demolition or reclamation activities, and implement appropriate health and safety procedures, including the use of appropriate personal protective equipment (e.g., respiratory protection, protective clothing, helmets and goggles). Any such discovery shall be reported immediately to the Alameda County Health Services Agency – Environmental Health Department, and complete procedures outlined in Mitigation Measure HAZ-4 in the MMRP and as described in Condition 20.

63. Stop Work Procedures for Encounters With Cultural Resources During Ground-Disturbing Activities (MM CUL-2d). As required by Mitigation Measure CUL-2d as set

forth in the MMRP, the Permittee shall, in addition to providing construction specifications requiring stop-work procedures upon encounters with cultural resources during grading or other ground-disturbing activity (as required by Condition 47), the Permittee and any related contractor shall immediately halt all activity within 100 feet of the find until a qualified archaeologist can assess the significance of the find. Prehistoric materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or tool-making debris; culturally darkened soil ("midden") containing heat-affected rocks and artifacts; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered-stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. If the find is determined to be potentially significant, the archaeologist, in consultation with the Native American representative (if appropriate), will develop a treatment plan that could include site avoidance, capping, or data recovery.

64. Stop Work Procedures for Encounters With Human Remains During Ground-Disturbing Activities (MM CUL-3). In addition to providing construction specifications requiring stop-work procedures upon encounters with cultural resources during grading or other ground-disturbing activity, the Permittee shall ensure the construction specifications include a stop-work order if human remains are discovered during construction or demolition. There will be no further excavation or disturbance of the site within a 100-foot radius of the location of such discovery, or any nearby area reasonably suspected to overlie adjacent remains. The Alameda County Coroner will be notified and will make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he will notify the Native American Heritage Commission, who will attempt to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this state law, then the landowner will re-inter the human remains and items associated with Native American burials on the property in a location not subject to further subsurface disturbance. A final report will be submitted to Alameda County. This report will contain a description of the mitigation program and its results, including a description of the monitoring and testing resources analysis methodology and conclusions and a description of the disposition/curation of the resources.

65. Procedures and Preparation for Encounters with Paleontological Resources During Major Excavation (MMs GEO-7a, GEO-7b and GEO-7c). As required by Mitigation Measures GEO-7a, GEO-7b and GEO-7c in the MMRP, the Permittee shall retain a qualified professional paleontologist to monitor activities with the potential to disturb sensitive paleontological resources, and to determine if, on the basis of data gathered during detailed project design, where monitoring by a paleontologist during ground-disturbing activities will require monitoring. The Permittee shall implement Mitigation Measures GEO-7a, GEO-7b and GEO-7c as set forth in the MMRP related to paleontological resources.

The Permittee will ensure that all construction workers receive adequate training provided by a qualified professional paleontologist, and to ensure that forepersons and field supervisors can recognize fossil materials in the event any are discovered during construction.

If substantial fossil remains (particularly vertebrate remains) are discovered during earth disturbing activities, activities within 100 feet of the find will stop immediately until a state-registered professional geologist or qualified professional paleontologist can assess the nature and importance of the find and a qualified professional paleontologist can recommend appropriate treatment. Subsequent procedures are described in detail in the MMRP for Mitigation Measures GEO-7c.

66. Construction Signage. Permittee shall provide signage as required by the permitting authority (e.g. Fire Department, Building Department) including phone numbers of the facility operator for use in case of an emergency. The name of the project and the names, titles, and phone numbers of individuals responsible for control of construction-related noise, dust, and traffic shall be maintained on all signage during construction. A 24-hour emergency number shall also be provided on all signage. The sign shall be kept up-to-date at all times.

67. Limit Construction To Daylight Hours (MM AES-1). As required by Mitigation Measure AES-1, major construction activities shall not be undertaken between sunset and sunrise or on weekends. Construction activity is specifically prohibited from using high-wattage lighting sources to illuminate work sites after sunset or before sunrise, with the exception of nighttime deliveries under the approved transportation control plan or other construction activities that require nighttime work for safety considerations. For the purpose of this condition and Mitigation Measure AES-1, major construction activities shall be defined as those which are visibly obtrusive from residences and public recreational trails, based on the finding of significant impacts in the PEIR.

68. Noise-Reduction Practices During Construction (MM NOI-2). The Permittee shall employ noise-reducing practices during decommissioning and new turbine construction so that resulting noise does not exceed Alameda County noise ordinance standards. Measures to limit noise may include the following:

    a. Prohibit noise-generating activities before 7 a.m. and after 7 p.m. on any day except Saturday or Sunday, and before 8 a.m. and after 5 p.m. on Saturday or Sunday.

    b. Locate equipment as far as practical from noise sensitive uses.

    c. Require that all construction equipment powered by gasoline or diesel engines have sound-control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation.

d. Use noise-reducing enclosures around noise-generating equipment where practicable.

e. Implement other measures with demonstrated practicability in reducing equipment noise upon prior approval by the County.

In no case will the Permittee be allowed to use gasoline or diesel engines without muffled exhausts.

PRIOR TO DATE OF COMMERCIAL OPERATION

69. Remove Derelict Facilities and Restore Abandoned Roadways (MM AES-2b). As required by Mitigation Measure AES-2b as set forth in the MMRP, the Permittee shall clear the project site of all derelict equipment, wind turbine components not required for the project , and litter and debris from old turbine operations. Such litter and debris may include derelict turbines, obsolete anemometers, unused electrical poles and broken turbine blades. in addition, abandoned roads that are no longer in use on such parcels shall be restored and hydroseeded to reclaim the sites and remove visual traces from the viewscape, except in cases where state or federal resource agencies (i.e., USFWS and/or CDFW) recommend that the features be left in place for habitat purposes, or as specified by local landowners to facilitate continued ranching operations. All parcels with new turbines will be maintained in such a manner through the life of project operations and until the parcels are reclaimed in accordance with the approved reclamation plan.

70. Compensate for Impacts on Special-Status Plant Species (BIO-1d). The Permittee shall avoid or minimize temporary and permanent impacts on special-status plants that occur on project sites and will compensate for impacts on special-status plant species. All impacts on large-flowered fiddleneck, diamond-petaled California poppy, and caper-fruited tropidocarpum will be avoided, impacts on other special-status plant species will be avoided to the extent feasible, and any unavoidable impacts will be addressed through compensatory mitigation.

Where avoidance of impacts on a special-status plant species is infeasible, loss of individuals or occupied habitat of a special-status plant species occurrence will be compensated for through the acquisition, protection, and subsequent management in perpetuity (i.e., conservation easements) of other existing occurrences at a 2:1 ratio (occurrences impacted: occurrences preserved). The Permittee will provide detailed information to the County and CDFW on the location of the preserved occurrences, quality of the preserved habitat, feasibility of protecting and managing the areas in perpetuity, responsible parties, and other pertinent information. If suitable occurrences of a special-status plant species are not available for preservation, then the project will be redesigned to remove features that would result in impacts on that species.

71. Conservation Measures to Compensate for Raptor and Avian Mortality (BIO-11h). The Permittee shall provide a plan for compensation for projected levels of mortality of

raptors and other avian species including golden eagles, employing one or more of the options set forth in Mitigation Measure BIO-11h in the MMRP. The objective is to provide or improve habitat for raptors and avian species within the APWRA on a long-term basis, or in ten-year increments, to be adjusted on the basis of avian monitoring results only every ten years or once within each ten-year period. An avian conservation strategy, to be outlined in the draft APP required by Mitigation Measure 11a, shall be implemented within one year of the commercial operations date (or of 75 percent of the turbine capacity if construction is staged), unless compliance with the conservation strategy includes complying with compensatory mitigation measures in an eagle take permit from the USFWS, in which case compensation shall be provided according to terms of the eagle permit. Strategic measures may include retrofitting of high-risk power poles or other electrical infrastructure, measures that are required by an approved Eagle Conservation Plan under an eagle take permit from USFWS, contributions to raptor conservation and rehabilitation activities, acquisition of conservation easements within the APWRA, or other measures if supported by a Resource Equivalency Assessment (REA).

Independently from but in conjunction with Mitigation Measure BIO-11h, these conservation measures shall implement a "landscape-scale" implementation strategy, concepts or related approach as defined by the U.S. Department of the Interior in its Secretary's Order 3330, to acknowledge secondary impacts or effects on natural resources and obtain input and consultation with local land and resource management organizations to ensure conservation lands are managed with sound stewardship and a commitment to conserve habitat and wildlife corridors. Such landscape-level implementation by the County Planning Department may include the facilitation of mitigation plans that address mitigation for multiple resources, such as biological, ecological, cultural, and scenic resources, as well as socioeconomic factors, as appropriate. The use of such plans should promote permit efficiencies and financial predictability for the Permittee and also enhance the ability of the County to facilitate larger-scale conservation efforts.

72. Compensate for Direct and Indirect Effects on Valley Elderberry Longhorn Beetle (BIO-4b). If elderberry shrubs cannot be avoided and protected as outlined in Condition 49 (Mitigation Measure BIO-4a), the Permittee shall obtain an incidental take permit from USFWS and compensate for the loss of any elderberry shrubs. Surveys of elderberry shrubs to be transplanted will be conducted by a qualified biologist prior to transplantation. Surveys will be conducted in accordance with the *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (U.S. Fish and Wildlife Service 1999). Permittee shall comply with the specific requirements of Mitigation Measure BIO-4b of the MMRP to mitigate for effects on valley elderberry longhorn beetle.

The project proponent will be responsible for funding and providing monitoring reports to USFWS in each of the years in which a monitoring report is required. As specified in the *Conservation Guidelines*, the report will include information on timing and rate of irrigation, growth rates, and survival rates and mortality.

73. Compensate for Loss of Habitat For Special-Status Amphibians, Reptiles, Western Burrowing Owl, San Joaquin Kit Fox and American Badger (MMs BIO-5b, BIO-7b, BIO-9 and BIO-10b). Where impacts on aquatic and upland habitat for special-status amphibians, reptiles special-status and non-special-status tree/shrub- and ground-nesting birds and burrowing owls, cannot be avoided or minimized, Permittee shall provide compensatory mitigation in accordance with mitigation ratios and requirements developed under the EACCS (Appendix C). In the event that take authorization is required, compensatory mitigation will be undertaken in accordance with the terms of the authorization in consultation with USFWS and/or CDFW.

74. Compensate for the Loss of Alkali Meadow Habitat, Riparian Habitat, and Wetlands (MMs BIO-15, BIO-16 and BIO-18; *if applicable*). If alkali meadow habitat, riparian habitat or wetlands are filled or disturbed as part of a repowering project, the Permittee shall compensate for the loss of this habitat to ensure no net loss of habitat functions and values. Compensation ratios will be based on site-specific information and determined through coordination with state and federal agencies (CDFW, USFWS, United States Army Corps of Engineers, or USACE). Unless specified otherwise by a resource agency, the compensation will be at a minimum 1:1 ratio (1 acre restored or created for every 1 acre filled) and may be a combination of onsite restoration/ creation, offsite restoration, and mitigation credits. A restoration and monitoring plan will be developed and implemented. The plan will describe how alkali meadow habitat, riparian habitat or wetlands will be created and monitored.

75. Evidence of Compliance With the Federal Aviation Administration (FAA). Prior to the date of commercial operation, the Permittee shall provide a copy of the FAA Determination of No Hazard to the Alameda County Planning Director for a hearing by the Alameda County Airport Land Use Commission.

PERFORMANCE STANDARDS

76. Windfarm Fire Requirements. To provide a reasonable level of fire protection and safety for ongoing windfarm operations, the Permittee shall be responsible for compliance with the Altamont Pass Windfarms Fire Requirements dated September 22, 2005 adopted by Alameda County (ACFD) and which were reviewed and re-adopted on November 12, 2014. In addition, the Permittee shall make a reasonable attempt to maintain the telephone numbers of the inhabitants of all adjacent properties and give timely notification to same in the event of an on-site fire.

77. Safety Reporting. Permittee shall notify the County Building Official and Planning Director of any tower collapse, blade throw, fire, or injury to worker within five (5) days of any such occurrence.

78. Screen Surplus Parts and Materials (MM AES-2c). As required by Mitigation Measure AES-2c, the Permittee shall have surplus parts and materials that are kept onsite maintained in a neat and orderly fashion and screened from view, which may be

accomplished by using a weatherproof camouflage material that can be draped over surplus parts and materials stockpiles. Draping materials shall be changed at least twice per year from green to brown and back again according to the season so that stockpiles are effectively camouflaged to match the predominant color of surrounding grass areas.

79. Site Maintenance. Litter and debris shall be contained in appropriate receptacles and shall be disposed of promptly. All construction trailers, construction materials and construction-related debris shall be removed following cessation of construction activity, or within 30 days of authorization of commercial operation.

80. Removal of Inoperative Equipment. Any inoperative windfarm or windfarm site that is determined to be substantially inoperative shall be restored or reclaimed consistent with the approved *Restoration and Reclamation Plan* (Condition 11), under the following procedures:

a) The Planning Director and Director of Public Works shall make a determination that the permitted wind farm operations have been abandoned or have produced less than 5 percent of the rated output of the wind farm in one year, verified by the annual status reports and there is no demonstrated plan provided by the Permittee or property owner, satisfactory to the Planning Director, to restore the equipment to a productive operating condition.

b) The Planning Director and Director of Public Works may instead make a determination that more than 50% of the turbines are actively being removed or are in disrepair and there is no demonstrated plan, satisfactory to the Planning Director, to restore the equipment to a productive operating condition.

Upon determination by the Planning Director that either of the above criteria is present on the property, the Planning Director shall give notice to the property owner/wind operator of the following requirements:

a. Within 30 days from the date of the notice by the Planning Director, the Permittee shall secure a building permit to inspect all inoperable or abandoned wind turbines; and

b. The application for a building permit shall be accompanied by a cash performance deposit to restore the site subject to the approved *Restoration and Reclamation Plan*.

81. Noise Standards. In the event a reasonable complaint is received by the Environmental Health Director alleging the presence of sound levels from one or more wind turbines exceeding the levels described in the application, or exceeding 55 dBA (Ldn) as measured at the exterior of any dwelling unit:

a. The Environmental Health Director shall report this matter to the Permittee and to the Planning Director and upon receipt of such report, this matter shall be brought to hearing pursuant to Section 17.54.030.

b. Upon receipt of the report from the Environmental Health Director, the Planning Director shall require the Permittee to have a qualified firm furnish a site specific study with recommendations on the circumstances, if any, which would render the project in conformance with all applicable noise conditions; the report shall also include a recommendation to the Planning Director who will make the final determination as to whether subsection (d) shall be imposed.

c. For a minimum 30 day period from the date of notification from the Environmental Health Director, at the time and place as may be agreed upon by the parties involved, Permittee shall attempt in good faith to negotiate a resolution of this matter with the party making the allegation; the results of such negotiation shall be reported to the Planning Director in a timely manner.

d. Following the review period as provided under subsection (c) and until the conclusion of the revocation procedures as provided by Section 17-54.030, one or more wind turbines authorized by this permit to be constructed or maintained that are in closest proximity to the dwelling or building site of the party making the allegation, may be required to be made inoperative.

The measurement standard for the A-weighted scale shall be adjusted by the Planning Director to allow any sound device that is installed on or around the turbine as a mitigation for bird collisions.

Methods for measuring and reporting acoustic emissions from wind turbines and wind-farms shall be equal to or exceed the minimum standards for precision described by the International Electrotechnical Commission (IEC) in its 61400 series – Standards and Technical Specifications – *IEC 61400-11: Acoustic Noise Measurement Techniques*.

The Planning Director, in consultation with the Alameda County Environmental Health Services, shall establish criterion for noise samples and measurement parameters such as the duration of data collection, time of day, wind speed, atmospheric conditions and direction as set forth in the Wyle Research Report.

82. Electromagnetic Interference. If it has been demonstrated to the Planning Director that the turbine is causing disruptive electromagnetic interference, the Permittee shall promptly mitigate the disruptive interference, which may include discontinued operation of one or more turbine.

MONITORING AND SUBSEQUENT REVIEW

83. Initial Status Report. Six months from the issuance of grading and/or building permits, the Permittee shall submit to the Planning Director a status report describing compliance with conditions of the permit.

84. Annual Status Report. Following commercial operation date (COD), and on each annual anniversary of said commencement, Permittee shall submit to the Planning Director a

brief status report containing the following information: description and rated capacity of all equipment installed, relevant meteorological data collected, and actual MW electric power generated to date broken down into appropriate time categories.

85. Post-Construction Avian Fatality Monitoring (MM BIO-11g). As required by Mitigation Measure BIO-11g as set forth in the MMRP, the Permittee shall provide for a post-construction monitoring program to be conducted for the project for a minimum of three (3) years beginning on the COD, or beginning upon commercial operation of 75 percent of the project if construction is completed in phases. Monitoring shall be in conformance with the protocols and specifications of Mitigation Measure BIO-11g, including the formation of a technical advisory committee (TAC) to oversee the monitoring program and to advise the County on implementation of adaptive management measures.

As required by Mitigation Measure BIO-11g, if the results of the first 3 years of monitoring indicate that baseline fatality rates (i.e., the fatality rates of non-repowered turbines as described in the PEIR) are exceeded, monitoring will continue (potentially in combination with Condition 89/Mitigation Measure BIO-11i)) until the average annual fatality rate is determined to be below the baseline fatality rate for two (2) consecutive years.

An additional two (2) years of monitoring will be implemented on the tenth anniversary of the COD.

86. Post-Construction Bat Fatality Monitoring (MM BIO-14b). As required by Mitigation Measure 14b in the MMRP, the Permittee shall implement a scientifically defensible, post-construction bat fatality monitoring program that is consistent with the protocols and sample size established and recognized by bat biologists in the APWRA, to estimate actual bat fatalities and determine if additional mitigation is required. Such monitoring shall take place concurrent with the 3-year post-construction monitoring program required by Mitigation Measure BIO-11g, and shall incorporate bat-specific components and protocols as specified by Mitigation Measure 14b in the MMRP. If recommended by the TAC, such a monitoring program shall recommence for two (2) years beginning on the tenth anniversary of the COD.

87. Annual Monitoring Reports on Bat Use and Fatalities (MM BIO-14c). The Permittee shall have annual reports of bat use results and fatality monitoring prepared by a qualified biologist within 3 months of the end of the last day of each year's fatality monitoring as required by Mitigation Measure BIO-14b, and submit such reports to the TAC and Planning Director. Special-status bat species records will be reported to the California Natural Diversity Data Base (CNDDB).

88. Technical Advisory Committee (MM BIO-11g). The County shall convene a Technical Advisory Committee (TAC) to oversee the post-construction monitoring program as required by Mitigation Measure BIO-11g and Condition 85 and to advise the County on adaptive management measures required by Mitigation Measure BIO-11i and Condition

89. The roles and responsibilities of the TAC membership shall be established by the Planning Director following consultation with the East County Board of Zoning Adjustments (based on a public hearing to be held for such specific purpose on or before December 18, 2014). The TAC shall include representatives from the County (including one or more technical consultants, such as a biostatistician, an avian biologist, and a bat biologist), and wildlife agencies (CDFW, USFWS) and as determined following the above-mentioned consultation. The TAC will have a standing meeting, which shall be open to the public, every 6 months to review monitoring reports produced pursuant to Mitigation Measure BIO-11g and Condition 85. Formation and operation of the TAC shall otherwise be consistent with Mitigation Measure BIO-11g.

89. Implement an Avian Adaptive Management Program (MM BIO-11i). If fatality monitoring described in Mitigation Measure BIO-11g results in an estimate that exceeds the preconstruction baseline fatality estimates (i.e., estimates at the non-repowered turbines as described in the PEIR) for any focal species or species group (i.e., individual focal species, all focal species, all raptors, all non-raptors, all birds combined, e.g., 2.43 raptors per MW per year and 4.5 native non-raptors per MW per year), the Permittee shall prepare a project-specific adaptive management plan within 2 months following the availability of the fatality monitoring results. The County shall review and approve such plan in consultation with the TAC and it shall be implemented within 2 months of such approval. Follow-up monitoring will be required to determine if specific measures shall be sustained, revised or replaced with other measures. Measures, as outlined in Mitigation Measure BIO-11i, include but are not limited to visual modifications, anti-perching measures, prey-reduction strategies, use of experimental technologies, turbine curtailment (including real-time curtailment), or cut-in speed adjustments based on a focused study of such a strategy.

90. Develop and Implement a Bat Adaptive Management Plan (MM BIO-14d). The Permittee shall develop adaptive management plans to reduce bat mortality, in concert with Mitigation Measure BIO-14b, using appropriate feasible measures, and using both currently available and emerging information. The goals of the adaptive management plans are to ensure that the best available science and emerging technologies are used to assess impacts on bats, and that impacts are minimized to the greatest extent possible while maintaining energy production. Specific bat-related measures shall conform to the guidelines set forth in Mitigation Measure BIO-14d in the MMRP, including identified adaptive management measures.

91. Injured Bat Rehabilitation Compensation (MM BIO-14e). Project proponent shall pay in full the cost of reasonable, licensed rehabilitation efforts for any injured bats taken to wildlife care facilities from the project area.

92. Stormwater Control Plan: Permittee shall carry out the operation and maintenance (O&M) of all installed stormwater protective system(s) as directed in the approved Stormwater Control Plan (SCP) and in compliance with Provision C.3 of the Municipal Regional Stormwater National Pollutant Discharge Elimination System Permit (MRP)

and with the terms and conditions of the County Stormwater Permit, as required by Condition 40.

93. Monitor Substation Circuit Breakers for SF_6 Leakage. (MM GHG-2b). Permittee shall provide for periodic monitoring and necessary repair of circuit breakers installed at substations to verify a sulfur hexafluoride (SF_6) leak rate of 0.5% by volume or less consistent with the Air District's *Scoping Plan* Measure H-6 for the detection and repair of leaks.

94. Optional Review/Revocation/Revision. At any time during the term of this permit and after notice as provided for in the initial hearing, this matter may be set for rehearing if the Planning Director has made an initial determination based on substantial evidence that the use of the site for generation of electrical energy from wind turbine operations has ceased for a period of six months, or has produced less than 5 percent of the rated output of the wind farm in one year, and if therefore the permit should be revoked. In addition, pursuant to Section 17.54.030, the permit may be revoked if the permit has otherwise been exercise unlawfully or contrary to any condition or limitation of its issuance. As part of such rehearing, and/or reconsideration for the permit, the Board may determine that conditions previously imposed should be modified or new condition should be added to assure continued affirmative findings for this permit. This reconsideration may include imposition of other requirements, treatments and measures to insure public safety and applicable policies of the East County Area Plan. Any condition modified or added shall have the same force and effect as if originally imposed.

95. Transfer of Operations. Any entity that has acquired the facilities as authorized under this permit may maintain the benefits of the existing use permit provided that a letter of notification is submitted to the Board of Zoning Adjustments within six months after such transaction, and all conditions of approval for the subject facility are carried out by the new operator/Permittee.

96. Site Restoration. Permittee shall provide written notification to the Planning Director upon cessation of operations on the site by the Permittee. During operation of the project, no abandoned turbine tower, rotor, ground or other equipment components shall be stored onsite outside designated storage areas. A wind turbine shall be deemed abandoned for the purposes of this Resolution if it has not produced electricity for one year or has produced less than 5 percent of the rated output of the wind farm in one year.

    If all operations have been terminated, the Permittee and/or property owner shall be required to remove all improvements authorized under this permit from the site and the property shall be returned within twelve months of cessation to a condition with no wind facilities, subject to the requirements of the County.

97. Termination. Said Conditional Use Permit shall terminate after 30 years, on the 30th anniversary of the date of approval of this application, and shall remain revocable for cause in accordance with Section 17.54.030 of the Alameda County Zoning Ordinance.

Permittee shall either remove the turbines and improvements approved herein in accordance with the approved reclamation plan or shall apply for new use conditional permits in accordance with Section 17.54.130 of the Zoning Ordinance.

EAST COUNTY BOARD OF ZONING ADJUSTMENTS
ALAMEDA COUNTY PLANNING DEPARTMENT

Exhibit A

Patterson Pass Wind Farm Repowering Project Written Findings of Significant Effects

In accordance with State CEQA Guidelines Sections 15091, the following findings and supporting facts address each significant environmental effect that has been changed (including adoption of mitigation measures) to avoid or substantially reduce the magnitude of the effect, as identified in the Final PEIR. The findings described below are organized by resource issue, in the same order as the effects are discussed in the PEIR. The County's findings regarding the project alternatives follow the individual effect findings. The findings reference the final PEIR (part of the record upon which the East County Board of Zoning Adjustments [EBZA] bases its decision) and mitigation measures in support of the findings. For specific resource mitigation measures, the section and page number where the full text of the mitigation measure occurs is noted in the finding.

Introduction

The project area is located in the Altamont Hills of eastern Alameda County near the San Joaquin County line, approximately 1.75 miles south of I-580, and approximately 56 miles east of San Francisco. The Altamont Hills are at the geographical interface between the coastal mountains and the Central Valley. Existing predominant uses of the area are windfarms and cattle grazing. The project area is in the central portion of the APWRA and adjoins the south side of the Golden Hills windfarm. Access to the Patterson Pass Project will be from Patterson Pass Road at the southern portion of the project area, and from Jess Ranch Road at the northeast corner of the project area.

The project objective is to repower the existing Patterson Pass Wind Farm and develop a 19.8 MW commercially viable wind energy facility that would deliver renewable energy to the PG&E/CAISO power grid to meet the state's RPS goals. The Patterson Pass Wind Farm Repowering Project (Patterson Pass Project) would entail repowering of the existing 21.8 MW windfarm, replacing the more than 300 existing turbines on the site with between 8–12 new wind turbine generators, towers, foundations, and pad-mounted transformers. The proposed turbines would be three-blade, upwind turbines on tubular towers. A range of turbines are being considered for the proposed project; these would have a nameplate capacity of 20–3.0 MW, a rotor diameter of 90–125 meters (295–410 feet), and towers up to 80 meters (262 feet). For example, the Vestas V90 3 MW turbine, with a 90-meter (295–foot) rotor diameter and 80-meter (262-foot) hub height, turns at 16.1 rpm.

The EIR was prepared in response to a conditional use permit application to authorize repowering.

Record of Proceedings and Custodian of Record

The record upon which all findings and determinations related to the approval of the project are based comprises the items listed below.

- The PEIR and all documents referenced in or relied upon by the PEIR.

- All information (including written evidence and testimony) provided by County staff to the EBZA relating to the PEIR, the approvals, and the project.
- All information (including written evidence and testimony) presented to the EBZA by the environmental consultants who prepared the PEIR or incorporated into reports presented to the EBZA.
- All information (including written evidence and testimony) presented to the County from other public agencies related to the project or the PEIR.
- All applications, letters, testimony, and presentations relating to the project.
- All information (including written evidence and testimony) presented at any County hearing related to the project and the PEIR.
- All County-adopted or County-prepared land use plans, ordinances, including without limitation general plans, specific plans, and ordinances, together with environmental review documents, findings, mitigation monitoring programs, and other documents relevant to land use within the area.
- The Mitigation Monitoring and Reporting Program for the project.
- All other documents composing the record pursuant to Public Resources Code Section 21167.6(e).

The custodian of the documents and other materials that constitute the record of the proceedings upon which the County's decisions are based is Sandra Rivera, Assistant Planning Director, or her designee. Such documents and other material are located at 224 Winton Avenue, Room 111, Hayward, California 94544.

Consideration and Certification of the PEIR

In accordance with CEQA, the EBZA certifies that the PEIR has been completed in compliance with CEQA. The EBZA has independently reviewed the record and the PEIR prior to certifying the PEIR and approving the project. By these findings, the EBZA confirms, ratifies, and adopts the findings and conclusions of the PEIR as supplemented and modified by these findings. The PEIR and these findings represent the independent judgment and analysis of the County and the EBZA. The EBZA recognizes that the PEIR may contain clerical errors. The EBZA reviewed the entirety of the PEIR and bases its determination on the substance of the information it contains. The EBZA certifies that the PEIR is adequate to support the approval of the action that is the subject of the Resolution to which these CEQA findings are attached.

The EBZA certifies that the PEIR is adequate to support approval of the proposed project described in the staff report, each component and phase of the project described in the PEIR, any variant of the project described in the PEIR, any minor modifications to the project or variants of the project described in the PEIR, and the components of the project.

Absence of Significant New Information

The EBZA recognizes that the Final PEIR incorporates information obtained and produced after the Draft PEIR was completed, and that the Final PEIR contains additions, clarifications, and modifications. The EBZA has reviewed and considered the Final PEIR and all of this information. The Final PEIR does not add significant new information to the Draft PEIR that would require recirculation of the PEIR under CEQA. The new information added to the PEIR does not involve a new significant environmental impact, a substantial increase in the severity of an environmental impact, or a feasible mitigation measure or alternative considerably different from others previously analyzed that the project sponsor declines to adopt and that would clearly lessen the significant environmental impacts of the project. No information indicates that the Draft PEIR was inadequate or conclusory or that the public was deprived of a meaningful opportunity to review and comment on the Draft PEIR. Thus, recirculation of the PEIR is not required. The EBZA finds that the changes and modifications made to the PEIR after the Draft PEIR was circulated for public review and comment do not individually or collectively constitute significant new information within the meaning of Public Resources Code Section 21092.1 or Section 15088.5 of the State CEQA Guidelines.

Severability

If any term, provision, or portion of these Findings or the application of these Findings to a particular situation is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of these Findings, or their application to other actions related to the project, shall continue in full force and effect unless amended or modified by the County.

Findings and Recommendations Regarding Significant and Unavoidable Impacts

Air Quality

Impact AQ-2c: Violate any air quality standard or contribute substantially to an existing or projected air quality violation—Patterson Pass Project

Potential Impact: Construction of the Patterson Pass Project would occur over a period of approximately 9 months. It is estimated that there would be approximately 184 workdays that would involve the use of heavy construction equipment. It is anticipated that the majority of equipment and material-related truck trips would originate at the Port of Stockton and in the city of Tracy and that the construction worker-related commute trips would occur entirely within the SFBAAB. The portion of the equipment, material, and aggregate haul trips that would originate at the Port of Stockton and in the city of Tracy would be generated in the SJVAB, which is under SJVAPCD's jurisdiction. Therefore, the heavy-duty truck trip exhaust emissions that would be generated in the SJVAB have been quantified and compared to SJVAPCD's annual significance thresholds (see Table 3.3-17 of the PEIR).

Maximum daily exhaust emissions of ROG and NOX would exceed BAAQMD's significance thresholds, even with mitigation, resulting in a significant impact.

Mitigation Measures: The following mitigation measures, discussed in the Draft PEIR at pages 3.3-25 through 3.3-27, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

AQ-2a: Reduce construction-related air pollutant emissions by implementing applicable BAAQMD Basic Construction Mitigation Measures

AQ-2b: Reduce construction-related air pollutant emissions by implementing measures based on BAAQMD's Additional Construction Mitigation Measures

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures AQ-2a, and AQ-2b will reduce the project's construction-related emissions but will not mitigate this impact to a less-than-significant level, as there is no feasible way to avoid the significant impact. The project applicant will be required to implement the following actions.

AQ-2a: The project proponents will require all contractors to comply with the following requirements for all areas with active construction activities.

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered as needed to maintain dust control onsite—approximately two times per day.
- All haul trucks transporting soil, sand, or other loose material offsite will be covered.
- All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads will be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved will be completed as soon as possible. Building pads will be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage will be provided for construction workers at all access points.
- All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications. All equipment will be checked by a certified visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person will respond and take corrective action within 48 hours. The air district's phone number will also be visible to ensure compliance with applicable regulations.

AQ-2b: The project proponents will require all contractors to comply with the following requirements for all areas with active construction activities.

- During construction activities, all exposed surfaces will be watered at a frequency adequate to meet and maintain fugitive dust control requirements of all relevant air quality management entities.
- All excavation, grading, and/or demolition activities will be suspended when average wind speeds exceed 20 mph, as measured at the Livermore Municipal Airport.
- Wind breaks (e.g., trees, fences) will be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50% air porosity.
- Vegetative ground cover (e.g., fast-germinating native grass seed) will be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- If feasible and practicable, the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time will be limited.
- All trucks and equipment, including their tires, will be washed off prior to leaving the site.
- Site accesses to a distance of 100 feet from the paved road will be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
- Sandbags or other erosion control measures will be installed to prevent silt runoff to public roadways from sites with a slope greater than 1%.
- The idling time of diesel powered construction equipment will be minimized to 2 minutes.
- The project will develop a plan demonstrating that the offroad equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20% NOX reduction and 45% PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add- on devices such as particulate filters, and/or other options as such become available.
- Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
- All construction equipment, diesel trucks, and generators will be equipped with BACT for emission reductions of NOX and PM.
- All contractors will use equipment that meets ARB's most recent certification standard for offroad heavy duty diesel engines.

Remaining Impacts: Remaining impacts related to the project construction activities' contribution to the construction-related air pollutant emissions will be significant and unavoidable.

Overriding Considerations: As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are environmental, economic, or other benefits of the approved project that override the remaining significant and unavoidable impacts on air quality.

There are no other feasible mitigation measures or changes to the project that would reduce this impact to a less-than-significant level.

Impact AQ-3c: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)—Patterson Pass Project

Potential Impact: Projects that would result in an increase in ROG, NO_X, PM10, or PM2.5 of more than their respective project-level daily mass thresholds indicated in Table 3.3-5 of the Draft PEIR would also be considered to contribute considerably to a significant cumulative impact. Because construction emissions of ROG and NO_X under the Patterson Pass Project are greater than the BAAQMD thresholds after implementation of Mitigation Measures AQ-2a and AQ-2b, construction impacts are significant and unavoidable.

Mitigation Measures: The following mitigation measures, discussed in the Draft PEIR at pages 3.3-25 through 3.3-27, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

AQ-2a: Reduce construction-related air pollutant emissions by implementing applicable BAAQMD Basic Construction Mitigation Measures

AQ-2b: Reduce construction-related air pollutant emissions by implementing measures based on BAAQMD's Additional Construction Mitigation Measures

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures AQ-2a, and AQ-2b will reduce the project's construction-related emissions but will not mitigate this impact to a less-than-significant level, as there is no feasible way to avoid the significant impact.

Remaining Impacts: Remaining impacts related to the project construction activities' contribution to cumulative construction-related air pollutant emissions will be significant and unavoidable.

Overriding Considerations: As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are environmental, economic, or other benefits of the approved project that override the remaining significant and unavoidable impacts on air quality. There are no other feasible mitigation measures or changes to the project that would reduce this impact to a less-than-significant level.

Biological Resources

Impact BIO-11c: Avian mortality resulting from interaction with wind energy facilities—Patterson Pass Project

Potential Impact: The operation of wind energy facilities has been shown to cause avian fatalities through collisions with wind turbines and powerlines and through electrocution on powerlines. Although repowering is intended to reduce fatalities, enough uncertainty remains in light of project-

and site-specific data to warrant a conservative approach in the impact analysis. Accordingly, the continued or increased loss of birds (including special-status species) at a rate exceeding the baseline rate would be a significant adverse impact. There is also evidence that the proposed Patterson Pass project would result in continued avian mortality in conflict with specific laws and regulations (e.g., ESA, CESA, MBTA) that are not based on mortality rates, as described in *Determination of Significance* on pages 3.4-58 and 3.4-59 of the Final PEIR, and with the objectives of the 2007 Settlement Agreement that bound the wind energy operators and the County to provide strategies and measures to conserve avian species of concern and their habitats. This conflict is considered a significant impact on protected and special-status avian species, and adopting a conservative expectation that some level of avian mortality will continue even with the implementation of every feasible mitigation measure and conservation strategy, this would be a significant and unavoidable impact.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-11a: Prepare a project-specific avian protection plan

BIO-11b: Site turbines to minimize potential mortality of birds

BIO-11c: Use turbine designs that reduce avian impacts

BIO-11d: Incorporate avian-safe practices into design of turbine-related infrastructure

BIO-11e: Retrofit existing infrastructure to minimize risk to raptors

BIO-11f: Discourage prey for raptors

BIO-11g: Implement postconstruction avian fatality monitoring for all repowering projects and implement adaptive management measures as necessary

BIO-11h: Compensate for the loss of raptors and other avian species, including golden eagles, by contributing to conservation efforts

BIO-11i: Implement an avian adaptive management program

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-11a, BIO-11b, BIO-11c, BIO-11d, BIO-11e, BIO-11f, BIO-11g, BIO-11h, and BIO-11i will reduce the rate of avian mortality associated with the project but will not mitigate this impact to a less-than-significant level, as there is no feasible way to avoid the significant impact. The project applicant will be required to implement the following actions prior to and during operations.

BIO-11a: Prepare a project-specific avian protection plan

All project proponents will prepare a project-specific APP **to** specify measures and protocols consistent with the program-level mitigation measures that address avian mortality. The project-specific APPs will include, at a minimum, the following components.

- Information and methods used to site turbines to minimize risk.
- Documentation that appropriate turbine designs are being used.
- Documentation that avian-safe practices are being implemented on project infrastructure.
- Methods used to discourage prey for raptors.
- A detailed description of the postconstruction avian fatality monitoring methods to be used (consistent with the minimum requirements outlined in Mitigation Measure BIO-11g).
- Methods used to compensate for the loss of raptors (consistent with the requirements of Mitigation Measure BIO-11h).

Each project applicant will prepare and submit a draft project-specific APP to the County. The draft APP will be reviewed by the TAC for consistency and the inclusion of appropriate mitigation measures that are consistent with the PEIR and recommended for approval by the County. Each project applicant must have an approved Final APP prior to commercial operation.

BIO-11b: Site turbines to minimize potential mortality of birds

Micro-siting of turbines**—**using analyses of landscape features and location-specific bird use and behavior data to identify locations with reduced collision risk—may result in reduced fatalities (Smallwood et al. 2009). All project proponents will conduct a siting process and prepare a siting analysis to select turbine locations to minimize potential impacts on bird and bat species. Proponents will utilize existing data as well as collect new site-specific data as part of the siting analysis.

Project proponents will utilize currently available guidelines such as the Alameda County SRC guidelines for siting wind turbines (Alameda County SRC 2010) and/or other currently available research or guidelines to conduct siting analysis. Additionally, project proponents will use the results of previous siting efforts to inform the analysis and siting methods as appropriate such that the science of siting continues to be advanced. All project proponents will collect field data that identify or confirm the behavior, utilization, and distribution patterns of affected avian and bat species prior to the installation of turbines. Project proponents will collect and utilize available existing information, including but not necessarily limited to: siting reports and monitoring data from previously installed projects; published use and abundance studies and reports; and topographic features known to increase collision risk (trees, riparian areas, water bodies, and wetlands).

Project proponents will also collect and utilize additional field data as necessary to inform the siting analysis for golden eagle. As required in Mitigation Measure BIO-8a, surveys will be conducted to locate golden eagle nests within 2 miles of proposed project areas. Siting of turbines within 2 miles of an active or alternative golden eagle nest or active golden eagle territory will be based on a site-specific analysis of risk based on the estimated eagle territories, conducted in consultation with USFWS.

Mitigation Measure BIO-11c: Use turbine designs that reduce avian impacts

Use of turbines with certain characteristics is believed to reduce the collision risk for avian species. Project proponents will implement the design-related measures listed below.

- Turbine designs will be selected that have been shown or that are suspected to reduce avian fatalities, based on the height, color, configuration, or other features of the turbines.
- Turbine design will limit or eliminate perching opportunities. Designs will include a tubular tower with internal ladders; external catwalks, railings, or ladders will be prohibited.
- Turbine design will limit or eliminate nesting or roosting opportunities. Openings on turbines will be covered to prevent cavity-nesting species from nesting in the turbines.
- Lighting will be installed on the fewest number of turbines allowed by FAA regulations, and all pilot warning lights will fire synchronously. Turbine lighting will employ only red or dual red-and-white strobe, strobe-like, or flashing lights (U.S. Fish and Wildlife Service 2012). All lighting on turbines will be operated at the minimum allowable intensity, flashing frequency, and quantity allowed by FAA (Gehring et al. 2009; U.S. Fish and Wildlife Service 2012). Duration between flashes will be the longest allowable by the FAA.

BIO-11d: Incorporate avian-safe practices into design of turbine-related infrastructure

All project proponents will apply the following measures when designing and siting turbine-related infrastructure. These measures will reduce the risk of bird electrocution and collision.

- Permanent meteorological stations will avoid use of guy wires. If it is not possible to avoid using guy wires, the wires will be at least 4/0 gauge to ensure visibility and will be fitted with bird deterrent devices.
- All permanent meteorological towers will be unlit unless lighting is required by FAA. If lighting is required, it will be operated at the minimum allowable intensity, flashing frequency, and quantity allowed by FAA.
- To the extent possible, all powerlines will be placed underground. However, lines may be placed aboveground immediately prior to entering the substation. All aboveground lines will be fitted with bird flight diverters or visibility enhancement devices (e.g., spiral damping devices). When lines cannot be placed underground, appropriate avian protection designs must be employed. As a minimum requirement, the collection system will conform with the most current edition of the Avian Power Line Interaction Committee guidelines to prevent electrocutions.
- Lighting will be focused downward and minimized to limit skyward illumination. Sodium vapor lamps and spotlights will not be used at any facility (e.g., laydown areas, substations) except when emergency maintenance is needed. Lighting at collection facilities, including substations, will be minimized using downcast lighting and motion-detection devices. The use of high-intensity lighting; steady-burning or bright lights such as sodium vapor, quartz, or halogen; or other bright spotlights will be minimized. Where lighting is required it will be designed for the minimum intensity required for safe operation of the facility. Green or blue lighting will be used in place of red or white lighting.

BIO-11e: Retrofit existing infrastructure to minimize risk to raptors

Any existing power lines in a specific project area that are owned by the wind project operator and that are associated with electrocution of an eagle or other raptor will be retrofitted within 30 days to make them raptor-safe according to Avian Power Line Interaction Committee guidelines. All other existing structures to remain in a project area during repowering will be retrofitted, as feasible, according to specifications of Mitigation Measure BIO-11c prior to repowered turbine operation.

BIO-11f: Discourage prey for raptors

All project proponents will apply the following measures when designing and siting turbine-related infrastructure. These measures are intended to minimize opportunities for fossorial mammals to become established and thereby create a prey base that could become an attractant for raptors.

- Rodenticide will not be utilized on the project site to avoid the risk of raptors scavenging the remains of poisoned animals.
- Boulders (rocks more than 12 inches in diameter) excavated during project construction may be placed in aboveground piles in the project area so long as they are more than 500 meters (1,640 feet) from any turbine. Existing rock piles created during construction of first- and second-generation turbines will also be moved at least 500 meters (1,640 feet) from turbines.
- Gravel will be placed around each tower foundation to discourage small mammals from burrowing near turbines.

BIO-11g: Implement postconstruction avian fatality monitoring for all repowering projects

A postconstruction monitoring program will be conducted **at each repowering project for a** minimum of 3 years beginning on the commercial operation date (COD) of the project. Monitoring may continue beyond 3 years if construction is completed in phases. Moreover, if the results of the first 3 years indicate that baseline fatality rates (i.e., nonrepowered fatality rates) are exceeded, monitoring will be extended until the average annual fatality rate has dropped below baseline fatality rates for 2 years, and to assess the effectiveness of adaptive management measures specified in Mitigation Measure BIO-11i. An additional 2 years of monitoring will be implemented at year 10 (i.e., the tenth anniversary of the COD). Project proponents will provide access to qualified third parties authorized by the County to conduct any additional monitoring after the initial 3-year monitoring period has expired and before and after the additional 2-year monitoring period, provided that such additional monitoring utilizes scientifically valid monitoring protocols.

A technical advisory committee (TAC) will be formed to oversee the monitoring program and to advise the County on adaptive management measures that may be necessary if fatality rates substantially exceed those predicted for the project (as described below in Mitigation Measure BIO-11i). The TAC will have a standing meeting, which will be open to the public, every 6 months to review monitoring reports produced by operators in the program area. In these meetings, the TAC will discuss any issues raised by the monitoring reports and recommend to the County next steps to address issues, including scheduling additional meetings, if necessary.

The TAC will comprise representatives from the County (including one or more technical consultants, such as a biostatistician, an avian biologist, and a bat biologist), and wildlife agencies (CDFW, USFWS). Additional TAC members may also be considered (e.g., a representative from Audubon, a landowner in the program area, a representative of the operators) at the discretion of the County. The TAC will be a voluntary and advisory group that will provide guidance to the County Planning Department. To maintain transparency with the public, all TAC meetings will be open to the public, and notice of meetings will be given to interested parties.

The TAC will have three primary advisory roles: (1) to review and advise on project planning documents (i.e., project-specific APPs) to ensure that project-specific mitigation measures and compensatory mitigation measures described in this PEIR are appropriately and consistently applied, (2) to review and advise on monitoring documents (protocols and reporting) for consistency with the mitigation measures, and (3) to review and advise on implementation of the adaptive management plans.

Should fatality monitoring reveal that impacts exceed the baseline thresholds established in this PEIR, the TAC will advise the County on requiring implementation of adaptive management measures as described in Mitigation Measure BIO-11i. The County will have the decision-making authority, as it is the organization issuing the CUPs. However, the TAC will collaboratively inform the decisions of the County.

Operators are required to provide for avian use surveys to be conducted within the project area boundaries for a minimum of 30 minutes duration. Surveyors will be qualified and trained and subject to approval by the County.

Carcass surveys will be conducted at every turbine for projects with 20 or fewer turbines. For projects with more than 20 turbines, such surveys will be required at a minimum of 20 turbines, and a sample of the remaining turbines may be selected for carcass searches. The operator will be required to demonstrate that the sampling scheme and sample size are statistically rigorous and defensible. Where substantial variation in terrain, land cover type, management, or other factors may contribute to significant variation in fatality rates, the sampling scheme will be stratified to account for such variation. The survey protocol for sets and subsets of turbines, as well as proposed sampling schemes that do not entail a search of all turbines, must be approved by the County in consultation with the TAC prior to the start of surveys.

The search interval will not exceed 14 days for the minimum of 20 turbines to be surveyed; however, the search interval for the additional turbines (i.e., those exceeding the 20-turbine minimum) that are to be included in the sampling scheme may be extended up to 28 days or longer if recommended by the TAC.

The estimation of detection probability is a rapidly advancing field. Carcass placement trials, broadly defined, will be conducted to estimate detection probability during each year of monitoring. Sample sizes will be large enough to potentially detect significant variation by season, carcass size, and habitat type.

Operators will be required to submit copies of all raw data forms to the County annually, will supply raw data in a readily accessible digital format to be specified by the County, and will prepare raw data for inclusion as appendices in the annual reports. The intent is to allow the

County to conduct independent analyses and meta-analyses of data across the APWRA, and to supply these data to the regulatory agencies if requested.

Annual reports submitted to the County will provide a synthesis of all information collected to date. Each report will provide an introduction; descriptions of the study area, methods, and results; a discussion of the results; and any suitable recommendations. Reports will provide raw counts of fatalities, adjusted fatality rates, and estimates of project-wide fatalities on both a per MW and per turbine basis.

BIO-11h: Compensate for the loss of raptors and other avian species, including golden eagles, by contributing to conservation efforts

Discussion

Several options to compensate for impacts on raptors are currently available. Some are targeted to benefit certain species, but they may also have benefits for other raptor and non-raptor species. For example, USFWS's ECP Guidelines currently outline a compensatory mitigation strategy for golden eagles using the retrofit of high-risk power poles (poles known or suspected to electrocute and kill eagles). The goal of this strategy is to eliminate hazards for golden eagles. However, because the poles are also dangerous for other large raptors (e.g., red-tailed hawk, Swainson's hawk), retrofitting them can benefit such species as well as eagles.

Similarly, although the retrofitting of electrical poles may have benefits for large raptors, such an approach may provide minimal benefits for smaller raptors such as American kestrel and burrowing owl. Consequently, additional measures would be required components of an overall mitigation package to compensate for impacts on raptors in general.

The Secretary of the Interior issued Order 3330 on October 31, 2013, outlining a new approach to mitigation policies and practices of the Department of the Interior. This approach recognizes that certain strategies aimed at some species (e.g., raptors) can provide substantial benefit to others (e.g., non-raptors) and to the ecological landscape as a whole. The landscape-scale approach to mitigation and conservation efforts is now central to the Department's mitigation strategy. Although the Order was intended for use by federal agencies and as such is not directly applicable to the County, it is evident that such an approach would likely have the greatest mitigation benefits, especially when considering ongoing and long-term impacts from wind energy projects.

With these considerations in mind, the County has outlined several options that are currently available to compensate for impacts on raptors and other avian species. The options discussed below are currently considered acceptable approaches to compensation for impacts on raptors and other species. Although not every option is appropriate for all species, it is hoped that as time proceeds, a more comprehensive landscape-level approach to mitigation will be adopted to benefit a broader suite of species than might benefit from more species-specific measures. The County recognizes that the science of raptor conservation and the understanding of wind-wildlife impacts are continuing to evolve and that the suite of available compensation options may consequently change over the life of the proposed projects.

Conservation Measures

To promote the conservation of raptors and other avian species, project proponents will compensate for raptor fatalities estimated within their project areas. Mitigation will be provided

in 10-year increments, with the first increment based on the estimates (raptors/MW/year) provided in this PEIR for the Vasco Winds Project (Table 3.4-10) or the project-specific EIR for future projects. The Vasco Winds fatality rates were selected because the Vasco turbines are the most similar to those likely to be proposed for future repowering projects and consequently represent the best available fatality estimates. Each project proponent will conduct postconstruction fatality monitoring for at least 3 years beginning at project startup (date of commercial operation) and again for 2 years at year 10, as required under Mitigation Measure BIO-11g, to estimate the average number of raptors taken each year by each individual project. The project proponent will compensate for this number of raptors in subsequent 10-year increments for the life of the project (i.e., three 10-year increments) as outlined below. Mitigation Measure BIO-11g also requires additional fatality monitoring at year 10 of the project. The results of the first 3 years of monitoring and/or the monitoring at year 10 may lead to revisions of the estimated average number of raptors taken, and mitigation provided may be adjusted accordingly on a one-time basis within each of the first two 10-year increments, based on the results of the monitoring required by Mitigation Measure BIO-11g, in consultation with the TAC.

Prior to the start of operations, project proponents will submit for County approval an avian conservation strategy, as part of the project-specific APP outlined in Mitigation Measure BIO-11a, outlining the estimated number of raptor fatalities based on the number and type of turbines being constructed, and the type or types of compensation options to be implemented. Project proponents will use the avian conservation strategy to craft an appropriate strategy using a balanced mix of the options presented below, as well as considering new options suggested by the growing body of knowledge during the course of the project lifespan, as supported by a Resource Equivalency Analysis (REA) (see example in Appendix C) or similar type of compensation assessment acceptable to the County that demonstrates the efficacy of proposed mitigation for impacts on raptors.

The County Planning Director, in consultation with the TAC, will consider, based on the REA, whether the proposed avian conservation strategy is adequate, including consideration of whether each avian mitigation plan incorporates a landscape-scale approach such that the conservation efforts achieve the greatest possible benefits. Compensation measures as detailed in an approved avian conservation strategy must be implemented within 1 year of the date of commercial operations. Avian conservation strategies will be reviewed and may be revised by the County every 10 years, and on a one-time basis in each of the two 10-year increments based on the monitoring required by Mitigation Measure BIO-11g.

- **Retrofitting high-risk electrical infrastructure.** USFWS's ECP Guidelines outline a compensatory mitigation strategy using the retrofit of high-risk power poles (poles known or suspected to electrocute and kill eagles). USFWS has developed an REA (U.S. Fish and Wildlife Service 2013a) as a tool to estimate the compensatory mitigation (number of retrofits) required for the take of eagles. The REA takes into account the current understanding of eagle life history factors, the effectiveness of retrofitting poles, the expected annual take, and the timing of implementation of the pole retrofits. The project proponents may need to contract with a utility or a third-party mitigation account (such as the National Fish and Wildlife Foundation) to retrofit the number of poles needed as demonstrated by a project-specific REA. If contracting directly, the project proponent will consult with utility companies to ensure that high-risk poles have been identified for retrofitting. Proponents will agree in writing to pay the utility owner/operator to retrofit

the required number of power poles and maintain the retrofits for 10 years and will provide the County with documentation of the retrofit agreement. The first retrofits will be based on the estimated number of eagle fatalities as described above in this measure or as developed in the project-specific EIR for future projects. Subsequent numbers of retrofits required for additional 10-year durations will be based on the results of project-specific fatality monitoring as outlined in Mitigation Measure BIO-11g. If fewer eagle fatalities are identified through the monitoring, the number of future required retrofits may be reduced through a project-specific REA. Although retrofitting poles has not been identified as appropriate mitigation for other large raptors, they would likely benefit from such efforts, as they (particularly red-tailed and Swainson's hawks) constitute the largest non-eagle group to suffer electrocution on power lines (Avian Power Line Interaction Committee 2006).

- **Measures outlined in an approved Eagle Conservation Plan and Bird and Bat Conservation Strategy.** Project proponents may elect to apply for programmatic eagle take permits from USFWS. The programmatic eagle take permit process currently involves preparation of an ECP and a Bird and Bat Conservation Strategy (BBCS). The ECP specifies avoidance and minimization measures, advanced conservation practices, and compensatory mitigation for eagles—conditions that meet USFWS's criteria for issuance of a permit. The BBCS outlines measures being implemented by the applicant to avoid and minimize impacts on migratory birds, including raptors. If programmatic eagle take permits are obtained by project proponents, those permit terms, including the measures outlined in the approved ECP and BBCS, may constitute an appropriate conservation measure for estimated take of golden eagles and other raptors, provided such terms are deemed by the County to be comparable to or more protective of raptors than the other options listed herein.
- **Contribute to raptor conservation efforts.** Project proponents will contribute funds, in the amount of $580/raptor fatality, in 10-year increments to local and/or regional conservation efforts designed to protect, recover, and manage lands for raptors, or to conduct research involving methods to reduce raptor fatalities or increase raptor productivity. The $580 amount is based on the average cost to rehabilitate one raptor at the California Raptor Center, affiliated with the UC Davis School of Veterinary Medicine, which receives more than 200 injured or ill raptors annually (Stedman pers. comm.). Ten-year installments are more advantageous than more frequent installments for planning and budgeting purposes.

  The funds will be contributed to an entity or entities engaged in these activities, such as the East Bay Regional Park District and the Livermore Area Regional Park District. Conservation efforts may include constructing and installing nest boxes and perches, conducting an awareness campaign to reduce the use of rodenticide, and conducting research to benefit raptors. The specific conservation effort to be pursued will be submitted to the County for approval as part of the avian conservation strategy review process. The donation receipt will be provided to the County as evidence of payment.

  The first contributions for any given project will be based on the estimated number of raptor fatalities as described above in this measure or as developed in the project-specific EIR for future projects. Funds for subsequent 10-year installments will be provided on the basis of the average annual raptor fatality rates determined through postconstruction monitoring efforts, allowing for a one-time adjustment within each 10-year increment after the results of the monitoring efforts are available. If fewer raptor fatalities are detected

through the monitoring effort, the second installment amount may be reduced to account for the difference between the first estimated numbers and the monitoring results.

- **Contribute to regional conservation of raptor habitat.** Project proponents may address regional conservation of raptor habitat by funding the acquisition of conservation easements within the APWRA or on lands in the same eco-region outside the APWRA, subject to County approval, for the purpose of long-term regional conservation of raptor habitat. Lands proposed for conservation must be well-managed grazing lands similar to those on which the projects have been developed. Project proponents will fund the regional conservation and improvement of lands (through habitat enhancement, lead abatement activities, elimination of rodenticides, and/or other measures) using a number of acres equivalent to the conservation benefit of the raptor recovery and conservation efforts described above, or as determined through a project-specific REA (see example REA in Appendix C). The conservation lands must be provided for compensation of a minimum of 10 years of raptor fatalities, as 10-year increments will minimize the transaction costs associated with the identification and conservation of lands, thereby increasing overall cost effectiveness. The conservation easements will be held by an organization whose mission is to purchase and/or otherwise conserve lands, such as The Trust for Public Lands, The Nature Conservancy, California Rangeland Trust, or the East Bay Regional Parks District. The project proponents will obtain approval from the County regarding the amount of conserved lands, any enhancements proposed to increase raptor habitat value, and the entity holding the lands and/or conservation easement.
- **Other Conservation Measures Identified in the Future.** As noted above, additional conservation measures for raptors may become available in the future. Conservation measures for raptors are currently being developed by USFWS and nongovernmental organizations (e.g., American Wind Wildlife Institute)—for example, activities serving to reduce such fatalities elsewhere, and enhancing foraging and nesting habitat. Additional options for conservation could include purchasing credits at an approved mitigation bank, credits for the retirement of windfarms that are particularly dangerous to birds or bats, the curtailment of prey elimination programs, and hunter-education programs that remove sources of lead from the environment. Under this option, the project proponent may make alternative proposals to the County for conservation measures—based on an REA or similar compensation assessment—that the County may accept as mitigation if they are deemed by the County to be comparable to or more protective of raptor species than the other options described herein.

BIO-11i: Implement an avian adaptive management program

If fatality monitoring described in Mitigation Measure BIO-11g results in an estimate that exceeds the preconstruction baseline fatality estimates (i.e., estimates at the nonrepowered turbines as described in this PEIR) for any focal species or species group (i.e., individual focal species, all focal species, all raptors, all non-raptors, all birds combined), project proponents will prepare a project-specific adaptive management plan within 2 months following the availability of the fatality monitoring results. These plans will be used to adjust operation and mitigation to the results of monitoring, new technology, and new research to ensure that the best available science is used to minimize impacts to below baseline. Project-specific adaptive management plans will be reviewed by the TAC, revised by project proponents as necessary, and approved by the County. The TAC will take current research and the most effective impact reduction

strategies into account when reviewing adaptive management plans and suggesting measures to reduce impacts. The project-specific adaptive management plans will be implemented within 2 months of approval by the County. The plans will include a stepped approach whereby an adaptive measure or measures are implemented, the results are monitored for success or failure for a year, and additional adaptive measures are added as necessary, followed by another year of monitoring, until the success criteria are achieved (i.e., estimated fatalities are below the baseline). Project proponents should use the best measures available when the plan is prepared in consideration of the specific adaptive management needs. For example, if only one threshold is exceeded, such as golden eagle fatalities, the plan and measures used will target that species. As set forth in other agreements in the APWRA, project proponents may also focus adaptive management measures on individual or multiple turbines if those turbines are shown to cause a significantly disproportionate number of fatalities.

In general, the following types of measures will be considered by the TAC, in the order they are presented below; however, the TAC may recommend any of these or other measures that are shown to be successful in reducing the impact.

ADMM-1: Visual Modifications. The project proponent could paint a pattern on a proportion of the turbine blades. The proportion and the pattern of the blades to be painted will be determined by the County in consultation with the TAC. USFWS recommends testing measures to reduce *motion smear*—the blurring of turbine blades due to rapid rotation that renders them less visible and hence more perilous to birds in flight. Suggested techniques include painting blades with staggered stripes or painting one blade black. The project proponent will conduct fatality studies on a controlled number of painted and unpainted turbines. The project proponent will coordinate with the TAC to determine the location of the painted turbines, but the intent is to implement this measure in areas that appear to be contributing most to the high number of fatalities detected.

ADMM-2: Anti-Perching Measures. The County will consult with the TAC regarding the use of anti-perching measures to discourage bird use of the area. The TAC will use the most recent research and information available to determine, on a case-by–case basis, if anti-perching measures will be an effective strategy to reduce impacts. If determined to be feasible, anti-perching devices will be installed on artificial structures, excluding utility poles, within 1 mile of project facilities (with landowner permission) to discourage bird use of the area.

ADMM-3: Prey Reduction. The project proponent will implement a prey reduction program around the most hazardous turbines. Examples of prey reduction measures may include changes in grazing practices to make the area less desirable for prey species, active reduction through direct removal of prey species, or other measures provided they are consistent with management goals for threatened and endangered species.

ADMM-4: Implementation of Experimental Technologies. Project proponents can deploy experimental technologies at their facilities to test their efficacy in reducing turbine-related fatalities. Examples may include, but are not limited to, visual deterrents, noise deterrents, and active radar systems.

ADMM-5: Turbine Curtailment. If postconstruction monitoring indicates patterns of turbine-caused fatalities—such as seasonal spikes in fatalities, topographic or other environmental features associated with high numbers of fatalities, or other factors that can potentially be manipulated and that suggest that curtailment of a specific turbine's operation would result in

reducing future avian fatalities—the project operator can curtail operations of the offending turbine or turbines. Curtailment restrictions would be developed in coordination with the TAC and based on currently available fatality data, use data, and research.

ADMM-6: Cut-in Speed Study. Changes in cut-in speed could be conducted to see if changing cut-in speeds from 3 meters per second to 5 meters per second (for example) would significantly reduce avian fatalities. The proponent will coordinate with the TAC in determining the feasibility of the measure for the particular species affected as well as the amount of the change in the cut-in speed.

ADMM-7: Real-Time Turbine Curtailment. The project proponent can employ a real-time turbine curtailment program designed in consultation with the TAC. The intent would be to deploy a biologist to monitor onsite conditions and issue a curtailment order when raptors are near operating turbines. Alternatively, radar, video, or other monitoring measures could be deployed in place of a biological monitor if there is evidence to indicate that such a system would be as effective and more efficient than use of a human monitor.

Remaining Impacts: Remaining impacts related to the project impacts on avian mortality will be significant and unavoidable.

Overriding Considerations: As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are environmental, economic, or other benefits of the approved project that override the remaining significant and unavoidable impacts on biological resources. There are no other feasible mitigation measures, or changes to the project that would reduce this impact to a less than significant level.

Impact BIO-14c: Turbine-related fatalities of special-status and other bats—Patterson Pass Project

Potential Impact: Resident and migratory bats flying in and through the Patterson Pass Project area may be killed by collision with wind turbine blades or other interaction with the wind turbine generators. Extrapolating from existing fatality data and from trends observed at other wind energy facilities where fourth-generation turbines are in operation, it appears likely that fatalities would occur predominantly in the late summer to mid-fall migration period; that fatalities would consist mostly of migratory bats, particularly Mexican free-tailed bat and hoary bat; that fatalities would occur sporadically at other times of year; and that fatalities of one or more other species would occur in smaller numbers. Despite the high level of uncertainty in estimates of bat fatality rates, all available data suggest that repowering would result in a substantial increase in bat fatalities.

Extrapolating from existing fatality data and from trends observed at other wind energy facilities where fourth-generation turbines are in operation, it appears likely that fatalities would occur predominantly in the late summer to mid-fall migration period; that fatalities would consist mostly of migratory bats, particularly Mexican free-tailed bat and hoary bat; that fatalities would occur sporadically at other times of year; and that fatalities of one or more other species will occur in smaller numbers. As shown in Table 3.4-14 of the PEIR, annual estimated bat fatalities in the Patterson Pass project area are anticipated to increase from the current estimate of 5 to 33–78 fatalities. Mitigation Measures BIO-14a through BIO-14e would reduce this impact, but not to a less-than-significant level.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-14a: Site and select turbines to minimize potential mortality of bats

BIO-14b: Implement postconstruction bat fatality monitoring program for all repowering projects

BIO-14c: Prepare and publish annual monitoring reports on the findings of bat use of the project area and fatality monitoring results

BIO-14d: Develop and implement a bat adaptive management plan

BIO-14e: Compensate for expenses incurred by rehabilitating injured bats

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-14a, BIO-14b, BIO-14c, BIO-14d, and BIO-14e will reduce the rate of bat mortality associated with the project but will not mitigate this impact to a less-than-significant level, as there is no feasible way to avoid the significant impact. The project applicant will be required to implement the following actions.

BIO-14a: Site and select turbines to minimize potential mortality of bats

All project proponents will use the best information available to site turbines and to select from turbine models in such a manner as to reduce bat collision risk. The siting and selection process will take into account bat use of the area and landscape features known to increase collision risk (trees, edge habitats, riparian areas, water bodies, and wetlands). Measures include but are not limited to siting turbines the greatest distance feasible up to 500 meters (1,640) feet from still or flowing bodies of water, riparian habitat, known roosts, and tree stands (California Bat Working Group 2006:6).

To generate site-specific "best information" to inform turbine siting and operation decisions, a bat habitat assessment and roost survey will be conducted in the project area to identify and map habitat of potential significance to bats, such as potential roost sites (trees and shrubs, significant rock formations, artificial structures) and water sources. Turbine siting decisions will incorporate relevant bat use survey data and bat fatality records published by other projects in the APWRA. Roost surveys will be carried out according to the methods described in Mitigation Measure-BIO-12a.

BIO-14b: Implement postconstruction bat fatality monitoring program for all repowering projects

A scientifically defensible, postconstruction bat fatality monitoring program will be implemented to estimate actual bat fatalities and determine if additional mitigation is required. Bat-specific modifications to the 3-year postconstruction monitoring program described in Mitigation Measure BIO-11g, developed in accordance with CEC 2007 and with appropriate recommendations from California Bat Working Group guidelines (2006), will be implemented.

In addition to the requirements outlined in Mitigation Measure BIO-11g, the following two bat-specific requirements will be added.

- Include on the TAC at least one biologist with significant expertise in bat research and wind energy impacts on bats.
- Conduct bat acoustic surveys concurrently with fatality monitoring in the project area to estimate nightly, seasonal, or annual variations in relative activity and species use patterns, and to contribute to the body of knowledge on seasonal bat movements and relationships between bat activity, environmental variables, and turbine fatality. Should emerging research support the approach, these data may be used to generate site-specific predictive models to increase the precision and effectiveness of mitigation measures (e.g., the season-specific, multivariate models described by Weller and Baldwin 2011:11). Acoustic bat surveys will be designed and data analysis conducted by qualified biologists with significant experience in acoustic bat survey techniques. Methods will be informed by the latest available guidelines (California Energy Commission guidelines, 2007); California Bat Working Group guidelines, 2006), except where best available science supports technological or methodological updates. High-quality, sensitive acoustic equipment will be used to produce data of sufficient quality to generate species identifications. Survey design and methods will be scientifically defensible and will include, at a minimum, the following elements.
    - Acoustic detectors will be installed at multiple stations to adequately sample range of habitats in the project area for both resident and migratory bats. The number of detector arrays installed per project site will incorporate emerging research on the density of detectors required to adequately meet sampling goals and inform mitigation approaches (Weller and Baldwin 2011:10).
    - Acoustic detector arrays will sample multiple airspace heights including as close to the repowered rotor swept area as possible Vertical structures used for mounting may be preexisting or may be installed for the project (e.g., temporary or permanent meteorological towers).
    - Surveys will be conducted such that data are collected continuously from early July to early November to cover the activity transition from maternity to migration season and determine if there is elevated activity during migration. Survey season may be adjusted to more accurately reflect the full extent of the local migration season and/or season(s) of greatest local bat fatality risk, if scientifically sound data support doing so.
    - Anticipated adaptive management goals, such as determining justifiable timeframes to reduce required periods of cut-in speed adjustments, will be reviewed with the TAC and incorporated in designing the acoustic monitoring and data analysis program.

Modifications to the fatality search protocol will be implemented to obtain better information on the number and timing of bat fatalities (e.g., Johnston et al. 2013:85). Modifications will include decreases in the transect width and search interval for a period of time coinciding with high levels of bat mortality, i.e., the fall migration season (roughly August to early November, or as appropriate in the view of the TAC). The nature of bat-specific transect distance and search intervals will be determined in consultation with the TAC and will be guided by scientifically sound and pertinent data on rates of bat carcass detection at wind energy facilities (e.g.,

Johnston et al. 2013:54–55) and site-specific data from APWRA repowering project fatality monitoring programs as these data become available.

Other methods to achieve the goals of the bat fatality monitoring program while avoiding prohibitive costs may be considered subject to approval by the TAC, if these methods have been peer reviewed and evidence indicates the methods are effective. For example, if project proponents wish to have the option of altering search methodology to a newly developed method, such as searching only roads and pads (Good et al. 2011:73), a statistically robust field study to index the results of the methodology against standard search methods will be conducted concurrently to ensure site-specific, long-term validity of the new methods.

Finally, detection probability trials will utilize bat carcasses to develop bat-specific detection probabilities. Care should be taken to avoid introducing novel disease reservoirs; such avoidance will entail using onsite fatalities or using carcasses obtained from within a reasonably anticipated flight distance for that species.

BIO-14c: Prepare and publish annual monitoring reports on the findings of bat use of the project area and fatality monitoring results

Annual reports of bat use results and fatality monitoring will be produced within 3 months of the end of the last day of fatality monitoring. Special-status bat species records will be reported to CNDDB.

BIO-14d: Develop and implement a bat adaptive management plan

In concert with Mitigation Measure BIO-14b, all project proponents will develop adaptive management plans to ensure appropriate, feasible, and current incorporation of emerging information. The goals of the adaptive management plans are to ensure that the best available science and emerging technologies are used to assess impacts on bats, and that impacts are minimized to the greatest extent possible while maximizing energy production.

The project-specific adaptive management plans will be used to adjust operation and mitigation to incorporate the results of project area monitoring and new technology and research results when sufficient evidence exists to support these new approaches. These plans will be reviewed by the TAC and approved by the County. All adaptive management measures will be implemented within a reasonable timeframe, sufficient to allow the measures to take effect in the first fall migration season following the year of monitoring in which the adaptive management threshold was crossed. ADMMs may be modified by the County in consultation with the TAC to take into account current research, site-specific data, and the most effective impact reduction strategies. ADMMs will include a scientifically defensible, controlled research component and minimum post-implementation monitoring time to evaluate the effectiveness and validity of the measures. The minimum monitoring time will consist of three sequential fall seasons of the bat-specific mortality monitoring program covering the 3–4 months of the year in which the highest bat mortality has been observed: likely August–November. The start and end dates of the 3–4 months of bat-specific mortality monitoring period will be based on existing fatality data and in consultation with the TAC.

Determining a fatality threshold to trigger adaptive management is not straightforward, as insufficient information exists on the status and vitality of the populations of migratory bat species subject to mortality in the APWRA. The low estimate of anticipated bat fatality rates is

from the Vasco Winds project in the APWRA. Applying this rate programmatically would result in an estimate of 21,000 bats killed over the 30-year life of the program. The high estimate is from the Montezuma Hills Wind Resource Area. Applying this rate programmatically would result in an estimate of 49,050 bats killed over the 30-year life of the program. Bats are slow to reproduce, and turbines may be more likely to kill adult bats than juveniles, suggesting that a conservative approach is warranted. Accordingly, an initial adaptive management threshold will be established using the low fatality estimates, or 1.679 fatalities/MW/year, to ensure that the most conservative trigger for implementation of adaptive management measures is adopted.

If postconstruction fatality monitoring results in a point estimate for the bat fatality rate that exceeds the 1.679 fatalities/MW/year threshold by a statistically significant amount, then, in consultation with the TAC, ADMM-7 and ADMM-8 (described below) for bats will be implemented.

It is important to note that neither the high nor the low estimate speaks to the ability of bat populations to withstand the associated levels of take. The initial fatality rate threshold triggering adaptive management may be modified by the TAC if appropriate and if such adaptation is supported by the best available science.

The TAC may direct implementation of adaptive management measures for other appropriate reasons, such as an unexpectedly and markedly high fatality rate observed for any bat species, or special-status species being killed in unexpectedly high numbers.

ADMMs for bats may be implemented using a stepped approach until necessary fatality reductions are reached, and monitoring methods must be revised as needed to ensure accurate measurement of the effectiveness of the ADMMs. Additional ADMMs for bats should be developed as new technologies or science supports doing so.

ADMM-7: Seasonal Turbine Cut-in Speed Increase. Cut-in speed increases offer the most promising and immediately available approach to reducing bat fatalities at fourth-generation wind turbines. Reductions in fatalities (53–87%) were observed when increasing modern turbine cut-in speed to 5.0–6.5 m/s (Arnett et al. 2009:3; Good et al. 2012:iii). While implementing this measure immediately upon a project's commencement would likely reduce bat fatalities, that assumption is not yet supported by conclusive data. Moreover, without establishing baseline fatality at repowered projects, there would be no way to determine the effectiveness of the approach or whether the costs of increased cut-in speeds (and consequent power generation reductions) were providing fatality reductions.

Cut-in speed increases will be implemented as outlined below, with effectiveness assessed annually.

- The project proponent will increase cut-in speed to 5.0 m/s from sunset to sunrise during peak migration season (generally August–October). If this is ineffective, the project proponent will increase turbine cut-in speed by annual increments of 0.5 m/s until target fatality reductions are achieved.
- The project proponent may refine site-specific migration start dates on the basis of pre- and postconstruction acoustic surveys and ongoing review of dates of fatality occurrences for migratory bats in the APWRA.
- The project proponent may request a shorter season of required cut-in speed increases with substantial evidence that similar levels of mortality reduction could be achieved. Should

resource agencies and the TAC find there is sufficient support for a shorter period (as low as 8 weeks), evidence in support of this shorter period will be documented for the public record and the shorter period may be implemented.

- The project proponent may request shorter nightly periods of cut-in speed increases with substantial evidence from defensible onsite, long-term postconstruction acoustic surveys indicating predictable nightly timeframes when target species appear not to be active. Target species are here defined as migratory bats or any other species appearing repeatedly in the fatality records.
- The project proponent may request exceptions to cut-in speed increases for particular weather events or wind patterns if substantial evidence is available from onsite acoustic or other monitoring to support such exceptions (i.e., all available literature and onsite surveys indicate that bat activity ceases during specific weather events or other predictable conditions).
- In the absence of defensible site-specific data, mandatory cut-in speed increases will commence on August 1 and continue through October 31, and will be in effect from sunset to sunrise.

ADMM-8: Emerging Technology as Mitigation. The project proponent may request, with consultation and approval from agencies, replacement or augmentation of cut-in speed increases with developing technology or another mitigation approach that has been proven to achieve similar bat fatality reductions.

The project proponent may also request the second tier of adaptive management to be the adoption of a promising but not fully proven technology or mitigation method. These requests are subject to review and approval by the TAC and must include a controlled research component designed by a qualified principal investigator so that the effectiveness of the method may be accurately assessed.

Some examples of such emerging technologies and research areas that could be incorporated in adaptive management plans are listed below.

- The use of acoustic deterrents (Arnett et al. 2013:1).
- The use of altitude-specific radar, night vision and/or other technology allowing bat use monitoring and assessment of at-risk bat behavior (Johnston et al. 2013: 90-91) if research in these areas advances sufficiently to allow effective application of these technologies.
- Application of emerging peer-reviewed studies on bat biology (such as studies documenting migratory corridors or bat behavior in relation to turbines) that support specific mitigation methods.

BIO-14e: Compensate for expenses incurred by rehabilitating injured bats

he cost of reasonable, licensed rehabilitation efforts for any injured bats taken to wildlife care facilities from the program area will be assumed in full by project proponents.

Remaining Impacts: Remaining impacts related to the project impacts on bat mortality will be significant and unavoidable.

Overriding Considerations: As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are environmental, economic, or other benefits of the approved project that override the remaining significant and unavoidable impacts on biological resources. There are no other feasible mitigation measures, or changes to the project that would reduce this impact to a less-than-significant level.

Impact BIO-19c: Potential impact on the movement of any native resident or migratory wildlife species or established native resident or migratory wildlife corridors, and the use of native wildlife nursery sites—Patterson Pass Project

Potential Impact: Construction activities associated with the Patterson Pass Project and fencing of work areas may temporarily impede wildlife movement through the work area or cause animals to travel longer distances to avoid the work area. This could result in higher energy expenditure and increased susceptibility to predation for some species and is a potentially significant impact. Because the construction period for the Patterson Pass Project would be 6-9 months, it would likely encompass the movement/migration period for some species (e.g., California tiger salamander movement to/from breeding ponds). In particular, smaller animals, whose energy expenditures to travel around or avoid the area would be greater than for larger animals, could be more severely affected. The operation of wind turbines after repowering would adversely affect raptors, other birds, and bats migrating through and wintering in the area because they could be injured or killed if they fly through the rotor plane of operating wind turbines. The Patterson Pass Project also has the potential to affect native wildlife nursery sites (i.e., breeding areas). Because common species may also use these breeding areas, they may also be affected by the project. This would be a significant and unavoidable impact.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Conduct preconstruction surveys for habitat for special-status wildlife species

BIO-4a: Implement measures to avoid or protect habitat for valley elderberry longhorn beetle

BIO-5a: Implement best management practices to avoid and minimize effects on special-status amphibians

BIO-5c: Restore disturbed annual grasslands

BIO-7a: Implement best management practices to avoid and minimize effects on special-status reptiles

BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non–special-status nesting birds

BIO-8b: Implement measures to avoid and minimize potential impacts on western burrowing owl

BIO-10a: Implement measures to avoid and minimize potential impacts on San Joaquin kit fox and American badger

BIO-11b: Site turbines to minimize potential mortality of birds

BIO-11c: Use turbine designs that reduce avian impacts

BIO-11d: Incorporate avian-safe practices into design of turbine-related infrastructure

BIO-11e: Retrofit existing infrastructure to minimize risk to raptors

BIO-11i: Implement an avian adaptive management program

BIO-12a: Conduct bat roost surveys

BIO-12b: Avoid removing or disturbing bat roosts

BIO-14a: Site and select turbines to minimize potential mortality of bats

BIO-14d: Develop and implement a bat adaptive management plan

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-1e, BIO-3a, BIO-4a, BIO-5a, BIO-5c, BIO-7a, BIO-8a, BIO-8b, BIO-11b, BIO-11c, BIO-11d, BIO-11e, BIO-11i, BIO-12a, BIO-12b, BIO-14a, and BIO-14d will reduce the project's impacts on native resident or migratory wildlife corridors, and the use of native wildlife nursery sites**,** but will not mitigate this impact to a less-than-significant level, as there is no feasible way to avoid the significant impact. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

Project proponents will ensure that the following BMPs, in accordance with practices established in the EACCS, will be incorporated into individual project design and construction documents.

- Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training. Training will include review of environmental laws, mitigation measures, permit conditions, and other requirements that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities.

- Environmental tailboard trainings will take place on an as-needed basis in the field. These trainings will include a brief review of the biology of the covered species and guidelines that must be followed by all personnel to reduce or avoid negative effects on these species during decommissioning and reclamation activities. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines.
- Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable.
- Offroad vehicle travel will be avoided.
- Material will be stockpiled only in areas that do not support special-status species or sensitive habitats.
- Grading will be restricted to the minimum area necessary.
- Prior to ground-disturbing activities in sensitive habitats, project construction boundaries and access areas will be flagged and temporarily fenced during construction to reduce the potential for vehicles and equipment to stray into adjacent habitats.
- Vehicles or equipment will not be refueled within 100 feet of a wetland, stream, or other waterway unless a bermed and lined refueling area (i.e., a created berm made of sandbags or other removable material) is constructed.
- Erosion control measures will be implemented to reduce sedimentation in nearby aquatic habitat when activities are the source of potential erosion. Plastic monofilament netting (erosion control matting) or similar material containing netting will not be used at the project. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.
- Significant earth moving-activities will not be conducted in riparian areas within 24 hours of predicted storms or after major storms (defined as 1-inch of rain or more).
- The following will not be allowed at or near work sites for project activities: trash dumping, firearms, open fires (such as barbecues) not required by the activity, hunting, and pets (except for safety in remote locations).

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

All project proponents will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning, repowering, and reclamation activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). Monitoring will occur during initial ground disturbance where sensitive biological resources are present and weekly thereafter or as determined by the County in coordination with a qualified biologist. The biologist will assist the crew, as needed, to comply with all project implementation restrictions and guidelines. In addition, the biologist will be responsible for ensuring that the project proponent or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources– related mitigation measures.

BIO-3a: Conduct preconstruction surveys for habitat for special-status wildlife species

No more than 3 years prior to ground-disturbing repowering activities, a qualified biologist (as determined by Alameda County) will conduct field surveys within decommissioning, repowering, and restoration work areas and their immediate surroundings to determine the presence of habitat for special-status wildlife species. The project proponent will submit a report documenting the survey results to Alameda County for review prior to conducting any repowering activities. The report will include the location and description of all proposed work areas, the location and description of all suitable habitat for special-status wildlife species, and the location and description of other sensitive habitats (e.g., vernal pools, wetlands, riparian areas). Additionally, the report will outline where additional species- and/or habitat-specific mitigation measures are required. This report may provide the basis for any applicable permit applications where incidental take may occur.

BIO-4a: Implement measures to avoid or protect habitat for valley elderberry longhorn beetle

If it is determined through preconstruction surveys conducted pursuant to Mitigation Measure BIO-3a that elderberry shrubs are present within proposed work areas or within 100 feet of these areas, the following measures will be implemented to ensure that the proposed project does not have a significant impact on valley elderberry longhorn beetle.

- Avoid removal of elderberry shrubs.
- Elderberry shrubs/clusters within 100 feet of the construction area that will not be removed will be protected during construction. A qualified biologist (i.e., with elderberry/VELB experience) will mark the elderberry shrubs and clusters that will be protected during construction. Orange construction barrier fencing will be placed at the edge of the buffer areas. The buffer area distances will be proposed by the biologist and approved by USFWS. No construction activities will be permitted within the buffer zone other than those activities necessary to erect the fencing. Signs will be posted every 50 feet (15.2 meters) along the perimeter of the buffer area fencing. The signs will contain the following information: *This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment.*
- Buffer area fences around elderberry shrubs will be inspected weekly by a qualified biological monitor during ground-disturbing activities and monthly after ground-disturbing activities until project construction is complete or until the fences are removed, as approved by the biological monitor and the resident engineer. The biological monitor will be responsible for ensuring that the contractor maintains the buffer area fences around elderberry shrubs throughout construction. Biological inspection reports will be provided to the project proponent and USFWS.

BIO-5a: Implement best management practices to avoid and minimize effects on special-status amphibians

All project proponents will ensure that BMPs and other appropriate measures, in accordance with measures developed for the EACCS, be incorporated into the appropriate design and construction documents. *Implementation of some of these measures will require that the project proponent obtain incidental take permits from USFWS (California red-legged frog and California tiger salamander) and from CDFW (California tiger salamander only) before construction begins.*

Additional conservation measures or conditions of approval may be required in applicable project permits (e.g., ESA or CESA incidental take authorization). The applicant will comply with the State of California State Water Resources Control Board NPDES construction general requirements for stormwater.

- Ground-disturbing activities will be limited to dry weather between April 15 and October 31. No ground-disturbing work will occur during wet weather. Wet weather is defined as when there has been 0.25 inch of rain in a 24-hour period. Ground disturbing activities halted due to wet weather may resume when precipitation ceases and the National Weather Service 72-hour weather forecast indicates a 30% or less chance of precipitation. No ground-disturbing work will occur during a dry-out period of 48 hours after the above referenced wet weather.
- Where applicable, barrier fencing will be installed around the worksite to prevent amphibians from entering the work area. Barrier fencing will be removed within 72 hours of completion of work.
- Before construction begins, a qualified biologist will locate appropriate relocation areas and prepare a relocation plan for special-status amphibians that may need to be moved during construction. The proponent will submit this plan to USFWS and CDFW for approval a minimum of 2 weeks prior to the start of construction.
- A qualified biologist will conduct preconstruction surveys immediately prior to ground-disturbing activities (including equipment staging, vegetation removal, grading). The biologist will survey the work area and all suitable habitats within 300 feet of the work area. If individuals (including adults, juveniles, larvae, or eggs) are found, work will not begin until USFWS and/or CDFW is contacted to determine if moving these life-stages is appropriate. If relocation is deemed necessary, it will be conducted in accordance with the relocation plan. Incidental take permits are required for relocation of California tiger salamander (USFWS and CDFW) and California red-legged frog (USFWS). Relocation of western spadefoot and foothill yellow-legged frog requires a letter from CDFW authorizing this activity.
- No monofilament plastic will be used for erosion control.
- All project activity will terminate 30 minutes before sunset and will not resume until 30 minutes after sunrise during the migration/active season from November 1 to June 15. Sunrise and sunset times are established by the U.S. Naval Observatory Astronomical Applications Department for the geographic area where the project is located.
- Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel.
- Trenches or holes more than 6 inches deep will be provided with one or more escape ramps constructed of earth fill or wooden planks and will be inspected by a qualified biologist prior to being filled. Any such features that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Work will not continue until trapped animals have moved out of open trenches.
- Work crews or the onsite biological monitor will inspect open trenches, pits, and under construction equipment and material left onsite in the morning and evening to look for amphibians that may have become trapped or are seeking refuge.

- If special-status amphibians are found in the work area during construction and cannot or do not move offsite on their own, a qualified biologist who is USFWS and/or CDFW-approved under a biological opinion and/or incidental take permit for the specific project, will trap and move special-status amphibians in accordance with the relocation plan. Relocation of western spadefoot and foothill yellow-legged frog requires a letter permit from CDFW authorizing this activity.

BIO-5c: Restore disturbed annual grasslands

Within 30 days prior to any ground disturbance, a qualified biologist will prepare a Grassland Restoration Plan in coordination with CDFW and subject to CDFW approval, to ensure that temporarily disturbed annual grasslands and areas planned for the removal of permanent roads and turbine pad areas are restored to preproject conditions. The Grassland Restoration Plan will include but not be limited to the following measures.

- Gravel will be removed from areas proposed for grassland restoration.
- To the maximum extent feasible, topsoil will be salvaged from within onsite work areas prior to construction. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the restoration site.
- Where appropriate, restoration areas will be seeded (hydroseeding is acceptable) to ensure erosion control. Seed mixes will be tailored to closely match that of reference site(s) within the program area and should include native or naturalized, noninvasive species sourced within the project area or from the nearest available location.
- Reclaimed roads will be restored in such a way as to permanently prevent vehicular travel.

The plan will include a requirement to monitor restoration areas annually (between March and October) for up to 3 years following the year of restoration. The restoration will be considered successful when the percent cover for restored areas is 70% absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5% relative cover of the vegetation in the restoration areas will consist of invasive plant species rated as "high" in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures prescribed in the plan will include supplemental seeding, weed control, and other actions as determined necessary to achieve the long-term success criteria. Monitoring may be extended if necessary to achieve the success criteria or if drought conditions preclude restoration success. Other performance standards may also be required as they relate to special-status species habitat; these will be identified in coordination with CDFW and included in the plan. The project proponent will provide evidence that CDFW has reviewed and approved the Grassland Restoration Plan. Additionally, the project proponent will provide annual monitoring reports to the County by January 31 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary) during the previous year.

BIO-7a: Implement best management practices to avoid and minimize effects on special-status reptiles

Where suitable habitat for Blainville's horned lizard, Alameda whipsnake, or San Joaquin coachwhip is identified in proposed work areas, all project proponents will ensure that BMPs and other appropriate measures, in accordance with measures developed for the EACCS, be

incorporated into the appropriate design and construction documents. *Implementation of some of these measures will require that the project proponent obtain incidental take permits from USFWS and CDFW (Alameda whipsnake) before construction begins.* Additional conservation measures or conditions of approval may be required in applicable project permits (i.e., ESA incidental take permit).

- A qualified biologist will conduct preconstruction surveys immediately prior to ground-disturbing activities (e.g., equipment staging, vegetation removal, grading) associated with the program. If any Blainville's horned lizards, Alameda whipsnakes, or San Joaquin coachwhips are found, work will not begin until they are moved out of the work area to a USFWS- and/or CDFW-approved relocation site. Incidental take permits from USFWS and CDFW are required for relocation of Alameda whipsnake. Relocation of Blainville's horned lizard and San Joaquin coachwhip requires a letter from CDFW authorizing this activity.
- No monofilament plastic will be used for erosion control.
- Where applicable, barrier fencing will be used to exclude Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip. Barrier fencing will be removed within 72 hours of completion of work.
- Work crews or an onsite biological monitor will inspect open trenches and pits and under construction equipment and materials left onsite for special-status reptiles each morning and evening during construction.
- Ground disturbance in suitable habitat will be minimized.
- Vegetation within the proposed work area will be removed prior to grading. Prior to clearing and grubbing operations, a qualified biologist will clearly mark vegetation within the work area that will be avoided. Vegetation outside the work area will not be removed. Where possible hand tools (e.g., trimmer, chain saw) will be used to trim or remove vegetation. All vegetation removal will be monitored by the qualified biologist to minimize impacts on special-status reptiles.
- If special-status reptiles are found in the work area during construction and cannot or do not move offsite on their own, a qualified biologist who is USFWS- and/or CDFW-approved under an incidental take permit for the specific project will trap and move the animal(s) to a USFWS and/or CDFW-approved relocation area. Incidental take permits from USFWS and CDFW are required for relocation of Alameda whipsnake. Relocation of Blainville's horned lizard and San Joaquin coachwhip requires a letter from CDFW authorizing this activity.

BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non–special-status nesting birds

Where suitable habitat is present for raptors within 1 mile (within 2 miles for golden eagles) and for tree/shrub- and ground-nesting migratory birds (non-raptors) within 50 feet of proposed work areas, the following measures will be implemented to ensure that the proposed project does not have a significant impact on nesting special-status and non–special-status birds.

- Remove suitable nesting habitat (shrubs and trees) during the non-breeding season (typically September 1–January 31) for nesting birds.
- To the extent feasible, avoid construction activities in or near suitable or occupied nesting habitat during the breeding season of birds (generally February 1–August 31).

- If construction activities (including vegetation removal, clearing, and grading) will occur during the nesting season for migratory birds, a qualified biologist will conduct preconstruction nesting bird surveys within 7 days prior to construction activities. The construction area and a 1-mile buffer will be surveyed for tree-nesting raptors (except for golden eagles), and a 50-foot buffer will be surveyed for all other bird species.
- Surveys to locate eagle nests within 2 miles of construction will be conducted during the breeding season prior to construction. A 1-mile no-disturbance buffer will be implemented for construction activities to protect nesting eagles from disturbance. Through coordination with USFWS, the no-disturbance buffer may be reduced to 0.5 mile if construction activities are not within line-of-sight of the nest.
- If an active nest (other than golden eagle) is identified near a proposed work area and work cannot be conducted outside the nesting season (February 1–August 31), a no-activity zone will be established around the nest by a qualified biologist in coordination with USFWS and/or CDFW. Fencing and/or flagging will be used to delineate the no-activity zone. To minimize the potential to affect the reproductive success of the nesting pair, the extent of the no-activity zone will be based on the distance of the activity to the nest, the type and extent of the proposed activity, the duration and timing of the activity, the sensitivity and habituation of the species, and the dissimilarity of the proposed activity to background activities. The no-activity zone will be large enough to avoid nest abandonment and will be between 50 feet and 1 mile from the nest, or as otherwise required by USFWS and/or CDFW.

BIO-8b: Implement measures to avoid and minimize potential impacts on western burrowing owl

Where suitable habitat for western burrowing owl is in or within 500 feet of proposed work areas, the following measures will be implemented to avoid or minimize potential adverse impacts on burrowing owls.

- To the maximum extent feasible (e.g., where the construction footprint can be modified), construction activities within 500 feet of active burrowing owl burrows will be avoided during the nesting season (February 1–August 31).
- A qualified biologist will conduct preconstruction take avoidance surveys for burrowing owl no less than 14 days prior to and within 24 hours of initiating ground-disturbing activities. The survey area will encompass the work area and a 500-foot buffer around this area.
- If an active burrow is identified near a proposed work area and work cannot be conducted outside the nesting season (February 1–August 31), a no-activity zone will be established by a qualified biologist in coordination with CDFW. The no-activity zone will be large enough to avoid nest abandonment and will extend a minimum of 250 feet around the burrow.
- If burrowing owls are present at the site during the non-breeding season (September 1–January 31), a qualified biologist will establish a no-activity zone that extends a minimum of 150 feet around the burrow.
- If the designated no-activity zone for either breeding or non-breeding burrowing owls cannot be established, a wildlife biologist experienced in burrowing owl behavior will evaluate site-specific conditions and, in coordination with CDFW, recommend a smaller buffer (if possible) and/or other measure that still minimizes disturbance of the owls (while allowing reproductive success during the breeding season). The site-specific buffer (and/or

other measure) will consider the type and extent of the proposed activity occurring near the occupied burrow, the duration and timing of the activity, the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity to background activities.

- If burrowing owls are present in the direct disturbance area and cannot be avoided during the non-breeding season (generally September 1 through January 31), burrowing owls may be excluded from burrows through the installation of one-way doors at burrow entrances. A burrowing owl exclusion plan, prepared by the project proponent, must be approved by CDFW prior to exclusion of owls. One-way doors (e.g., modified dryer vents or other CDFW-approved method) will be left in place for a minimum of 1 week and monitored daily to ensure that the owl(s) have left the burrow(s). Excavation of the burrow will be conducted using hand tools. During excavation of the burrow, a section of flexible plastic pipe (at least 3 inches in diameter) will be inserted into the burrow tunnel to maintain an escape route for any animals that may be inside the burrow. Owls will be excluded from their burrows as a last resort and only if other avoidance and minimization measures cannot be implemented.
- Avoid destruction of unoccupied burrows outside the work area and place visible markers near burrows to ensure that they are not collapsed.
- Conduct ongoing surveillance of the project site for burrowing owls during project activities. If additional owls are observed using burrows within 500 feet of construction, the onsite biological monitor will determine, in coordination with CDFW, if the owl(s) are or would be affected by construction activities and if additional exclusion zones are required.

BIO-10a: Implement measures to avoid and minimize potential impacts on San Joaquin kit fox and American badger

Where suitable habitat is present for San Joaquin fit fox and American badger in and adjacent to proposed work areas, the following measures, consistent with measures developed in the EACCS, will be implemented to ensure that proposed projects do not have a significant impact on San Joaquin kit fox or American badger. *Implementation of some of these measures will require that the project proponent obtain incidental take permits from USFWS and CDFW (San Joaquin kit fox) before construction begins.* Implementation of state and federal requirements contained in such authorization may constitute compliance with corresponding measures in this PEIR..

- To the maximum extent feasible, suitable dens for San Joaquin kit fox and American badger will be avoided.
- All project proponents will retain qualified approved biologists (as determined by USFWS) to conduct a preconstruction survey for potential San Joaquin kit fox dens (U.S. Fish and Wildlife Service 2011). Resumes of biologists will be submitted to USFWS for review and approval prior to the start of the survey.
- Preconstruction surveys for American badgers will be conducted in conjunction with San Joaquin kit fox preconstruction surveys.
- As described in U.S. Fish and Wildlife Service 2011, the preconstruction survey will be conducted no less than 14 days and no more than 30 days before the beginning of ground disturbance, or any activity likely to affect San Joaquin kit fox. The biologists will conduct den searches by systematically walking transects through the project area and a buffer area to be determined in coordination with USFWS and CDFW. Transect distance should be based on the height of vegetation such that 100% visual coverage of the project area is achieved. If

a potential or known den is found during the survey, the biologist will measure the size of the den, evaluate the shape of the den entrances, and note tracks, scat, prey remains, and recent excavations at the den site. The biologists will also determine the status of the dens and map the features. Dens will be classified in one of the following four den status categories defined by USFWS (U.S. Fish and Wildlife Service 2011).

- Potential den: Any subterranean hole within the species' range that has entrances of appropriate dimensions and for which available evidence is sufficient to conclude that it is being used or has been used by a kit fox. Potential dens include (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, ground squirrel) that otherwise has appropriate characteristics for kit fox use; or an artificial structure that otherwise has appropriate characteristics for kit fox use.
- Known den: Any existing natural den or artificial structure that is used or has been used at any time in the past by a San Joaquin kit fox. Evidence of use may include historical records; past or current radiotelemetry or spotlighting data; kit fox sign such as tracks, scat, and/or prey remains; or other reasonable proof that a given den is being or has been used by a kit fox (USFWS discourages use of the terms *active* and *inactive* when referring to any kit fox den because a great percentage of occupied dens show no evidence of use, and because kit foxes change dens often, with the result that the status of a given den may change frequently and abruptly).
- Known natal or pupping den: Any den that is used, or has been used at any time in the past, by kit foxes to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt or vegetation at one or more entrances. A natal den, defined as a den in which kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two; therefore, for purposes of this definition either term applies.
- Known atypical den: Any artificial structure that has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings.

Written results of the survey including the locations of any potential or known San Joaquin kit fox dens will be submitted to USFWS within 5 days following completion of the survey and prior to the start of ground disturbance or construction activities.

- After preconstruction den searches and before the commencement of repowering activities, exclusion zones will be established as measured in a radius outward from the entrance or cluster of entrances of each den. Repowering activities will be prohibited or greatly restricted within these exclusion zones. Only essential vehicular operation on existing roads and foot traffic will be permitted. All other repowering activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited in the exclusion zones. Barrier fencing will be removed within 72 hours of completion of work. Exclusion zones will be established using the following parameters.
  - Potential and atypical dens: A total of four or five flagged stakes will be placed 50 feet from the den entrance to identify the den location.

  - Known den: Orange construction barrier fencing will be installed between the work area and the known den site at a minimum distance of 100 feet from the den. The fencing will be maintained until construction-related disturbances have ceased. At that time, all fencing will be removed to avoid attracting subsequent attention to the den.
  - Natal/pupping den: USFWS will be contacted immediately if a natal or pupping den is discovered in or within 200 feet of the work area.
- Any occupied or potentially occupied badger den will be avoided by establishing an exclusion zone consistent with a San Joaquin kit fox potential burrow (i.e., four or five flagged stakes will be placed 50 feet from the den entrance).
- In cases where avoidance is not a reasonable alternative, limited destruction of potential San Joaquin kit fox dens may be allowed as follows.
  - Natal/pupping dens: Natal or pupping dens that are occupied will not be destroyed until the adults and pups have vacated the dens and then only after consultation with USFWS. Removal of natal/pupping dens requires incidental take authorization from USFWS and CDFW.
  - Known dens: Known dens within the footprint of the activity must be monitored for 3 days with tracking medium or an infrared camera to determine current use. If no kit fox activity is observed during this period, the den should be destroyed immediately to preclude subsequent use. If kit fox activity is observed during this period, the den will be monitored for at least 5 consecutive days from the time of observation to allow any resident animal to move to another den during its normal activity. Use of the den can be discouraged by partially plugging its entrance(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied will the den be excavated under the direction of a biologist. If the fox is still present after 5 or more consecutive days of monitoring, the den may be excavated when, in the judgment of the biologist, it is temporarily vacant, such as during the fox's normal foraging activities. Removal of known dens requires incidental take authorization from USFWS and CDFW.
  - Potential dens: If incidental take permits have been received (from USFWS and CDFW), potential dens can be removed (preferably by hand excavation) by biologist or under the supervision of a biologist without monitoring, unless other restrictions were issued with the incidental take permits. If no take authorizations have been issued, the potential dens will be monitored as if they are known dens. If any den was considered a potential den but was later determined during monitoring or destruction to be currently or previously used by kit foxes (e.g., kit fox sign is found inside), then all construction activities will cease and USFWS and CDFW will be notified immediately.
- Nighttime work will be minimized to the extent possible. The vehicular speed limit will be reduced to 10 miles per hour during nighttime work.
- Pipes, culverts, and similar materials greater than 4 inches in diameter will be stored so as to prevent wildlife species from using these as temporary refuges, and these materials will be inspected each morning for the presence of animals prior to being moved.
- A representative appointed by the project proponent will be the contact for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured, or

entrapped kit fox. The representative will be identified during environmental sensitivity training (Mitigation Measure BIO-1b) and his/her name and phone number will be provided to USFWS and CDFW. Upon such incident or finding, the representative will immediately contact USFWS and CDFW.

- The Sacramento USFWS office and CDFW will be notified in writing within 3 working days of the accidental death or injury of a San Joaquin kit fox during project-related activities. Notification must include the date, time, and location of the incident, and any other pertinent information.

BIO-11b: Site turbines to minimize potential mortality of birds

For the text of Mitigation Measure BIO-11b, please refer to the discussion of Impact BIO-11c above.

BIO-11c: Use turbine designs that reduce avian impacts

For the text of Mitigation Measure BIO-11c, please refer to the discussion of Impact BIO-11c above.

BIO-11d: Incorporate avian-safe practices into design of turbine-related infrastructure

For the text of Mitigation Measure BIO-11d, please refer to the discussion of Impact BIO-11c above.

BIO-11e: Retrofit existing infrastructure to minimize risk to raptors

For the text of Mitigation Measure BIO-11e, please refer to the discussion of Impact BIO-11c above.

BIO-11i: Implement an avian adaptive management program

For the text of Mitigation Measure BIO-11i, please refer to the discussion of Impact BIO-11c above.

BIO-12a: Conduct bat roost surveys

Prior to development of any repowering project, a qualified bat biologist will conduct a roost habitat assessment to identify potential colonial roost sites of special-status and common bat species within 750 feet of the construction area. If suitable roost sites are to be removed or otherwise affected by the proposed project, the bat biologist will conduct targeted roost surveys of all identified sites that would be affected. Because bat activity is highly variable (both spatially and temporally) across the landscape and may move unpredictably among several roosts, several separate survey visits may be required. Surveys will be repeated at different times of year if deemed necessary by the bat biologist to determine the presence of seasonally active roosts (hibernacula, migratory stopovers, maternity roosts).Appropriate field methods will be employed to determine the species, type, and vulnerability of the roost to construction disturbance. Methods will follow best practices for roost surveys such that species are not disturbed and adequate temporal and spatial coverage is provided to increase likelihood of detection.

Roost surveys may consist of both daylight surveys for signs of bat use and evening/night visit(s) to conduct emergence surveys or evaluate the status of night roosts. Survey timing should be adequate to account for individual bats or species that might not emerge until well after dark.

Methods and approaches for determining roost occupancy status should include a combination of the following components as the biologist deems necessary for the particular roost site.

- Passive and/or active acoustic monitoring to assist with species identification.
- Guano traps to determine activity status.
- Night-vision equipment.
- Passive infrared camera traps.

At the completion of the roost surveys, a report will be prepared documenting areas surveyed, methods, results, and mapping of high-quality habitat or confirmed roost locations.

BIO-12b: Avoid removing or disturbing bat roosts

Active bat roosts will not be disturbed, and will be provided a minimum buffer of 500 feet where preexisting disturbance is moderate or 750 feet where preexisting disturbance is minimal. Confirmation of buffer distances and determination of the need for a biological monitor for active maternity roosts or hibernacula will be obtained in consultation with CDFW. At a minimum, when an active maternity roost or hibernaculum is present within 750 feet of a construction site, a qualified biologist will conduct an initial assessment of the roost response to construction activities and will recommend buffer expansion if there are signs of disturbance from the roost.

- Structures (natural or artificial) showing evidence of significant bat use within the past year will be left in place as habitat wherever feasible. Should such a structure need to be removed or disturbed, CDFW will be consulted to determine appropriate buffers, timing and methods, and compensatory mitigation for the loss of the roost.
- All project proponents will provide environmental awareness training to construction personnel, establish buffers, and initiate consultation with CDFW if needed.
- Artificial night lighting within 500 feet of any roost will be shielded and angled such that bats may enter and exit the roost without artificial illumination and the roost does not receive artificial exposure to visual predators.
- Tree and vegetation removal will be conducted outside the maternity season (April 1–September 15) to avoid disturbance of maternity groups of foliage-roosting bats.
- If a maternity roost or hibernaculum is present within 500 feet of the construction site where preexisting disturbance is moderate or within 750 feet where preexisting disturbance is minimal, a qualified biological monitor will be onsite during groundbreaking activities.

BIO-14a: Site and select turbines to minimize potential mortality of bats

For the text of Mitigation Measure BIO-14a, please refer to the discussion of Impact BIO-14c above.

BIO-14d: Develop and implement a bat adaptive management plan

For the text of Mitigation Measure BIO-14d, please refer to the discussion of Impact BIO-14c above.

Remaining Impacts: Remaining impacts related to the project impacts on the movement of any native resident or migratory wildlife species or established native resident or migratory wildlife corridors, and the use of native wildlife nursery sites will be significant and unavoidable.

Overriding Considerations: As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are environmental, economic, or other benefits of the approved project that override the remaining significant and unavoidable impacts on biological resources. There are no other feasible mitigation measures, or changes to the project that would reduce this impact to a less-than-significant level.

Findings and Recommendations Regarding Significant Impacts that are Mitigated to a Less-Than-Significant Level

Aesthetics

Impact AES-1c: Temporary visual impacts caused by construction activities—Patterson Pass Project

Potential Impact: Construction of the Patterson Pass Project is expected to last approximately 6–9 months. Construction activities would create views of heavy equipment and associated vehicles (see Section 2.6.3, *Repowering Activities* of the PEIR), and storage areas into the viewshed of an Alameda County–designated scenic route. In addition, high-voltage lighting used for nighttime construction would negatively affect nighttime views of and from the work area and could be a nuisance to nearby residents, who are considered to have high visual sensitivity. Motorists along the County-designated scenic route, nearby residences, recreationists using the recreation areas and trails, and employees of nearby businesses would be the principal viewer groups. Construction impacts would be temporary and short-term, and decommissioning and construction activities would occur in a manner consistent with Alameda County requirements for work days and hours.

Mitigation Measure: The following mitigation measure, discussed in the PEIR at page 3.1-13, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

AES-1: Limit construction to daylight hours.

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure AES-1 will ensure that the impacts associated with temporary visual impacts during construction will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

AES-1: Limit construction to daylight hours.

Major construction activities will not be undertaken between sunset and sunrise or on weekends. Construction activity is specifically prohibited from using high-wattage lighting sources to illuminate work sites after sunset and before sunrise, with the exception of nighttime deliveries under the approved transportation control plan or other construction activities that require nighttime work for safety considerations.

Remaining Impacts: Any remaining impact associated with temporary visual impacts during construction will be less than significant.

Impact AES-4c: Substantially degrade the existing visual character or quality of the site and its surroundings—Patterson Pass Project

Potential Impact: The Patterson Pass Project would be primarily visible to motorists along Patterson Pass Road and employees of nearby businesses (see *Vicinity Character* in section 3.1.2 of the PEIR for details). As discussed in *Existing Viewer Groups and Viewer Responses* in section 3.1.2 of the PEIR, motorists are considered to have moderate visual sensitivity, and employees of businesses are considered to have low visual sensitivity.

The Patterson Pass Project vicinity is characterized by grassy, rolling hills with strings of turbines, transmission lines, and access roads. There are 317 turbines and associated infrastructure in the Patterson Pass project area. The Patterson Pass Project would remove the existing turbines and would construct 8–12 turbines and associated foundations and infrastructure on the site, as described in PEIR Section 2.6.2, *Patterson Pass Project*. Although the new, more efficient turbines are larger than the existing turbines, the new widely spaced configuration detracts less from the natural landscape than the existing string configuration. Refer to Figure 3.1-6of the PEIR for a representative simulation. This configuration allows for views of the rolling, grassy terrain to become more prominent, back-dropped against the sky, and less interrupted by anthropogenic features. While the larger turbines would draw viewers' attention toward them, the eye is also able to follow the ridgeline of the hills in a more cohesive manner than existing conditions. With existing conditions, the eye is drawn to and focused on the numerous turbines that clutter the view by sticking up and across the hillsides and ridgelines.

For these reasons, the Patterson Pass Project would not substantially degrade the existing visual character or quality of the Patterson Pass Project site or surrounding area and would improve views because the existing turbine threads would be replaced with much fewer of the new larger turbines. In addition, although Patterson Pass Road is a County-designated scenic route, motorists on this road are accustomed to the existing turbines along the route, and there are no other sensitive viewers in the Patterson Pass Project vicinity.

According to Policy 170 of the ECAP, Alameda County is obligated to protect nearby existing uses from potential visual and other impacts generated by the construction and operation of windfarm facilities. Since there residences in the vicinity that would have views of the site, constructing turbines on this site would conflict with Policy 170.

Mitigation Measures: The following mitigation measures, discussed in Section 3.1.3 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

AES-2a: Require site development review

AES-2b: Maintain site free of debris and restore abandoned roadways

AES-2c: Screen surplus parts and materials

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures AES-2a, AES-2b, AES-2c, and AES-3 will ensure that the impacts associated with degrading the existing visual character or quality of the site and its surroundings will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

AES-2a: Require site development review

New turbines along ridgelines or hilltops that have not previously been developed with commercial-scale wind turbines will not be allowed, unless a separate Site Development Review is completed that determines that the visual effects will be substantially avoided by distance from public view points (e.g., more than 2,000 feet), intervening terrain, screening landscaping, or compensatory improvements to equivalent and nearby (radius of 1 mile) scenic features, as approved by the Planning Director.

AES-2b: Maintain site free of debris and restore abandoned roadways

Project sites will be cleaned of all derelict equipment, wind turbine components not required for the project, and litter and debris from old turbines and past turbine operations. Such litter and debris may include derelict turbines, obsolete anemometers, unused electrical poles, and broken turbine blades. In addition, abandoned roads that are no longer in use on such parcels will be restored and hydroseeded to reclaim the sites and remove their visual traces from the viewscape, except in cases where the resource agencies (USFWS and CDFW) recommend that the features be left in place for resource protection. All parcels with new turbines will be maintained in such a manner through the life of project operations and until the parcels are reclaimed in accordance with the approved reclamation plan.

AES-2c: Screen surplus parts and materials

Surplus parts and materials that are kept onsite will be maintained in a neat and orderly fashion and screened from view. This can be accomplished by using a weatherproof camouflage material that can be draped over surplus parts and materials stockpiles. Draping materials will be changed out to accommodate for seasonal variations so that surplus materials are camouflaged in an effective manner when grasses are both green and brown.

Remaining Impacts: Any remaining impact associated with visual character will be less than significant.

Impact AES-5c: Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area—Patterson Pass Project

Potential Impact: The Patterson Pass Project would require FAA lighting. Implementation of the Patterson Pass Project would reduce glare because there would be far fewer turbines on the site, but the larger, bright white surfaces typical of turbines would have the potential to increase glare. This

impact would be potentially significant, but as stated in the project description, the color of towers and rotors on the new turbines would be neutral and nonreflective (e.g., dull white or light gray). Blade rotation could cause shadow flicker that could be a visual intrusion to viewers and could be especially disruptive to residents who would be exposed to these conditions for long periods of time. As shown in Table 2-2 of the PEIR, Alameda County has developed setback requirements for siting turbines in relation to certain types of land uses, and turbines would not be allowed to be located within these setback distances. However, these setbacks may not be sufficient to prevent shadow flicker with the new, taller turbines.

Mitigation Measure: The following mitigation measure, discussed in Section 3.1.3 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

AES-5: Analyze shadow flicker distance and mitigate effects or incorporate changes into project design to address shadow flicker

Findings: Based on the PEIR and the entire record before the County, the County finds the following

Effects of Mitigation: Implementation of the mitigation recommended by Mitigation Measure AES-5 will ensure that the impacts associated with new sources of substantial light and glare will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

AES-5: Analyze shadow flicker distance and mitigate effects or incorporate changes into project design to address shadow flicker

Where shadow flicker could result from the installation of wind turbines proposed near residences (i.e., within 500 meters [1,640 feet] in a generally east or west direction to account for seasonal variations), the project applicant will prepare a graphic model and study to evaluate shadow flicker impacts on nearby residences. No shadow flicker in excess of 30 minutes in a given day or 30 hours in a given year will be permitted. If it is determined that existing setback requirements as established by the County are not sufficient to prevent shadow flicker impacts on residences, Alameda County will require an increase in the required setback distances to ensure that residences are not affected. If any residence is affected by shadow flicker within the 30-minute/30-hour thresholds, the applicant will implement measures to minimize the effect, such as relocating the turbine; providing opaque window coverings, window awnings, landscape buffers, or a combination of these features to reduce flicker to acceptable limits for the affected receptor; or shutting down the turbine during the period shadow flicker would occur. Such measures may be undertaken in consultation with owner of the affected residence. If the shadow flicker study indicates that any given turbine would result in shadow flicker exceeding the 30-minute/30-hour thresholds and the property owner is not amenable to window coverings, window awnings, or landscaping and the turbine cannot be shut down during the period of shadow flicker, then the turbine will be relocated to reduce the effect to acceptable limits.

Remaining Impacts: Any remaining impact associated with new sources of light or glare will be less than significant.

Impact AES-6c: Consistency with state and local policies—Patterson Pass Project

Potential Impact: Under the Patterson Pass Project, the County would be obligated to comply with measures set forth to protect visual resources along scenic roadways and open space areas identified for protection, as detailed in the Scenic Route and Open Space Elements of the Alameda County General Plan (Alameda County 1966). In addition, the County is obligated to comply with measures set forth in the ECAP to protect visual resources such as sensitive viewsheds, streets and highways, scenic highways, and areas affected by windfarms (Alameda County 2000). The turbines would be neutral and nonreflective (e.g., dull white or light gray) so as to blend with the surroundings. However, the proposed project would still introduce large, visually obtrusive turbines within existing viewsheds of scenic viewsheds in proximity to sensitive viewers and residences.

Mitigation Measures: The following mitigation measures, discussed in Section 3.1.3 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

AES-2a: Require site development review

AES-2b: Maintain site free of debris and restore abandoned roadways

AES-2c: Screen surplus parts and materials

AES-3: Do not construct turbines on the undeveloped portion of the Golden Hills project area along Flynn Road

AES-5: Analyze shadow flicker distance and mitigate effects or incorporate changes into project design to address shadow flicker

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures AES-2a, AES-2b, AES-2c, AES-3, and AES-5 will ensure that the impacts associated with new sources of substantial light and glare will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

AES-2a: Require site development review

New turbines along ridgelines or hilltops that have not previously been developed with commercial-scale wind turbines will not be allowed, unless a separate Site Development Review is completed that determines that the visual effects will be substantially avoided by distance from public view points (e.g., more than 2,000 feet), intervening terrain, screening landscaping, or compensatory improvements to equivalent and nearby (radius of 1 mile) scenic features, as approved by the Planning Director.

AES-2b: Maintain site free of debris and restore abandoned roadways

Project sites will be cleaned of all derelict equipment, wind turbine components not required for the project, and litter and debris from old turbines and past turbine operations. Such litter and debris may include derelict turbines, obsolete anemometers, unused electrical poles, and broken turbine blades. In addition, abandoned roads that are no longer in use on such parcels will be restored and hydroseeded to reclaim the sites and remove their visual traces from the

viewscape, except in cases where the resource agencies (USFWS and CDFW) recommend that the features be left in place for resource protection. All parcels with new turbines will be maintained in such a manner through the life of project operations and until the parcels are reclaimed in accordance with the approved reclamation plan.

AES-2c: Screen surplus parts and materials

Surplus parts and materials that are kept onsite will be maintained in a neat and orderly fashion and screened from view. This can be accomplished by using a weatherproof camouflage material that can be draped over surplus parts and materials stockpiles. Draping materials will be changed out to accommodate for seasonal variations so that surplus materials are camouflaged in an effective manner when grasses are both green and brown.

AES-3: Do not construct turbines on the undeveloped portion of the Golden Hills project area along Flynn Road

In order to comply with Policy 170 of Alameda County's *East County Area Plan*, and to prevent significant impacts on visual character, no turbines will be located on the undeveloped portion of the Golden Hills project area along Flynn Road (Figure 3.1-2).

AES-5: Analyze shadow flicker distance and mitigate effects or incorporate changes into project design to address shadow flicker

For the text of Mitigation Measure AES-5, please refer to the discussion of Impact AES-5c above.

Remaining Impacts: Any remaining impact associated with consistency with state and local polices will be less than significant.

Air Quality

Impact AQ-4c: Expose sensitive receptors to substantial pollutant concentrations—Patterson Pass Project

Potential Impact: Construction activities would generate air pollutant emissions, including equipment exhaust emissions and suspended and inhalable PM. However, construction activities would occur over a relatively short period of approximately 4 years, and associated emissions would be spatially dispersed over the approximately 945-acre project area. The emissions modeling shows that a majority of DPM exhaust emissions (PM10 and PM2.5) are associated with turbine foundations and batch plant and offsite truck trips. The cement batch plants, which represent a stationary source of emissions, would not likely be located at the Patterson Pass Project area boundary. As such, the distance from the batch plants to the nearest sensitive receptors would likely be greater than 4,500 feet. Regarding offsite truck trips, these would be transitory and would occur on multiple roads over a widespread area, thereby helping to disperse toxic pollutants and minimize exposure.

Mitigation Measures: The following mitigation measures, discussed in in Section 3.3.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

AQ-2a: Reduce construction-related air pollutant emissions by implementing applicable BAAQMD Basic Construction Mitigation Measures

AQ-2b: Reduce construction-related air pollutant emissions by implementing measures based on BAAQMD's Additional Construction Mitigation Measures

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures AQ-2a and AQ-2b will ensure that the impacts associated with the exposure of sensitive receptors to substantial pollutant concentrations will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

AQ-2a: Reduce construction-related air pollutant emissions by implementing applicable BAAQMD Basic Construction Mitigation Measures

The project proponents will require all contractors to comply with the following requirements for all areas with active construction activities.

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered as needed to maintain dust control onsite—approximately two times per day.
- All haul trucks transporting soil, sand, or other loose material offsite will be covered.
- All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads will be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved will be completed as soon as possible. Building pads will be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage will be provided for construction workers at all access points.
- All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications. All equipment will be checked by a certified visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person will respond and take corrective action within 48 hours. The air district's phone number will also be visible to ensure compliance with applicable regulations.

AQ-2b: Reduce construction-related air pollutant emissions by implementing measures based on BAAQMD's Additional Construction Mitigation Measures

The project proponents will require all contractors to comply with the following requirements for all areas with active construction activities.

- During construction activities, all exposed surfaces will be watered at a frequency adequate to meet and maintain fugitive dust control requirements of all relevant air quality management entities.
- All excavation, grading, and/or demolition activities will be suspended when average wind speeds exceed 20 mph, as measured at the Livermore Municipal Airport.
- Wind breaks (e.g., trees, fences) will be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50% air porosity.
- Vegetative ground cover (e.g., fast-germinating native grass seed) will be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- If feasible and practicable, the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time will be limited.
- Construction vehicles and machinery, including their tires, will be cleaned prior to leaving the construction area to remove vegetation and soil. Cleaning stations will be established at the perimeter of the construction area.
- Site accesses to a distance of 100 feet from the paved road will be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
- Sandbags or other erosion control measures will be installed to prevent silt runoff to public roadways from sites with a slope greater than 1%.
- The idling time of diesel powered construction equipment will be minimized to 2 minutes.
- The project will develop a plan demonstrating that the offroad equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20% NOX reduction and 45% PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
- Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
- All construction equipment, diesel trucks, and generators will be equipped with BACT for emission reductions of NOX and PM.
- All contractors will use equipment that meets ARB's most recent certification standard for offroad heavy duty diesel engines.

Remaining Impacts: Any remaining impact associated with exposure of sensitive receptors to pollutant concentrations will be less than significant.

Biological Resources

Impact BIO-1c: Potential for ground-disturbing activities to result in adverse effects on special-status plants or habitat occupied by special-status plants—Patterson Pass Project

Potential Impact: Ground-disturbing activities associated with the Patterson Pass Project could result in adverse effects on special-status plants or their habitat. Direct effects include those effects where plants may be removed, damaged, or crushed (seedlings) by ground-disturbing activities, the movement or parking of vehicles, and/or the placement of equipment and supplies. Ground disturbance can kill or damage mature individuals or eliminate their habitat. Excavation alters soil properties and may create conditions unsuitable for the growth of some species or favor their replacement by other species. The roots of shrubs and other perennial species are susceptible to damage from soil compaction by equipment or construction materials. Possible indirect effects on plants could result from erosion that degrades habitat or accidental ignition of a fire that damages or kills individuals.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1a: Conduct surveys to determine the presence or absence of special-status plant species

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1c: Avoid and minimize impacts on special-status plant species by establishing activity exclusion zones

BIO-1d: Compensate for impacts on special-status plant species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1a, BIO-1b, BIO-1c, BIO-1d, and BIO-1e will ensure that the impacts associated with the potential for ground-disturbing activities to result in adverse effects on special-status plants or habitat occupied by special-status plants will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1a: Conduct surveys to determine the presence or absence of special-status plant species

Project proponents will conduct surveys for the special-status plant species within and adjacent to all project sites. All surveys will be conducted by qualified biologists in accordance with the appropriate protocols.

Special-status plant surveys will be conducted in accordance with *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (California Department of Fish and Game 2009) during the season that special-status plant species would be evident and identifiable—i.e., during their blooming season. No more than 3 years prior to ground-disturbing repowering activities and during the appropriate identification periods for special-status plants (Table 3.4-4), a qualified biologist (as determined by Alameda County) will conduct field surveys within decommissioning work areas, proposed construction areas, and the immediately adjacent areas to determine the presence of habitat for special-status plant species. The project proponent will submit a report documenting the survey results to Alameda County for review and approval prior to conducting any repowering activities. The report will include the location and description of all proposed work areas, the location and description of all suitable habitat for special-status plant species, and the location and description of other sensitive habitats (e.g., vernal pools, wetlands, riparian areas). Additionally, the report will outline where additional species and/or habitat-specific mitigation measures are required. This report will provide the basis for any applicable permit applications where incidental take of listed species may occur.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19c above.

BIO-1c: Avoid and minimize impacts on special-status plant species by establishing activity exclusion zones

Where surveys determine that a special-status plant species is present in or adjacent to a project area, direct and indirect impacts of the project on the species will be avoided through the establishment of activity exclusion zones, within which no ground-disturbing activities will take place, including construction of new facilities, construction staging, or other temporary work areas. Activity exclusion zones for special-status plant species will be established around each occupied habitat site, the boundaries of which will be clearly marked with standard orange plastic construction exclusion fencing or its equivalent. The establishment of activity exclusion zones will not be required if no construction-related disturbances will occur within 250 feet of the occupied habitat. The size of activity exclusion zones may be reduced through consultation with a qualified biologist and with concurrence from CDFW based on site-specific conditions.

BIO-1d: Compensate for impacts on special-status plant species

All project proponents will avoid or minimize temporary and permanent impacts on special-status plants that occur on project sites and will compensate for impacts on special-status plant species. Although all impacts on large-flowered fiddleneck, diamond-petaled California poppy, and caper-fruited tropidocarpum will be avoided, impacts on other special-status plant species will be avoided to the extent feasible, and any unavoidable impacts will be addressed through compensatory mitigation.

Where avoidance of impacts on a special-status plant species is infeasible, loss of individuals or occupied habitat of a special-status plant species occurrence will be compensated for through the acquisition, protection, and subsequent management in perpetuity of other existing

occurrences at a 2:1 ratio (occurrences impacted: occurrences preserved). The project proponent will provide detailed information to the County and CDFW on the location of the preserved occurrences, quality of the preserved habitat, feasibility of protecting and managing the areas in-perpetuity, responsibility parties, and other pertinent information. If suitable occurrences of a special-status plant species are not available for preservation, then the project will be redesigned to remove features that would result in impacts on that species.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1e, please refer to the discussion of Impact BIO-19c above.

Remaining Impacts: Any remaining impact associated with special-status plants will be less than significant.

Impact BIO-2c: Adverse effects on special-status plants and natural communities resulting from the introduction and spread of invasive plant species—Patterson Pass Project

Potential Impact: Construction activities have the potential to facilitate the introduction and spread of invasive nonnative plant species by removing vegetation and disturbing soils. Invasive species compete with native species for resources and can alter natural communities by influencing fire regimes, hydrology (e.g., sedimentation and erosion), light availability, nutrient cycling, and soil chemistry. Invasive species also have the potential to harm human health and the economy by adversely affecting natural ecosystems, recreation, agricultural lands, and developed areas.

Mitigation Measure: The following mitigation measures, discussed in Section 3.4.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-2: Prevent introduction, spread, and establishment of invasive plant species

BIO-5c: Restore disturbed annual grasslands

WQ-1: Comply with NPDES requirements

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-2, BIO-5c, and WQ-1 will ensure that the impacts associated with the potential for the introduction and spread of invasive plant species to result in adverse effects on special-status plants or habitat occupied by special-status plants will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19c above.

BIO-2: Prevent introduction, spread, and establishment of invasive plant species

To avoid and minimize the introduction and spread of invasive nonnative plant species, all project proponents will implement the following BMPs.

- Construction vehicles and machinery will be cleaned prior to entering the construction area. Cleaning stations will be established at the perimeter of the construction area along all construction routes or immediately offsite.
- Vehicles will be washed only at approved areas. No washing of vehicles will occur at job sites.
- To discourage the introduction and establishment of invasive plant species, seed mixtures and straw used within natural vegetation will be either rice straw or weed-free straw, as allowed by state and federal regulation of stormwater runoff.

In addition, the project proponents will prepare and implement erosion and sediment control plans to control short-term and long-term erosion and sedimentation effects and to restore soils and vegetation in areas affected by construction activities (Mitigation Measures BIO-1b and WQ-1) . Prior to initiating any construction activities that will result in temporary impacts on natural communities, a restoration and monitoring plan will be developed for temporarily affected habitats in each project area (Mitigation Measure BIO-5c). Restoration and monitoring plans will be submitted to the County and CDFW for approval. These plans will include methods for restoring soil conditions and revegetating disturbed areas, seed mixes, monitoring and maintenance schedules, adaptive management strategies, reporting requirements, and success criteria. Following completion of project construction, the project proponents will implement the revegetation plans to restore areas disturbed by project activities to a condition of equal or greater habitat function than occurred prior to the disturbance.

Mitigation Measure BIO-5c: Restore disturbed annual grasslands

For the text of Mitigation Measure BIO-5c, please refer to the discussion of Impact BIO-19c above.

WQ-1: Comply with NPDES requirements

Project contractors will obtain coverage under the General Construction Permit before the onset of any construction activities, because all projects will entail disturbance of 1 acre or more. A SWPPP will be developed by a qualified engineer or erosion control specialist in accordance with the appropriate Board's requirements for NPDES compliance and implemented prior to the issuance of any grading permit before construction. The SWPPP will be kept onsite during construction activity and will be made available upon request to representatives of the Regional Water Boards.

Compliance and coverage with the *Storm Water Management Program* and General Construction Permit will require controls of pollutant discharges that utilize BMPs and technology to reduce

erosion and sediments to meet water quality standards. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater and other nonpoint-source runoff. Measures range from source control, such as reduced surface disturbance, to the treatment of polluted runoff, such as detention basins.

BMPs to be implemented as part of the *Storm Water Management Program* and General Construction Permit (and SWPPP) may include the following practices.

- Temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) will be employed to control erosion from disturbed areas.
- Use a dry detention basin (which is typically dry except after a major rainstorm, when it will temporarily fill with stormwater), designed to decrease runoff during storm events, prevent flooding, and allow for off-peak discharge. Basin features will include maintenance schedules for the periodic removal of sediments, excessive vegetation, and debris that may clog basin inlets and outlets.
- Cover or apply nontoxic soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more) that could contribute sediment to waterways.
- Enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways.
- Ensure that no earth or organic material will be deposited or placed where it may be directly carried into a stream, marsh, slough, lagoon, or body of standing water.
- Prohibit the following types of materials from being rinsed or washed into the streets, shoulder areas, or gutters: concrete, solvents and adhesives, thinners, paints, fuels, sawdust, dirt, gasoline, asphalt and concrete saw slurry, and heavily chlorinated water.
- Ensure that grass or other vegetative cover will be established on the construction site as soon as possible after disturbance.

The contractor will select a combination of BMPs (consistent with Section A of the Construction General Permit) that is expected to minimize runoff and remove contaminants from stormwater discharges. The final selection of BMPs will be subject to approval by the San Francisco Bay Regional Water Board and the Central Valley Water Board.

The contractor will verify that an NOI has been filed with the State Water Board and that a SWPPP has been developed before allowing construction to begin. The contractor will perform inspections of the construction area, to verify that the BMPs specified in the SWPPP are properly implemented and maintained. The contractor will notify the appropriate Regional Water Board immediately if there is a noncompliance issue and will require compliance. If necessary, the contractor or their agent will require that additional BMPs be designed and implemented if those originally constructed do not achieve the identified performance standard.

Remaining Impacts: Any remaining impact associated with the potential for the introduction of invasive plant species to result in adverse effects on special-status plants or habitat occupied by special-status plants will be less than significant.

Impact BIO-3c: Potential mortality of or loss of habitat for vernal pool branchiopods and curved-footed hygrotus diving beetle—Patterson Pass Project

Potential Impact: Construction activities in the Patterson Pass Project area could result in direct effects on longhorn fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp (vernal pool branchiopods), and curved-footed hygrotus diving beetle or their habitats. The majority of construction activities would take place on grassland habitat along ridgelines; consequently, loss of potential vernal pool branchiopod and curved-footed hygrotus diving beetle habitat would generally be avoided. However, direct impacts on habitat associated with road construction or widening and impacts on water quality could result from some construction activities. Changes in hydrology or sedimentation of habitat from erosion associated with project construction could alter the suitability of habitat for vernal pool branchiopods and curved-footed hygrotus diving beetle and could also cause mortality.

Operation and maintenance activities may also result in impacts on vernal pool branchiopods or their habitats. Use of herbicides near occupied habitat could result in mortality or reduced fitness of vernal pool branchiopods. Herbicide or pesticide use near or upstream of suitable habitat for curved-footed hygrotus diving beetle could result in mortality or reduced fitness of the beetle. Road and firebreak maintenance may also result in degradation of habitat or injury or mortality of vernal pool branchiopods and curved-footed hygrotus diving beetles.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

BIO-3b: Implement measures to avoid, minimize, and mitigate impacts on vernal pool branchiopods and curved-footed hygrotus diving beetle

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-1e, BIO-3a, and BIO-3b will ensure that the impacts associated with the potential mortality of or loss of habitat for vernal pool branchiopods and curved-footed hygrotus diving beetle will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19c above.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1e, please refer to the discussion of Impact BIO-19c above.

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19c above.

BIO-3b: Implement measures to avoid, minimize, and mitigate impacts on vernal pool branchiopods and curved-footed hygrotus diving beetle

Where suitable habitat for listed vernal pool branchiopods and curved-footed hygrotus diving beetle are identified within 250 feet (or another distance as determined by a qualified biologist based on topography and other site conditions) of proposed work areas, the following measures will be implemented to ensure that the repowering projects do not have adverse impacts on listed vernal pool branchiopods or curved-footed hygrotus diving beetle. These measures are based on measures from the EACCS, with some modifications and additions. Additional conservation measures or conditions of approval may be required in applicable project permits (e.g., ESA incidental take permit).

- Avoid all direct impacts on sandstone rock outcrop vernal pools.
- Ground disturbance will be avoided from the first day of the first significant rain (1 inch or more) until June 1, or until pools remain dry for 72 hours and no significant rain is forecast on the day of such ground disturbance.
- If vernal pools, clay flats, alkaline pools, ephemeral stock tanks (or ponds), sandstone pools, or roadside ditches are present within 250 feet of the work area (or another appropriate distance as determined by a qualified biologist on the basis of topography and other site conditions), the biologist will stake and flag an exclusion zone prior to construction activities. The width of the exclusion zone will be based on site conditions and will be the maximum practicable distance that ensures protection of the feature from direct and indirect effects of the project. Exclusion zones will be established around features whether they are wet or dry at the time. The exclusion zone will be fenced with orange construction zone and erosion control fencing (to be installed by construction crew).
- No herbicide will be applied within 100 feet of exclusion zones, except when applied to cut stumps or frilled stems or injected into stems. No broadcast applications will be allowed.
- Avoid modifying or changing the hydrology of aquatic habitats.
- Minimize the work area for stream crossings and conduct work during the dry season (June 1 through the first significant rain of the fall/winter).
- Install utility collection lines across perennial creeks by boring under the creek.

Where impacts cannot be avoided or minimized, compensatory mitigation will be undertaken in accordance with mitigation ratios and requirements developed under the EACCS (Appendix C). In the event that an incidental take permit is required, compensatory mitigation will be undertaken in accordance with the terms of the permit in consultation with USFWS.

Remaining Impacts: Any remaining impact associated with the potential mortality of or loss of habitat for vernal pool branchiopods and curved-footed hygrotus diving beetle will be less than significant.

Impact BIO-4c: Potential disturbance or mortality of and loss of suitable habitat for valley elderberry longhorn beetle—Patterson Pass Project

Potential Impact: None of the 39 elderberry shrubs in the Patterson Pass project area would be removed in order to construct the project. One of the shrubs is located within 100 feet of a construction access road and could be subjected to increased levels of dust during construction, potentially leading to reduced vigor of the shrub and consequently affecting valley elderberry longhorn beetle. However, according to Talley et al. (2006b:654–655), an experiment along the American River Parkway (Sacramento County) showed that conditions of elderberry shrubs associated with dust from nearby trails and roads (paved and dirt) did not affect the presence of valley elderberry longhorn beetle. The beetle may also be indirectly affected by operations and maintenance activities such as use of herbicides, which could harm elderberry shrubs and/or the beetle.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

BIO-4a: Implement measures to avoid or protect habitat for valley elderberry longhorn beetle

BIO-4b: Compensate for direct and indirect effects on valley elderberry longhorn beetle

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-1e, BIO-3a, BIO-4a, and BIO-4b will ensure that the impacts associated with the potential disturbance or mortality of and loss of suitable habitat for valley elderberry longhorn beetle will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19c above.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1e, please refer to the discussion of Impact BIO-19c above.

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19c above.

BIO-4a: Implement measures to avoid or protect habitat for valley elderberry longhorn beetle

For the text of Mitigation Measure BIO-4a, please refer to the discussion of Impact BIO-19c above.

BIO-4b: Compensate for direct and indirect effects on valley elderberry longhorn beetle

If elderberry shrubs cannot be avoided and protected as outlined in Mitigation Measure 4a, the project proponent will obtain an incidental take permit from USFWS and compensate for the loss of any elderberry shrubs. Surveys of elderberry shrubs to be transplanted will be conducted by a qualified biologist prior to transplantation. Surveys will be conducted in accordance with the *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (U.S. Fish and Wildlife Service 1999). Survey results and an analysis of the number of elderberry seedlings/cuttings and associated native plants based on the survey results will be submitted to USFWS in a biological assessment or an HCP. After receipt of an incidental take permit and before construction begins, the project proponent will compensate for direct effects on elderberry shrubs by transplanting shrubs that cannot be avoided to a USFWS-approved conservation area. Elderberry seedlings or cuttings and associated native species will also be planted in the conservation area. Each elderberry stem measuring 1 inch or more in diameter at ground level that is adversely affected (i.e., transplanted or destroyed) will be replaced, in the conservation area, with elderberry seedlings or cuttings at a ratio ranging from 1:1 to 8:1 (new plantings to affected stems). The numbers of elderberry seedlings/cuttings and associated riparian native trees/shrubs to be planted as replacement habitat are determined by stem size class of affected elderberry shrubs, presence or absence of exit holes, and whether the shrub lies in a riparian or nonriparian area. Stock of either seedlings or cuttings would be obtained from local sources.

At the discretion of USFWS, shrubs that are unlikely to survive transplantation because of poor condition or location, or a plant that would be extremely difficult to move because of access problems, may be exempted from transplantation. In cases where transplantation is not possible, minimization ratios would be increased to offset the additional habitat loss.

The relocation of the elderberry shrubs will be conducted according to USFWS-approved procedures outlined in the Conservation Guidelines (U.S. Fish and Wildlife Service 1999). Elderberry shrubs within the project construction area that cannot be avoided will be transplanted during the plant's dormant phase (November through the first 2 weeks of February). A qualified biological monitor will remain onsite while the shrubs are being transplanted.

Evidence of valley elderberry longhorn beetle occurrence in the conservation area, the condition of the elderberry shrubs in the conservation area, and the general condition of the conservation area itself will be monitored over a period of 10 consecutive years or for 7 years over a 15-year period from the date of transplanting. The project proponent will be responsible for funding and providing monitoring reports to USFWS in each of the years in which a monitoring report is required. As specified in the Conservation Guidelines, the report will include information on timing and rate of irrigation, growth rates, and survival rates and mortality.

Remaining Impacts: Any remaining impact associated with potential disturbance or mortality of and loss of suitable habitat for valley elderberry longhorn beetle will be less than significant.

Impact BIO-5c: Potential disturbance or mortality of and loss of suitable habitat for California tiger salamander, western spadefoot, California red-legged frog, and foothill yellow-legged frog—Patterson Pass Project

Potential Impact: Construction activities for the Patterson Pass Project could result in direct effects on California tiger salamander, western spadefoot, California red-legged frog, and foothill yellow-legged frog (collectively referred to as special-status amphibians) or their habitats (seasonal wetland, freshwater marsh, mixed willow riparian scrub, ponds, drainages, and surrounding upland areas). The majority of construction activities would take place on suitable upland grassland dispersal and aestivation habitat for California tiger salamander, western spadefoot, and California red-legged frog. Aquatic habitats for specials-status amphibians would generally be avoided; however, direct impacts on habitat and impacts on water quality could result from road construction or widening activities.

Construction activities such as excavation, grading, or stockpiling of soil, could fill, remove or otherwise alter suitable habitat for special-status amphibians or result in injury or mortality of individual amphibians. Potential direct impacts include mortality or injury by equipment, entrapment in open trenches or other project facilities, and removal or disturbance of upland habitat that results in damage or elimination of suitable aestivation burrows. Specific activities that may affect these species could include installation of power collection and communication systems, turbine construction, road infrastructure construction/maintenance and upgrades, meteorological tower installation and removal, temporary staging area set-up, and reclamation activities. Special-status amphibians could be injured or killed if vehicles or construction equipment are driven through occupied habitat, or if gasoline, oil, or other contaminants enter habitat. Changes in hydrology or sedimentation of habitat from erosion associated with project construction could alter the suitability of their habitat or cause mortality.

Operation and maintenance activities may also result in impacts on special-status amphibians or their habitats. Travel on maintenance roads during the rainy season or when amphibians are dispersing could result in mortality of individuals. Road and firebreak maintenance could result in degradation of habitat or injury or mortality of special-status amphibians.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

BIO-5a: Implement best management practices to avoid and minimize effects on special-status amphibians

BIO-5b: Compensate for loss of habitat for special-status amphibians

BIO-5c: Restore disturbed annual grasslands

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-1e, BIO-3a, BIO-5a, BIO-5b, and BIO-5c will ensure that the impacts associated with the potential disturbance or mortality of and loss of suitable habitat for California tiger salamander, western spadefoot, California red-legged frog, and foothill yellow-legged frog will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19c above.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1e, please refer to the discussion of Impact BIO-19c above.

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19c above.

BIO-5a: Implement best management practices to avoid and minimize effects on special-status amphibians

For the text of Mitigation Measure BIO-5a, please refer to the discussion of Impact BIO-19c above.

BIO-5b: Compensate for loss of habitat for special-status amphibians

Where impacts on aquatic and upland habitat for special-status amphibians cannot be avoided or minimized, compensatory mitigation will be undertaken in accordance with mitigation ratios and requirements developed under the EACCS (Appendix C). In the event that take authorization is required, compensatory mitigation will be undertaken in accordance with the terms of the authorization in consultation with USFWS and/or CDFW.

BIO-5c: Restore disturbed annual grasslands

For the text of Mitigation Measure BIO-5c, please refer to the discussion of Impact BIO-19c above.

Remaining Impacts: Any remaining impact associated with potential disturbance or mortality of and loss of suitable habitat for California tiger salamander, western spadefoot, California red-legged frog, and foothill yellow-legged frog will be less than significant.

Impact BIO-6c: Potential disturbance or mortality of and loss of suitable habitat for western pond turtle—Patterson Pass Project

Potential Impact: Construction activities in the Patterson Pass Project area could result in direct effects on western pond turtle or its habitats (ponds, reservoirs, drainages, and surrounding riparian and grassland areas). Because the majority of construction activities would take place on grassland habitat along ridgelines, suitable aquatic habitat would generally be avoided; however, direct impacts on habitat and impacts on water quality could result from road construction or widening activities.

Aquatic and upland (overwintering, nesting) habitat for western pond turtle may be removed or temporarily disturbed by construction activities. Potential direct impacts include mortality or injury by equipment, entrapment in open trenches or other project facilities, and removal or disturbance of aquatic or upland nesting habitat. Western pond turtles could also be injured or killed if gasoline, oil, or other contaminants enter habitat. Loss of individuals in the Patterson Pass Project area could diminish the local population and lower reproductive potential, contributing to the further decline of the species. The loss of upland nesting sites or eggs would also decrease the local population.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

BIO-6: Conduct preconstruction surveys for western pond turtle and monitor construction activities if turtles are observed

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-1e, BIO-3a, and BIO-6 will ensure that the impacts associated with the potential disturbance or mortality of and loss of suitable habitat for western pond turtle will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19c above.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1e, please refer to the discussion of Impact BIO-19c above.

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19c above.

BIO-6: Conduct preconstruction surveys for western pond turtle and monitor construction activities if turtles are observed

If it is determined through preconstruction surveys conducted pursuant to Mitigation Measure BIO-3a that suitable aquatic or upland habitat for western pond turtle is present within proposed work areas, the following measures, consistent with measures developed for the EACCS, will be implemented to ensure that the proposed project does not have a significant impact on western pond turtle.

- One week before and within 24 hours of beginning work in suitable aquatic habitat, a qualified biologist (one who is familiar with different species of turtles) will conduct surveys for western pond turtle. The surveys should be timed to coincide with the time of day and year when turtles are most likely to be active (during the cooler part of the day between 8 a.m. and 12 p.m. during spring and summer). Prior to conducting the surveys, the biologist should locate the microhabitats for turtle basking (logs, rocks, brush thickets) and determine a location to quietly observe turtles. Each survey should include a 30-minute wait time after arriving onsite to allow startled turtles to return to open basking areas. The survey should consist of a minimum 15-minute observation period for each area where turtles could be observed.
- If western pond turtles are observed during either survey, a biological monitor will be present during construction activities in the aquatic habitat where the turtle was observed. The biological monitor also will be mindful of suitable nesting and overwintering areas in proximity to suitable aquatic habitat and will periodically inspect these areas for nests and turtles.
- If one or more western pond turtles are found in the work area during construction and cannot or do not move offsite on their own, a qualified biologist will remove and relocate the turtle to appropriate aquatic habitat outside and away from the construction area. Relocation of western pond turtle requires a letter from CDFW authorizing this activity.

Remaining Impacts: Any remaining impact associated with potential disturbance or mortality of and loss of suitable habitat for western pond turtle will be less than significant.

Impact BIO-7c: Potential disturbance or mortality of and loss of suitable habitat for Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip—Patterson Pass Project

Potential Impact: Construction activities in the Patterson Pass Project area could result in direct effects on Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip or their habitats (grassland, chaparral, oak woodland, and scrub). It is anticipated that the majority of construction activities would take place on grassland habitat along ridgelines and that loss of chaparral, oak woodland, and scrub habitat would be minimal. Potential direct impacts include mortality or injury by equipment, entrapment in open trenches or other project facilities, and removal or disturbance of habitat. Operation and maintenance activities, such as road and firebreak maintenance, may also result in injury or mortality of individuals. Loss of individuals in the proposed project area could diminish the local populations of these species and lower reproductive potential, contributing to the further decline of these species.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

BIO-5c: Restore disturbed annual grasslands

BIO-7a: Implement best management practices to avoid and minimize effects on special-status reptiles

BIO-7b: Compensate for loss of habitat for special-status reptiles

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-1e, BIO-3a, BIO-5c, BIO-7a, and BIO-7b will ensure that the impacts associated with the potential disturbance or mortality of and loss of suitable habitat for Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19c above.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1e, please refer to the discussion of Impact BIO-19c above.

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19c above.

BIO-5c: Restore disturbed annual grasslands

For the text of Mitigation Measure BIO-5c, please refer to the discussion of Impact BIO-19c above.

BIO-7a: Implement best management practices to avoid and minimize effects on special-status reptiles

Where suitable habitat for Blainville's horned lizard, Alameda whipsnake, or San Joaquin coachwhip is identified in proposed work areas, all project proponents will ensure that BMPs and other appropriate measures, in accordance with measures developed for the EACCS, be incorporated into the appropriate design and construction documents. *Implementation of some of these measures will require that the project proponent obtain incidental take permits from USFWS and CDFW (Alameda whipsnake) before construction begins.* Additional conservation measures or conditions of approval may be required in applicable project permits (i.e., ESA incidental take permit).

- A qualified biologist will conduct preconstruction surveys immediately prior to ground-disturbing activities (e.g., equipment staging, vegetation removal, grading) associated with the program. If any Blainville's horned lizards, Alameda whipsnakes, or San Joaquin coachwhips are found, work will not begin until they are moved out of the work area to a USFWS- and/or CDFW-approved relocation site. Incidental take permits from USFWS and CDFW are required for relocation of Alameda whipsnake. Relocation of Blainville's horned lizard and San Joaquin coachwhip requires a letter from CDFW authorizing this activity.
- No monofilament plastic will be used for erosion control.
- Where applicable, barrier fencing will be used to exclude Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip. Barrier fencing will be removed within 72 hours of completion of work.
- Work crews or an onsite biological monitor will inspect open trenches and pits and under construction equipment and materials left onsite for special-status reptiles each morning and evening during construction.
- Ground disturbance in suitable habitat will be minimized.
- Vegetation within the proposed work area will be removed prior to grading. Prior to clearing and grubbing operations, a qualified biologist will clearly mark vegetation within the work area that will be avoided. Vegetation outside the work area will not be removed. Where possible hand tools (e.g., trimmer, chain saw) will be used to trim or remove vegetation. All vegetation removal will be monitored by the qualified biologist to minimize impacts on special-status reptiles.

- If special-status reptiles are found in the work area during construction and cannot or do not move offsite on their own, a qualified biologist who is USFWS- and/or CDFW-approved under an incidental take permit for the specific project will trap and move the animal(s) to a USFWS and/or CDFW-approved relocation area. Incidental take permits from USFWS and CDFW are required for relocation of Alameda whipsnake. Relocation of Blainville's horned lizard and San Joaquin coachwhip requires a letter from CDFW authorizing this activity.

BIO-7b: Compensate for loss of habitat for special-status reptiles

Where impacts on habitat for special-status reptiles cannot be avoided or minimized, compensatory mitigation will be undertaken in accordance with mitigation ratios and requirements developed under the EACCS (Appendix C). In the event that incidental take permits are required for Alameda whipsnake, compensatory mitigation will be undertaken in accordance with the terms of permits in consultation with USFWS and CDFW.

Remaining Impacts: Any remaining impact associated with potential disturbance or mortality of and loss of suitable habitat for Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip will be less than significant.

Impact BIO-8c: Potential construction-related disturbance or mortality of special-status and non-special-status migratory birds—Patterson Pass Project

Potential Impact: Construction activities during the nesting season (generally February 1–August 31) of white-tailed kite, bald eagle, northern harrier, Swainson's hawk, golden eagle, western burrowing owl, loggerhead shrike, and tricolored blackbird could result in direct effects on these species, as well as on non–special-status migratory birds, if they are nesting in the Patterson Pass Project area. Suitable nesting habitat may be present in nearly all land cover types in the project area. Removal of grassland, burrows, wetland and marsh vegetation, and trees or shrubs with active nests and construction disturbance during the breeding season may result in nest abandonment and subsequent loss of eggs or young. Exclusion of burrowing owls from their burrows during the non-nesting season as part of efforts to avoid or minimize some forms of direct take could result in harm of burrowing owls. Such losses could affect the local population of special-status and non–special-status birds.

Because the placement of wind turbines would generally be on the tops of hills and ridgelines in the project area where trees are not generally present, the number of trees to be removed is expected to be very low. Exclusion of burrowing owls from their burrows during the non-nesting season as part of efforts to avoid or minimize some forms of direct take could result in harm of burrowing owls. Estimated permanent and temporary impacts on suitable foraging habitat (grassland, mixed willow riparian scrub, and wetlands) for special-status and non–special-status birds are shown in Table 3.4-9 of the PEIR. Such losses could affect the local population of special-status and non–special-status birds.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

BIO-5c: Restore disturbed annual grasslands

BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non–special-status nesting birds

BIO-8b: Implement measures to avoid and minimize potential impacts on western burrowing owl

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-1e, BIO-3a, BIO-5c, BIO-8a, and BIO-8b will ensure that the impacts associated with the potential construction-related disturbance or mortality of special status and non-special-status migratory birds will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19c above.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1e, please refer to the discussion of Impact BIO-19c above.

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19c above.

BIO-5c: Restore disturbed annual grasslands

For the text of Mitigation Measure BIO-5c, please refer to the discussion of Impact BIO-19c above.

BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non–special-status nesting birds

For the text of Mitigation Measure BIO-8a, please refer to the discussion of Impact BIO-19c above.

BIO-8b: Implement measures to avoid and minimize potential impacts on western burrowing owl

For the text of Mitigation Measure BIO-8b, please refer to the discussion of Impact BIO-19c above.

Remaining Impacts: Any remaining impact associated with construction-related disturbance or mortality of special status and non-special-status migratory birds will be less than significant.

Impact BIO-9c: Permanent and temporary loss of occupied habitat for western burrowing owl and foraging habitat for tricolored blackbird and other special-status and non–special-status birds—Patterson Pass Project

Potential Impact: Implementation of the Patterson Pass Project would result in the temporary and permanent loss of grassland that provides suitable foraging habitat for burrowing owl and a number of other special-status and non–special-status migratory birds. Because of the limited use of the proposed project area by Swainson's hawks for foraging, no compensation is proposed for the loss of foraging habitat for Swainson's hawk. The loss of grassland foraging habitat for special-status and non–special-status birds would be compensated through implementation of Mitigation Measure BIO-5b (for special-status amphibians) and/or through the standardized mitigation ratios for nonlisted species developed for the EACCS (Appendix C of the PEIR).

CDFW has determined that compensation is required for permanent loss of occupied burrowing owl habitat (i.e., where burrowing owls have been documented to occupy burrows in the preceding 3 years).

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-5b: Compensate for the loss of habitat for special-status amphibians

BIO-5c: Restore disturbed annual grasslands

BIO-9: Compensate for the permanent loss of occupied habitat for western burrowing owl

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-5b, BIO-5c, and BIO-9 will ensure that the impacts associated with the potential for permanent and temporary loss of occupied habitat for western burrowing owl and foraging habitat for tricolored blackbird and other special-status and non–special-status birds will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-5b: Compensate for the loss of habitat for special-status amphibians

For the text of Mitigation Measure BIO-5b, please refer to the discussion of Impact BIO-5c above.

BIO-5c: Restore disturbed annual grasslands

For the text of Mitigation Measure BIO-5c, please refer to the discussion of Impact BIO-19c above.

BIO-9: Compensate for the permanent loss of occupied habitat for western burrowing owl

If construction activities would result in the removal of occupied burrowing owl habitat (determined during preconstruction surveys described in Mitigation Measure BIO-8a), this habitat loss will be mitigated by permanently protecting mitigation land through a conservation easement or by implementing alternative mitigation determined through consultation with CDFW as described in its *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Game 2012:11–13). The project proponent will work with CDFW to develop the compensation plan, which will be subject to County review and approval.

Remaining Impacts: Any remaining impact associated with permanent and temporary loss of occupied habitat for western burrowing owl and foraging habitat for tricolored blackbird and other special-status and non–special-status birds will be less than significant.

Impact BIO-10c: Potential injury or mortality of and loss of habitat for San Joaquin kit fox and American badger—Patterson Pass Project

Potential Impact: Construction activities for the Patterson Pass Project could result in direct effects on San Joaquin kit fox and American badger or their grassland habitat. Estimated permanent and temporary impacts on grassland that provide suitable denning and foraging habitat for San Joaquin kit fox and American badger are shown in Table 3.4-9 of the PEIR. In addition to the permanent and temporary removal of habitat, other potential direct impacts include mortality or injury of individuals from construction vehicles or heavy equipment, direct mortality or injury of individuals from den collapse and subsequent suffocation, temporary disturbance from noise and human presence associated with construction activities, and harassment of individuals by construction personnel. Additionally, exposed pipes, large excavated holes, or trenches that are left open after construction has finished for the day could entrap San Joaquin kit foxes or American badgers. Operation and maintenance activities, such as road and firebreak maintenance, may also result in injury or mortality of individuals. Loss of individuals in the Patterson Pass Project area could diminish the local populations of these species and reduce reproductive potential, contributing to the further decline of these species.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

BIO-5c: Restore disturbed annual grasslands

BIO-10a: Implement measures to avoid and minimize potential impacts on San Joaquin kit fox and American badger

BIO-10b: Compensate for loss of suitable habitat for San Joaquin kit fox and American badger

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-1e, BIO-3a, BIO-5c, BIO-10a, and BIO-10b will ensure that the impacts associated with the potential for injury or mortality of and loss of habitat for San Joaquin kit fox and American badger will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19c above.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1e, please refer to the discussion of Impact BIO-19c above.

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19c above.

BIO-5c: Restore disturbed annual grasslands

For the text of Mitigation Measure BIO-5c, please refer to the discussion of Impact BIO-19c above.

BIO-10a: Implement measures to avoid and minimize potential impacts on San Joaquin kit fox and American badger

Where suitable habitat is present for San Joaquin fit fox and American badger in and adjacent to proposed work areas, the following measures, consistent with measures developed in the EACCS, will be implemented to ensure that proposed projects do not have a significant impact on San Joaquin kit fox or American badger. *Implementation of some of these measures will require that the project proponent obtain incidental take permits from USFWS and CDFW (San Joaquin kit fox) before construction begins.* Implementation of state and federal requirements contained in such authorization may constitute compliance with corresponding measures in this PEIR..

- To the maximum extent feasible, suitable dens for San Joaquin kit fox and American badger will be avoided.
- All project proponents will retain qualified approved biologists (as determined by USFWS) to conduct a preconstruction survey for potential San Joaquin kit fox dens (U.S. Fish and

Wildlife Service 2011). Resumes of biologists will be submitted to USFWS for review and approval prior to the start of the survey.

- Preconstruction surveys for American badgers will be conducted in conjunction with San Joaquin kit fox preconstruction surveys.
- As described in U.S. Fish and Wildlife Service 2011), the preconstruction survey will be conducted no less than 14 days and no more than 30 days before the beginning of ground disturbance, or any activity likely to affect San Joaquin kit fox. The biologists will conduct den searches by systematically walking transects through the project area and a buffer area to be determined in coordination with USFWS and CDFW. Transect distance should be based on the height of vegetation such that 100% visual coverage of the project area is achieved. If a potential or known den is found during the survey, the biologist will measure the size of the den, evaluate the shape of the den entrances, and note tracks, scat, prey remains, and recent excavations at the den site. The biologists will also determine the status of the dens and map the features. Dens will be classified in one of the following four den status categories defined by USFWS (U.S. Fish and Wildlife Service 2011).
    - Potential den: Any subterranean hole within the species' range that has entrances of appropriate dimensions and for which available evidence is sufficient to conclude that it is being used or has been used by a kit fox. Potential dens include (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, ground squirrel) that otherwise has appropriate characteristics for kit fox use; or an artificial structure that otherwise has appropriate characteristics for kit fox use.
    - Known den: Any existing natural den or artificial structure that is used or has been used at any time in the past by a San Joaquin kit fox. Evidence of use may include historical records; past or current radiotelemetry or spotlighting data; kit fox sign such as tracks, scat, and/or prey remains; or other reasonable proof that a given den is being or has been used by a kit fox (USFWS discourages use of the terms *active* and *inactive* when referring to any kit fox den because a great percentage of occupied dens show no evidence of use, and because kit foxes change dens often, with the result that the status of a given den may change frequently and abruptly).
    - Known natal or pupping den: Any den that is used, or has been used at any time in the past, by kit foxes to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt or vegetation at one or more entrances. A natal den, defined as a den in which kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two; therefore, for purposes of this definition either term applies.
    - Known atypical den: Any artificial structure that has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings.

Written results of the survey including the locations of any potential or known San Joaquin kit fox dens will be submitted to USFWS within 5 days following completion of the survey and prior to the start of ground disturbance or construction activities.

- After preconstruction den searches and before the commencement of repowering activities, exclusion zones will be established as measured in a radius outward from the entrance or cluster of entrances of each den. Repowering activities will be prohibited or greatly restricted within these exclusion zones. Only essential vehicular operation on existing roads and foot traffic will be permitted. All other repowering activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited in the exclusion zones. Barrier fencing will be removed within 72 hours of completion of work. Exclusion zones will be established using the following parameters.
    - Potential and atypical dens: A total of four or five flagged stakes will be placed 50 feet from the den entrance to identify the den location.
    - Known den: Orange construction barrier fencing will be installed between the work area and the known den site at a minimum distance of 100 feet from the den. The fencing will be maintained until construction-related disturbances have ceased. At that time, all fencing will be removed to avoid attracting subsequent attention to the den.
    - Natal/pupping den: USFWS will be contacted immediately if a natal or pupping den is discovered in or within 200 feet of the work area.
- Any occupied or potentially occupied badger den will be avoided by establishing an exclusion zone consistent with a San Joaquin kit fox potential burrow (i.e., four or five flagged stakes will be placed 50 feet from the den entrance).
- In cases where avoidance is not a reasonable alternative, limited destruction of potential San Joaquin kit fox dens may be allowed as follows.
    - Natal/pupping dens: Natal or pupping dens that are occupied will not be destroyed until the adults and pups have vacated the dens and then only after consultation with USFWS. Removal of natal/pupping dens requires incidental take authorization from USFWS and CDFW.
    - Known dens: Known dens within the footprint of the activity must be monitored for 3 days with tracking medium or an infrared camera to determine current use. If no kit fox activity is observed during this period, the den should be destroyed immediately to preclude subsequent use. If kit fox activity is observed during this period, the den will be monitored for at least 5 consecutive days from the time of observation to allow any resident animal to move to another den during its normal activity. Use of the den can be discouraged by partially plugging its entrance(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied will the den be excavated under the direction of a biologist. If the fox is still present after 5 or more consecutive days of monitoring, the den may be excavated when, in the judgment of the biologist, it is temporarily vacant, such as during the fox's normal foraging activities. Removal of known dens requires incidental take authorization from USFWS and CDFW.
    - Potential dens: If incidental take permits have been received (from USFWS and CDFW), potential dens can be removed (preferably by hand excavation) by biologist or under the supervision of a biologist without monitoring, unless other restrictions were issued with the incidental take permits. If no take authorizations have been issued, the potential dens will be monitored as if they are known dens. If any den was considered a potential den but was later determined during monitoring or destruction to be currently

or previously used by kit foxes (e.g., kit fox sign is found inside), then all construction activities will cease and USFWS and CDFW will be notified immediately.

- Nighttime work will be minimized to the extent possible. The vehicular speed limit will be reduced to 10 miles per hour during nighttime work.
- Pipes, culverts, and similar materials greater than 4 inches in diameter will be stored so as to prevent wildlife species from using these as temporary refuges, and these materials will be inspected each morning for the presence of animals prior to being moved.
- A representative appointed by the project proponent will be the contact for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured, or entrapped kit fox. The representative will be identified during environmental sensitivity training (Mitigation Measure BIO-1b) and his/her name and phone number will be provided to USFWS and CDFW. Upon such incident or finding, the representative will immediately contact USFWS and CDFW.
- The Sacramento USFWS office and CDFW will be notified in writing within 3 working days of the accidental death or injury of a San Joaquin kit fox during project-related activities. Notification must include the date, time, and location of the incident, and any other pertinent information.

BIO-10b: Compensate for loss of suitable habitat for San Joaquin kit fox and American badger

Where permanent impacts on habitat for San Joaquin kit fox and American badger cannot be avoided or minimized, compensatory mitigation will be undertaken in accordance with mitigation ratios and requirements developed under the EACCS (Appendix C). In the event that incidental take permits are required for San Joaquin kit fox, compensatory mitigation will be undertaken in accordance with the terms of permits in consultation with USFWS and CDFW.

Remaining Impacts: Any remaining impact associated with potential injury or mortality of and loss of habitat for San Joaquin kit fox and American badger will be less than significant.

Impact BIO-12c: Potential mortality or disturbance of bats from roost removal or disturbance—Patterson Pass Project

Potential Impact: Several species of both common (*Myotis* spp.) and special-status (western red bat, pallid bat, Townsend's big-eared bat) bats are known to occur or could occur in or around the Patterson Pass project area, and could use the area for foraging, dispersal, and migration. Bats may use rock outcrops, trees, buildings, bridges, and other structures in the Patterson Pass Project area as maternity or migratory stopover roosts. Permanent water bodies and stock tanks in and adjacent to the proposed project area provide sources of fresh water for both resident and migratory bats.

Construction and decommissioning of turbines could result in disturbance or loss of active bat roosts through increased traffic, noise, lighting, and human access. Removal or disturbance of trees, rock outcrops, debris piles, outbuildings, or other artificial structures could result in removal of roost habitat and mortality of bats using the structure as a roost. Several species of bat are sensitive to disturbance and may abandon flightless young, or they may simply not return to the roost once disturbed, resulting in the loss of that roost as habitat for the local population. Because some bats roost colonially, removal of special-status species' roost structures in a roost-limited habitat could result in the loss of a significant portion of the local bat population.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

BIO-12a: Conduct bat roost surveys

BIO-12b: Avoid removing or disturbing bat roosts

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-3a, BIO-12a, and BIO-12b will ensure that the impacts associated with the potential for mortality or disturbance of bats from roost removal or disturbance will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19c above.

BIO-3a: Conduct preconstruction surveys for habitat for special-status wildlife species

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19c above.

BIO-12a: Conduct bat roost surveys

For the text of Mitigation Measure BIO-12a, please refer to the discussion of Impact BIO-19c above.

BIO-12b: Avoid removing or disturbing bat roosts

For the text of Mitigation Measure BIO-12a, please refer to the discussion of Impact BIO-19c above.

Remaining Impacts: Any remaining impact associated with potential mortality or disturbance of bats from roost removal or disturbance will be less than significant.

Impact BIO-16c: Potential for road infrastructure upgrades to result in adverse effects on riparian habitat—Patterson Pass Project

Potential Impact: Under current design, no riparian habitat would be affected by road infrastructure upgrades. However, if final design would result in riparian habitat being affected by road infrastructure upgrades, it would be a significant impact.

Road infrastructure upgrades would include grading, widening, and regravelling of existing roads and construction of new roads to accommodate decommission and repowering activities. Culverts would be upgraded for existing roads, and new culverts would be installed for new roads. Loss of riparian habitat as a result of direct fill would be a substantial adverse effect on a sensitive natural community.

Mitigation Measure: The following mitigation measure, discussed in Section 3.4.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-16: Compensate for the loss of riparian habitat

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure BIO-16 will ensure that the impacts associated with the potential for road infrastructure upgrades to result in adverse effects on riparian habitat will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-16: Compensate for the loss of riparian habitat

If riparian habitat is filled or removed as part of a project, the project proponent will compensate for the loss of riparian habitat to ensure no net loss of habitat functions and values. Compensation ratios will be based on site-specific information and determined through coordination with state and federal agencies (CDFW, USFWS, USACE). The compensation will be at a minimum 1:1 ratio (1 acre restored or created for every 1 acre filled) and may be a combination of onsite restoration/creation, offsite restoration, and mitigation credits. A restoration and monitoring plan will be developed and implemented. The plan will describe how riparian habitat will be created and monitored.

Remaining Impacts: Any remaining impact associated with the potential for road infrastructure upgrades to result in adverse effects on riparian habitat will be less than significant.

Impact BIO-18c: Potential for road infrastructure upgrades to result in adverse effects on wetlands—Patterson Pass Project

Potential Impact: Road infrastructure upgrades would include grading, widening, and regravelling of the existing roads and construction of new roads. Culverts would be upgraded for existing roads, and new culverts would be installed for new roads. Direct effects would include fill of wetlands at locations where roads crossing the habitat would be widened. Indirect effects could include altered hydrology or runoff of sediment and other substances during road construction activities. Some effects, such as those due to runoff, would be avoided and minimized through the implementation of erosion control BMPs and postconstruction reclamation. Installation of new and upgraded culverts would maintain existing hydrology. The loss of wetlands as a result of direct fill would be a substantial adverse effect on a sensitive natural community.

Mitigation Measure: The following mitigation measure, discussed in Section 3.4.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-18: Compensate for the loss of wetlands

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure BIO-18 will ensure that the impacts associated with the potential for road infrastructure upgrades to result in adverse effects on wetlands will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-18: Compensate for the loss of wetlands

If wetlands are filled or disturbed as part of a project, the project proponent will compensate for the loss to ensure no net loss of habitat functions and values. Compensation ratios will be based on site-specific information and determined through coordination with state and federal agencies (CDFW, USFWS, USACE). The compensation will be at a minimum 1:1 ratio (1 acre restored or created for every 1 acre filled) and may be a combination of onsite restoration/creation, offsite restoration, and mitigation credits. A restoration and monitoring plan will be developed and implemented. The plan will describe how wetlands will be created and monitored.

Remaining Impacts: Any remaining impact associated with the potential for road infrastructure upgrades to result in adverse effects on wetlands will be less than significant.

Impact BIO-20c: Conflict with local plans or policies—Patterson Pass Project

Potential Impact: The ECAP encourages the preservation of areas known to support special-status species, no net loss of riparian and seasonal wetlands, and protection of existing riparian woodland habitat. Additionally, the ECAP has several policies related to windfarms, including establishing a mitigation program to minimize the impacts of wind turbine operations on bird populations. Loss of special-status species and their habitat, loss of alkali meadow, loss of riparian habitat, and loss of existing wetlands as a result of implementing the program would be in conflict with these policies.

The mitigation measures for the impacts of wind turbine operations on bird populations from the proposed Patterson Pass Project are consistent with the establishment of a mitigation program recommended by the ECAP.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1a: Conduct surveys to determine the presence or absence of special-status species

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1c: Avoid and minimize impacts on special-status plant species by establishing activity exclusion zones

BIO-1d: Compensate for impacts on special-status plant species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Implement measures to avoid, minimize, and mitigate impacts on vernal pool branchiopods and curved-footed hygrotus diving beetle

BIO-4a: Implement measures to avoid or protect habitat for valley elderberry longhorn beetle

BIO-4b: Compensate for direct and indirect effects on valley elderberry longhorn beetle

BIO-5a: Implement best management practices to avoid and minimize effects on special-status amphibians

BIO-5b: Compensate for loss of habitat for special-status amphibians

BIO-5c: Restore disturbed annual grasslands

BIO-7a: Implement best management practices to avoid and minimize effects on special-status reptiles

BIO-7b: Compensate for loss of habitat for special-status reptiles

BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non-special-status nesting birds

BIO-8b: Implement measures to avoid and minimize potential impacts on western burrowing owl

BIO-9: Compensate for the permanent loss of foraging habitat for western burrowing owl

BIO-10a: Implement measures to avoid and minimize potential impacts on San Joaquin kit fox and American badger

BIO-10b: Compensate for loss of suitable habitat for San Joaquin kit fox and American badger

BIO-16: Compensate for the loss of riparian habitat

BIO-18: Compensate for the loss of wetlands

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1a, BIO-1b, BIO-1c, BIO-1d, BIO-1e, BIO-3a, BIO-4a, BIO-4b, BIO-5a, BIO-5b, BIO-5c, BIO-7a, BIO-7b, BIO-8a, BIO-8b, BIO-9, BIO-10a, BIO-10b, BIO-15, BIO-16, and BIO-18 will ensure that the impacts associated with conflict with local plans or policies will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1a: Conduct surveys to determine the presence or absence of special-status species

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-1c above.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19c above.

BIO-1c: Avoid and minimize impacts on special-status plant species by establishing activity exclusion zones

For the text of Mitigation Measure BIO-1c, please refer to the discussion of Impact BIO-1c above.

BIO-1d: Compensate for impacts on special-status plant species

For the text of Mitigation Measure BIO-1d, please refer to the discussion of Impact BIO-19c above.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1e, please refer to the discussion of Impact BIO-19c above.

BIO-3a: Implement measures to avoid, minimize, and mitigate impacts on vernal pool branchiopods and curved-footed hygrotus diving beetle

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19c above.

BIO-4a: Implement measures to avoid or protect habitat for valley elderberry longhorn beetle

For the text of Mitigation Measure BIO-4a, please refer to the discussion of Impact BIO-19c above.

BIO-4b: Compensate for direct and indirect effects on valley elderberry longhorn beetle

For the text of Mitigation Measure BIO-4b, please refer to the discussion of Impact BIO-4c above.

BIO-5a: Implement best management practices to avoid and minimize effects on special-status amphibians

For the text of Mitigation Measure BIO-5a, please refer to the discussion of Impact BIO-19c above.

BIO-5b: Compensate for loss of habitat for special-status amphibians

For the text of Mitigation Measure BIO-5b, please refer to the discussion of Impact BIO-5c above.

BIO-5c: Restore disturbed annual grasslands

For the text of Mitigation Measure BIO-5c, please refer to the discussion of Impact BIO-19c above.

BIO-7a: Implement best management practices to avoid and minimize effects on special-status reptiles

For the text of Mitigation Measure BIO-7a, please refer to the discussion of Impact BIO-19c above.

BIO-7b: Compensate for loss of habitat for special-status reptiles

For the text of Mitigation Measure BIO-7b, please refer to the discussion of Impact BIO-7c above.

BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non-special-status nesting birds

For the text of Mitigation Measure BIO-8a, please refer to the discussion of Impact BIO-19c above.

BIO-8b: Implement measures to avoid and minimize potential impacts on western burrowing owl

For the text of Mitigation Measure BIO-8b, please refer to the discussion of Impact BIO-19c above.

BIO-9: Compensate for the permanent loss of foraging habitat for western burrowing owl

For the text of Mitigation Measure BIO-9, please refer to the discussion of Impact BIO-9c above.

BIO-10a: Implement measures to avoid and minimize potential impacts on San Joaquin kit fox and American badger

For the text of Mitigation Measure BIO-10a, please refer to the discussion of Impact BIO-10c above.

BIO-10b: Compensate for loss of suitable habitat for San Joaquin kit fox and American badger

For the text of Mitigation Measure BIO-10b, please refer to the discussion of Impact BIO-10c above.

BIO-16: Compensate for the loss of riparian habitat

For the text of Mitigation Measure BIO-16, please refer to the discussion of Impact BIO-16c above.

BIO-18: Compensate for the loss of wetlands

For the text of Mitigation Measure BIO-18, please refer to the discussion of Impact BIO-18c above.

Remaining Impacts: Any remaining impact associated with conflict with local plans or policies will be less than significant.

Cultural Resources

Impact CUL-2c: Cause a substantial adverse change in the significance of an archaeological resource—Patterson Pass Project

Potential Impact: Although no cultural resources have been identified in the Patterson Pass Project area, there is the possibility of encountering and damaging previously unrecorded archaeological resources during ground-disturbing activities.

Mitigation Measures: The following mitigation measures, discussed in Section 3.5.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

CUL-2a: Conduct a preconstruction cultural field survey and cultural resources inventory and evaluation

CUL-2b: Develop a treatment plan for any identified significant cultural resources

CUL-2c: Conduct worker awareness training for archaeological resources prior to construction

CUL-2d: Stop work if cultural resources are encountered during ground-disturbing activities

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures CUL-2a, CUL-2b, CUL-2c, and CUL-2d will ensure that the impacts with the potential to cause a substantial adverse change in the significance of an archaeological resource will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

CUL-2a: Conduct a preconstruction cultural field survey and cultural resources inventory and evaluation

Alameda County will require applicants to retain qualified personnel to conduct an archaeological field survey of the Patterson Pass Project area to determine whether significant resources exist within the project area. The inventory and evaluation will include the documentation and result of these efforts, the evaluation of any cultural resources identified during the survey, and cultural resources monitoring, if the survey identifies that it is necessary.

CUL-2b: Develop a treatment plan for any identified significant cultural resources

If any significant resources are identified through the preconstruction survey, a treatment plan that could include site avoidance, capping, or data recovery will be developed and implemented.

CUL-2c: Conduct worker awareness training for archaeological resources prior to construction

Prior to the initiation of any site preparation and/or the start of construction, the project applicant will ensure that all construction workers receive training overseen by a qualified

professional archaeologist who is experienced in teaching nonspecialists, to ensure that forepersons and field supervisors can recognize archaeological resources (e.g., areas of shellfish remains, chipped stone or groundstone, historic debris, building foundations, human bone) in the event that any are discovered during construction.

CUL-2d: Stop work if cultural resources are encountered during ground-disturbing activities

The project applicant will ensure that construction specifications include a stop-work order if prehistoric or historic-era cultural resources are unearthed during ground-disturbing activities. If such resources are encountered, the project applicant will immediately halt all activity within 100 feet of the find until a qualified archaeologist can assess the significance of the find. Prehistoric materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or tool-making debris; culturally darkened soil ("midden") containing heat-affected rocks and artifacts; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered-stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. If the find is determined to be potentially significant, the archaeologist, in consultation with the Native American representative (if appropriate), will develop a treatment plan that could include site avoidance, capping, or data recovery.

Remaining Impacts: Any remaining impact associated with a substantial adverse change in the significance of an archaeological resource will be less than significant.

Impact CUL-3c: Disturb any human remains, including those interred outside of formal cemeteries—Patterson Pass Project

Potential Impact: Although there is no indication that the Patterson Pass Project area has been used for human burials, because prehistoric sites are known to be present in the larger Program area, the possibility cannot be discounted entirely. Although the possibility is unlikely, human remains could be discovered during ground-disturbing activities.

Mitigation Measure: The following mitigation measure, discussed in Section 3.5.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

CUL-3: Stop work if human remains are encountered during ground-disturbing activities

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure CUL-3 will ensure that the impacts with the potential to disturb human remains will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

CUL-3: Stop work if human remains are encountered during ground-disturbing activities

The project applicant will ensure the construction specifications include a stop-work order if human remains are discovered during construction or demolition. There will be no further excavation or disturbance of the site within a 100-foot radius of the location of such discovery,

or any nearby area reasonably suspected to overlie adjacent remains. The Alameda County Coroner will be notified and will make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he will notify the Native American Heritage Commission, who will attempt to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this state law, then the landowner will re-inter the human remains and items associated with Native American burials on the property in a location not subject to further subsurface disturbance. A final report will be submitted to Alameda County. This report will contain a description of the mitigation program and its results, including a description of the monitoring and testing resources analysis methodology and conclusions and a description of the disposition/curation of the resources.

Remaining Impacts: : Any remaining impact associated with disturbance of human remains will be less than significant.

Geology, Soils, Mineral Resources, and Paleontological Resources

Impact GEO-2c: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of strong seismic ground shaking—Patterson Pass Project

Potential Impact: Construction of turbines or power collection systems in areas with potential to experience strong ground shaking could expose people or structures to potential substantial adverse effects. If turbine foundations were not properly designed to withstand the appropriate level of ground shaking, they could fail and cause damage to or collapse of the turbine towers. This damage or collapse could cause harm to personnel or property in the immediate area.

The range of shaking intensity in the Patterson Pass project area is on the higher end of shaking intensities experienced in the Patterson Pass Project area. The potential damage and harm that could result from moderately strong ground shaking would be a significant impact.

Both the State of California and Alameda County have stringent building safety requirements, and all construction would have to comply with the CBSC. However, this may not address all seismic-related safety issues. If the turbine foundation and power collection system design and construction were not based on rigorous, detailed, site-specific geotechnical investigation, the foundation or collection system could fail during strong ground shaking and cause damage to or collapse of the turbine or collection system.

Mitigation Measures: The following mitigation measure, discussed in Section 3.6.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure GEO-1 will ensure that the impacts with the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of strong

seismic ground shaking will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

Prior to construction activities at any site, the project proponent will retain a geotechnical firm with local expertise in geotechnical investigation and design to prepare a site-specific geotechnical report. This report will be prepared by a licensed geotechnical engineer or engineering geologist and will be submitted to the County building department as part of the approval process. This report will be based on data collected from subsurface exploration, laboratory testing of samples, and surface mapping and will address the following issues.

- Potential for surface fault rupture and turbine site location: The geotechnical report will investigate the Greenville, Corral Hollow-Carnegie, and the Midway faults (as appropriate to the location) and determine whether they pose a risk of surface rupture. Turbine foundations and power collection systems will be sited according to recommendations in this report.
- Strong ground shaking: The geotechnical report will analyze the potential for strong ground shaking in project area and provide turbine foundation design recommendations, as well as recommendations for power collection systems.
- Slope failure: The geotechnical report will investigate the potential for slope failure (both seismically and nonseismically induced) and develop site-specific turbine foundation and power collection system plans engineered for the terrain, rock and soil types, and other conditions present at the program area in order to provide long-term stability.
- Expansive soils: The geotechnical report will assess the soil types in the program area and determine the best engineering designs to accommodate the soil conditions.
- Unstable cut or fill slopes: The geotechnical report will address geologic hazards related to the potential for grading to create unstable cut or fill slopes and make site-specific recommendations related to design and engineering.

Remaining Impacts: Any remaining impact associated with the exposure of people or structures to potential substantial adverse effects will be less than significant.

Impact GEO-3c: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of seismic-related ground failure, including landsliding and liquefaction—Patterson Pass Project

Potential Impact: Construction of turbines or power collection systems in areas with potential to experience seismic-related ground failure, such as landsliding, liquefaction, lateral spread, and differential settlement, could expose people or structures to potential substantial adverse effects. If turbine foundations or power collection systems were not properly designed and sited for the earthquake-induced ground failure conditions present at the Patterson Pass Project area, they could fail and cause damage to or collapse of the turbine towers or collection system. This damage or collapse could cause harm to personnel or property in the immediate area.

The Patterson Pass project area is in an area known to be susceptible to landsliding. In addition, although the potential for liquefaction is likely low because of the depth to groundwater and the age

of the geologic units in the project area, the risk of lateral spread and differential settlement is unknown. The potential damage and harm that could result from landsliding, lateral spread, or differential settlement would be a significant impact.

Both the State of California and Alameda County have stringent building safety requirements, and all construction would have to comply with the California Building Standards Code. Nonetheless, this may not address all seismic-related ground failure issues. If the turbine foundation and power collection system design and construction were not based on rigorous, detailed, site-specific geotechnical investigation, the foundation or collection system could fail as a result of landsliding, lateral spread, or differential settlement and cause damage to or collapse of the turbine or collection system.

Mitigation Measure: The following mitigation measure, discussed in Section 3.6.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure GEO-1 will ensure that the impacts with the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of seismic-related ground failure, including landsliding and liquefaction will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

For the text of Mitigation Measure GEO-1, please refer to the discussion of Impact GEO-1c above.

Remaining Impacts: Any remaining impact associated with the exposure of people or structures to potential substantial adverse effects will be less than significant.

Impact GEO-4c: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of landsliding—Patterson Pass Project

Potential Impact: Construction of turbines or power collection systems in areas with potential to experience nonseismic-related landsliding caused by heavy precipitation could also expose people or structures to potential substantial adverse effects. If turbine foundations or power collection systems were not properly designed and sited for the landsliding conditions present at the Patterson Pass Project area, they could fail and cause damage to or collapse of the turbine towers or collection system. This damage or collapse could cause harm to personnel or property in the immediate area.

The Patterson Pass project area is in steep, hilly terrain in an area known to be susceptible to landsliding. Both the State of California and Alameda County have stringent building safety requirements, and all construction would have to comply with the California Building Standards Code. However, this may not address all seismic-related landsliding issues. If the turbine foundation and power collection system design and construction were not based on rigorous, detailed, site-

specific geotechnical investigation, the foundation or collection system could fail as a result of landsliding and cause damage to or collapse of the turbine or collection system.

Mitigation Measure: The following mitigation measure, discussed in Section 3.6.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure GEO-1 will ensure that the impacts with the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of landsliding will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

For the text of Mitigation Measure GEO-1, please refer to the discussion of Impact GEO-1c above.

Remaining Impacts: Any remaining impact associated with the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of landsliding, will be less than significant.

Impact GEO-6c: Be located on expansive soil, creating substantial risks to life or property—Patterson Pass Project

Potential Impact: Turbine foundations built on expansive soils would be subject to the expansion and contraction of these soils, which could cause damage to structures if the subsoil, drainage, and foundation are not properly engineered. The metrological tower and underground systems would be subject to the same expansion and contraction.

The Patterson Pass project area is underlain by the Fontana-Diablo-Altamont and the Carbona-Calla soil associations, which both contain soils with high shrink-swell potential. However, soil sampling and treatment procedures are addressed by state and local building codes.

Mitigation Measure: The following mitigation measure, discussed in Section 3.6.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure GEO-1 will ensure that the impacts associated with being located on expansive soil, including risks to life and property, as a result of landsliding will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

For the text of Mitigation Measure GEO-1, please refer to the discussion of Impact GEO-1c above.

Remaining Impacts: Any remaining impact associated with being located on expansive soil will be less than significant.

Impact GEO-7c: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature—Patterson Pass Project

Potential Impact: If fossils are present in the Patterson Pass Project area, they could be damaged by during earth-disturbing activities during construction activities, such as excavation for foundations, placement of fills, trenching for power collection systems, and grading for roads and staging areas. The more extensive and deeper the earth-disturbing activity, the greater the potential for damage to paleontological resources.

Because they are sedimentary rocks, geologic units with potential to contain paleontological resources include most units in the program area. In particular, the Neroly Formation and some units of the Great Valley Sequence are known to contain vertebrate fossils. Substantial damage to or destruction of significant paleontological resources as defined by the Society of Vertebrate Paleontology (2010) would be a significant impact.

Mitigation Measures: The following mitigation measures, discussed in Section 3.6.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

GEO-7a: Retain a qualified professional paleontologist to monitor significant ground-disturbing activities

GEO-7b: Educate construction personnel in recognizing fossil material

GEO-7c: Stop work if substantial fossil remains are encountered during construction

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures GEO-7a, GEO-7b, and GEO-7c will ensure that the impacts associated with directly or indirectly destroying a unique paleontological resource or site or unique geologic feature will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

GEO-7a: Retain a qualified professional paleontologist to monitor significant ground-disturbing activities

The applicant will retain a qualified professional paleontologist as defined by the SVP's *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* (2010) to monitor activities with the potential to disturb sensitive paleontological resources. Data gathered during detailed project design will be used to determine the activities that will require the presence of a monitor. In general, these activities include any ground-disturbing activities involving excavation deeper than 3 feet in areas with high potential to contain

sensitive paleontological resources. Recovered fossils will be prepared so that they can be properly documented. Recovered fossils will then be curated at a facility that will properly house and label them, maintain the association between the fossils and field data about the fossils' provenance, and make the information available to the scientific community.

GEO-7b: Educate construction personnel in recognizing fossil material

The applicant will ensure that all construction personnel receive training provided by a qualified professional paleontologist experienced in teaching non-specialists to ensure that they can recognize fossil materials in the event any are discovered during construction.

GEO-7c: Stop work if substantial fossil remains are encountered during construction

If substantial fossil remains (particularly vertebrate remains) are discovered during earth disturbing activities, activities within 100 feet of the find will stop immediately until a state-registered professional geologist or qualified professional paleontologist can assess the nature and importance of the find and a qualified professional paleontologist can recommend appropriate treatment. Treatment may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds. The applicant will be responsible for ensuring that recommendations regarding treatment and reporting are implemented.

Remaining Impacts: Any remaining impact associated with destruction of paleontological resources will be less than significant.

Greenhouse Gas Emissions

Impact GHG-2c: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases—Patterson Pass Project

Potential Impact: The Patterson Pass Project could conflict with certain GHG reduction goals set forth in AB 32, including the 39 Recommended Actions identified by ARB in its Climate Change Scoping Plan (California Air Resources Board 2008b). These potential conflicts are the same as described in Chapter 3.7 of the PEIR in its discussion of Scoping Plan measures T-7, E-3, and H-6. Implementation of Mitigation Measure GHG-2a (see below) would ensure that the Patterson Pass Project would not conflict with implementation of Measure T-7. Implementation of Mitigation Measure GHG-2b (see below) would ensure that the Patterson Pass Project would not conflict with implementation of Measure H-6.

The Patterson Pass Project could also conflict with certain GHG reduction goals set forth in the Alameda County Final Draft Climate Action Plan. These potential conflicts are the same as presented above for the program. Consistency of the Patterson Pass Project with these measures is reflected in the evaluation of the program by each source-type measure above. Implementation of Mitigation Measure GHG-2c (see below) would ensure that the Patterson Pass Project would not conflict with implementation of CCAP Measure E-10 (see below). Implementation of Mitigation Measure GHG-2d would ensure that the Patterson Pass Project would not conflict with implementation of CCAP Measure WS-2.

Mitigation Measures: The following mitigation measures, discussed in Section 3.7.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

GHG-2a: Implement best available control technology for heavy-duty vehicles

GHG-2b: Install low SF6 leak rate circuit breakers and monitoring

GHG-2c: Require new construction to use building materials containing recycled content

GHG-2d: Comply with construction and demolition debris management ordinance

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures GHG-2a, GHG-2b, GHG-2c, and GHG-2d will ensure that the impacts associated with a conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

GHG-2a: Implement best available control technology for heavy-duty vehicles

The applicant will require existing trucks/trailers to be retrofitted with the best available technology and/or ARB-approved technology consistent with the ARB Truck and Bus Regulation (California Air Resources Board 2011). The ARB Truck and Bus Regulation applies to all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds.

Starting January 1, 2015, the applicant must replace lighter trucks (GVWR of 14,001 to 26,000 pounds) with engines that are 20 years or older with newer trucks. The Applicant has the option to install a PM filter retrofit on a lighter truck by 2014 to make the truck exempt from replacement until January 1, 2020, and any lighter truck equipped with a PM filter retrofit prior to July 2011 would receive credit toward the compliance requirements for a heavier truck or bus in the same fleet.

Starting January 1, 2012, the applicant is required to meet the engine model year schedule shown below for heavier trucks (GVWR greater than 26,000 pounds). To comply with the schedule, the applicant will install the best available PM filter on 1996 model year and newer engines and would replace the vehicle 8 years later. The Applicant will replace trucks with 1995 model year and older engines starting in 2015. Replacements with 2010 model year or newer engines meets the final requirements, but the applicant could also replace trucks with used trucks that would have a future compliance date on the schedule. For example, a replacement with a 2007 model year engine complies until 2023. By 2023 all trucks and buses must have 2010 model year engines with few exceptions.

Engine Model Year Schedule for Heavier Trucks	
Engine Year	Requirement from January 1
Pre-1994	No requirements until 2015, then 2010 engine
1994–1995	No requirements until 2016, then 2010 engine
1996–1999	PM filter from 2012 to 2020, then 2010 engine
2000–2004	PM filter from 2013 to 2021, then 2010 engine
2005–2006	PM filter from 2014 to 2022, then 2010 engine
2007–2009	No requirements until 2023, then 2010 engine
2010	Meets final requirements

In addition, the applicant could comply with a phase-in option that would allow the applicant to decide which vehicles to retrofit or replace, regardless of engine model year. The applicant must report information about all heavier trucks starting January 31, 2012, to use this option.

The Applicant could comply by demonstrating that trucks have met the percentage requirement each year as shown in the table below. For example, by 2012 the applicant's fleet would need to have PM filters on 30% of the heavier trucks in the fleet. This option counts 2007 model year and newer engines originally equipped with PM filters toward compliance and would reduce the overall number of retrofit PM filters needed. Any engine with a PM filter regardless of model year would be compliant until at least 2020. Beginning January 1, 2020, all heavier trucks would need to meet the requirements specified in the Compliance Schedule for Heavier Trucks.

Phase-In Option for Heavier Trucks	
Compliance Date	Vehicles with PM Filters
1-Jan-12	30%
1-Jan-13	60%
1-Jan-14	90%
1-Jan-15	90%
1-Jan-16	100%

GHG-2b: Install low SF6 leak rate circuit breakers and monitoring

The applicant will ensure that any new circuit breaker installed at a substation has a guaranteed SF_6 leak rate of 0.5% by volume or less. The applicant will provide Alameda County with documentation of compliance, such as specification sheets, prior to installation of the circuit breaker. In addition, the applicant will monitor the SF_6-containing circuit breakers at the substation consistent with Scoping Plan Measure H-6 for the detection and repair of leaks.

GHG-2c: Require new construction to use building materials containing recycled content

The applicant will require the construction of all new substation and other permanent buildings to incorporate materials for which the sum of post-consumer recycled content plus one-half of the post-industrial content constitutes at least 10% of the total value of the materials in the project.

GHG-2d: Comply with construction and demolition debris management ordinance

The applicant will comply with the County's revised Green Building Ordinance regarding construction and demolition debris as follows: (1) 100% of inert waste and 50% wood/vegetative/scrap metal not including Alternative Daily Cover (ADC) and unsalvageable material will be put to other beneficial uses at landfills, and (2) 100% of inert materials (concrete and asphalt) will be recycled or put to beneficial reuse.

Remaining Impacts: Any remaining impact associated with conflict with applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases will be less than significant.

Hazards and Hazardous Materials

Impact HAZ-4c: Location on a hazardous materials site, creating a significant hazard to the public or the environment—Patterson Pass Project

Potential Impact: It is not known if hazardous materials sites are present within the Patterson Pass Project area. However, the potential for the existence of hazardous materials is generally low. Land uses in the APWRA include agriculture, grazing, riding and hiking trails, and windfarms. Some of these land uses involve the use of potentially hazardous materials (e.g., fertilizer). Because soil disturbance would be involved in construction activities for both decommissioning activities and construction of individual wind projects, any contaminated soil found could represent a significant risk to human health and the environment.

All projects requiring a CUP from the County would be bound by the County's Unified Hazardous Waste and Hazardous Materials Management Regulatory Program. Therefore, future repowering projects would require County permit approval of new CUPs, and Mitigation Measure HAZ-4 would become a standard condition of approval for the CUP.

Mitigation Measure: The following mitigation measure, discussed in Section 3.8.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

HAZ-4: Perform a Phase I Environmental Site Assessment prior to construction activities and remediate if necessary

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure HAZ-4 will ensure that the impacts associated with locating on a hazardous materials site creating a significant hazard to the public or the environment will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

HAZ-4: Perform a Phase I Environmental Site Assessment prior to construction activities and remediate if necessary

Prior to construction, the project proponent will conduct a Phase I environmental site assessment in conformance with the American Society for Testing and Materials Standard Practice E1527-05. All environmental investigation, sampling, and remediation activities associated with properties in the project area will be conducted under a work plan approved by

the regulatory oversight agency and will be conducted by the appropriate environmental professional consistent with Phase I site assessment requirements as detailed below. The results of any investigation and/or remediation activities conducted in the project area will be included in the project-levelEIR.

A Phase I environmental site assessment should, at a minimum, include the components listed below.

- An onsite visit to identify current conditions (e.g., vegetative dieback, chemical spill residue, presence of above- or underground storage tanks).
- An evaluation of possible risks posed by neighboring properties.
- Interviews with persons knowledgeable about the site's history (e.g., current or previous property owners, property managers).
- An examination of local planning files to check prior land uses and any permits granted.
- File searches with appropriate agencies (e.g., State Water Resources Control Board, fire department, County health department) having oversight authority relative to water quality and groundwater and soil contamination.
- Examination of historical aerial photography of the site and adjacent properties.
- A review of current and historic topographic maps of the site to determine drainage patterns.
- An examination of chain-of-title for environmental liens and/or activity and land use limitations.

If the Phase I environmental site assessment indicates likely site contamination, a Phase II environmental site assessment will be performed (also by an environmental professional).

A Phase II environmental site assessment would comprise the following.

- Collection of original surface and/or subsurface samples of soil, groundwater, and building materials to analyze for quantities of various contaminants.
- An analysis to determine the vertical and horizontal extent of contamination (if the evidence from sampling shows contamination).

If contamination is uncovered as part of Phase I or II environmental site assessments, remediation will be required. If materials such as asbestos-containing materials, lead-based paint, or PCB-containing equipment are identified, these materials will be properly managed and disposed of prior to or during the demolition process.

Any contaminated soil identified on a project site must be properly disposed of in accordance with DTSC regulations in effect at the time.

Hazardous wastes generated by the proposed project will be managed in accordance with the California Hazardous Waste Control Law (HSC, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulation (Title 22, CCR, Division 4.5).

If, during construction/demolition of structures, soil or groundwater contamination is suspected, the construction/demolition activities will cease and appropriate health and safety

procedures will be implemented, including the use of appropriate personal protective equipment (e.g., respiratory protection, protective clothing, helmets, goggles).

Remaining Impacts: Any remaining impact associated with location on a hazardous materials site creating a significant hazard to the public or the environment will be less than significant.

Impact HAZ-5c: Location within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, resulting in a safety hazard for people residing or working in the project area—Patterson Pass Project

Potential Impact: The closest public airport to the proposed project is the Byron Airport, located approximately 2.08 miles northeast of the program area boundary. Because the project area is not within 2 miles of a public airport, implementation of the proposed project would not generally result in a safety hazard for people residing or working in the project area. Also, as discussed in Chapter 2, *Project Description* of the PEIR, all repower wind turbines would require FAA lighting as most would be more than 200 feet tall and must be individually lit with obstruction lighting. Through its Notice of Proposed Construction or Alteration (Form 7460.1), the FAA would review the proposed projects prior to construction (14 CFR Part 77). The FAA analysis would include a review of proposed marking (paint scheme) and nighttime lighting to ensure that aircraft could readily identify and avoid the wind turbines. Compliance with FAA requirements would reduce the majority of the projects' potential aviation safety impacts to an acceptable level of risk.

Mitigation Measure: The following mitigation measure, discussed in Section 3.8.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

HAZ-5: Coordinate with the Contra Costa ALUC prior to final design

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure HAZ-5 will ensure that the impacts associated with locating within an airport land use plan area or within 2 miles of a public airport or public use airport and any resultant safety hazard for people residing or working in the project area will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

HAZ-5: Coordinate with the Contra Costa ALUC prior to final design

If wind turbines are proposed to be constructed within the Byron Airport influence area zones, the project proponent will coordinate and consult with the Contra Costa County Airport Land Use Commission and request review and obtain approval of the final design and placement of wind turbines. In addition, the project proponent will incorporate any ALUC recommendations in to the final design.

Remaining Impacts: Any remaining impact associated with an airport-related safety hazard will be less than significant.

Impact HAZ-7c: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan—Patterson Pass Project

Existing vehicular traffic is associated with operations and maintenance of project facilities and is not anticipated to change under the proposed project. Accordingly, operation of the project would have no impact. During construction, there would be an increase in vehicular traffic transporting work crews, equipment, and materials. Construction traffic routing would be established in a Construction Traffic Plan, which would include a traffic safety and signing plan prepared by the project engineers in coordination with Alameda County and other related agencies. The plan would define hours, routes, and safety and management requirements. EDF would obtain all necessary permits and regulatory approvals subject to review under applicable law. The proposed project would therefore not conflict with any adopted emergency response plan or emergency evacuation plan. Finally, conveyance of decommissioned turbines, towers and other components on public roads would occur at an irregular, infrequent rate, and would be subject to standard Caltrans regulations. Such conveyance would not hinder emergency access to the project area.

Mitigation Measures: The following mitigation measure, discussed in Section 3.8.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

TRA-1: Develop and implement a construction traffic control plan

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure TRB will ensure that any impacts that would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

TRA-1: Develop and implement a construction traffic control plan

Prior to starting construction-related activities, the Applicant shall prepare and implement a Traffic Control Plan (TCP) that will reduce or eliminate impacts associated with the proposed program. The TCP shall adhere to Alameda County and Caltrans requirements, and must be submitted for review and approval of the County Public Works Department prior to implementation. The TCP shall include the following elements. The County and Caltrans may require additional elements to be identified during their review and approval of the TCP.

- Schedule construction hours to minimize concentrations of construction workers commuting to/from the project site during typical peak commute hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.).
- Limit truck access to the project site during typical peak commute hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.).
- Require that written notification be provided to contractors regarding appropriate haul routes to and from the program area, as well as the weight and speed limits on local county roads used to access the program area.
- Provide access for emergency vehicles to and through the program area at all times.

- When lane/road closures occur during delivery of oversized loads, provide advance notice to local fire, police, and emergency service providers to ensure that alternative evacuation and emergency routes are designated to maintain service response times.
- Provide adequate onsite parking for construction trucks and worker vehicles.
- Require suitable public safety measures in the program area and at the entrance roads, including fences, barriers, lights, flagging, guards, and signs, to give adequate warning to the public of the construction and of any dangerous conditions that could be encountered as a result thereof.
- Complete road repairs on local public roads as needed during construction to prevent excessive deterioration. This work may include construction of temporary roadway shoulders to support any necessary detour lanes.
- Repair or restore the road right-of-way to its original condition or better upon completion of the work.
- Coordinate program-related construction activities, including schedule, truck traffic, haul routes, and the delivery of oversized or overweight materials, with Alameda County, Caltrans, and affected cities to identify and minimize overlap with other area construction projects.

Remaining Impacts: Any remaining impact associated with interference with an adopted emergency response plan or emergency evacuation plan will be less than significant.

Hydrology and Water Quality

Impact WQ-1c: Violate any water quality standards or waste discharge requirements—Patterson Pass Project

Potential Impact: Construction of the Patterson Pass Project would disturb soil and have the potential to affect water quality. As stated in Chapter 2, *Project Description*, the Patterson Pass Project would be required to gain coverage under the state's NPDES Construction General Permit (see additional discussion above in Mitigation Measure WQ-1). During construction, trenching and other construction activities create areas of bare soil that can be exposed to erosive forces for long periods of time. Bare soils are much more likely to erode than vegetated areas because of the lack of dispersion, infiltration, and retention properties created by covering vegetation. Construction activities involving soil disturbance, excavation, cutting/filling, stockpiling, and grading could result in increased erosion and sedimentation to surface waters, if proper BMPs are not used.

While existing activities at the proposed project area may already result in the release of sediment, the extent of earth disturbance resulting from construction of the project is anticipated to result in a new and intensified potential for the release of sediments due to staging areas and turbine construction sites. If precautions are not taken to contain or capture sedimentation, earth-disturbing construction activities could result in substantial sedimentation in stormwater runoff and result in a significant impact on existing surface water quality.

Mitigation Measure: The following mitigation measure, discussed in Section 3.9.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

WQ-1: Comply with NPDES requirements

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure WQ-1 will ensure that any impacts that would violate any water quality standards or waste discharge requirements will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

WQ-1: Comply with NPDES requirements

For the text of Mitigation Measure WQ-1, please refer to the discussion of Impact BIO-2c above.

Remaining Impacts: Any remaining impact associated with violation of any water quality standards or waste discharge requirements will be less than significant.

Impact WQ-3c: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite—Patterson Pass Project

Potential Impact: The Patterson Pass Project would not construct any turbines within existing drainage areas and the project footprints would be designed to not cause any downstream erosion during the storm season. In addition, the proposed project would be required to adhere to the NPDES Construction General Permit.

Mitigation Measure: The following mitigation measure, discussed in Section 3.9.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

WQ-1: Comply with NPDES requirements

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure WQ-1 will ensure that any impacts that would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

WQ-1: Comply with NPDES requirements

For the text of Mitigation Measure WQ-1, please refer to the discussion of Impact BIO-2c above.

Remaining Impacts: Any remaining impact associated with substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite will be less than significant.

Impact WQ-4c: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite—Patterson Pass Project

Potential Impact: The Patterson Pass Project would not construct any turbines that would result in the substantial alteration of drainage patterns or the course of any stream. New turbines would constitute a maximum of approximately 1 acre of impervious surfaces; however the existing 336 turbine foundations that would be removed would be replaced by a maximum of 13 turbines, resulting in a net reduction of impervious surface. Consequently, this impact would be less than significant.

Although road improvements would result in a roughly 30% increase in the extent of graveled surfaces (which can result in increased runoff) from the extent of existing graveled roads, the soils underlying the project area are predominantly high runoff soils (i.e., Hydrologic Soil Group D) (Soil Conservation Service 1966, 1977). Compacted gravel roads have runoff potential similar to that of Hydrologic Soil Group D soils. Consequently, the expanded graveled roads would not result in a net increase in runoff potential than presently exists in the native soils where the new gravel would be placed. Accordingly, because there runoff would not increase as a result of the widened gravel roads, there would not be an increase in flooding onsite or offsite. In addition, all projects conducted under the program would be required to adhere to the NPDES stormwater Construction General Permit, which requires that postconstruction runoff management measures be implemented in the event that the project's SWPPP determines that a project could cause an increase in peak runoff flows from the project area.

Mitigation Measure: The following mitigation measure, discussed in Section 3.9.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

WQ-1: Comply with NPDES requirements

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure WQ-1 will ensure that any impacts that would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

WQ-1: Comply with NPDES requirements

For the text of Mitigation Measure WQ-1, please refer to the discussion of Impact BIO-2c above.

Remaining Impacts: Any remaining impact associated with substantial alteration of the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite will be less than significant.

Impact WQ-5c: Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff—Patterson Pass Project

Potential Impact: The Patterson Pass Project area does not currently have existing or planned stormwater drainage facilities and construction of the proposed project would not exceed capacities or increase the rate of polluted runoff. However, construction could generate polluted runoff as soil would be stripped, bare areas would be exposed, and stormwater could cause sedimentation.

Mitigation Measure: The following mitigation measure, discussed in Section 3.9.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

WQ-1: Comply with NPDES requirements

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure WQ-1 will ensure that any impacts that would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

WQ-1: Comply with NPDES requirements

For the text of Mitigation Measure WQ-1, please refer to the discussion of Impact BIO-2c above.

Remaining Impacts: Any remaining impact that would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff will be less than significant.

Impact WQ-6c: Otherwise substantially degrade water quality—Patterson Pass Project

Potential Impact: The Patterson Pass project area does not currently have any substantial water quality issues or drainages that could carry a substantial amount of polluted runoff to receiving waters. In addition, project operation is not anticipated to result in a substantial amount of additional runoff that could impact water quality. However, construction could generate polluted runoff as soil would be stripped, bare areas would be exposed, and stormwater could cause sedimentation.

Mitigation Measure: The following mitigation measure, discussed in Section 3.9.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

WQ-1: Comply with NPDES requirements

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure WQ-1 will ensure that any impacts that would otherwise substantially degrade water quality will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

WQ-1: Comply with NPDES requirements

For the text of Mitigation Measure WQ-1, please refer to the discussion of Impact BIO-2c above.

Remaining Impacts: Any remaining impact that would otherwise substantially degrade water quality will be less than significant.

Impact WQ-10c: Contribute to inundation by seiche, tsunami, or mudflow—Patterson Pass Project

Potential Impact: Because the Patterson Pass Project is in rolling hills and far from the ocean, the likelihood of a seiche or tsunami occurring is considered minimal. In addition, a mudflow is also highly unlikely, but could be possible in rolling hills if proper BMPs are not used during the construction process. Implementation of Mitigation Measure WQ-1 would ensure that project-related stormwater runoff would be properly contained and drain appropriately as to not build up or cause rills and sedimentation resulting in the potential for a mudflow.

Mitigation Measure: The following mitigation measure, discussed in Section 3.9.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

WQ-1: Comply with NPDES requirements

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure WQ-1 will ensure that any impacts that would contribute to inundation by seiche, tsunami, or mudflow will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

WQ-1: Comply with NPDES requirements

For the text of Mitigation Measure WQ-1, please refer to the discussion of Impact BIO-2c above.

Remaining Impacts: Any remaining impact that would contribute to inundation by seiche, tsunami, or mudflow will be less than significant.

Transportation/Traffic

Impact TRA-1c: Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit or conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways—Patterson Pass Project

Potential Impact: Construction traffic could cause a substantial traffic increase on the local county roads that provide direct access to the project construction sites—e.g., Patterson Pass Road and Jess Ranch Road—as these roads generally have low traffic volumes. Table 3.15-7 of the PEIR

summarizes an estimate of the construction-related trips on Patterson Pass Road, which provides direct access to construction sites in the project area. The increase in construction trips would range from 3 to 4 percent of ADT and from 8 to 11 percent of peak hour volumes on Patterson Pass Road. The substantial increase in construction traffic, especially during the AM and PM peak commute hours, could potentially cause degradation of traffic operation on these local project access routes.

Mitigation Measure: The following mitigation measure, discussed in the PEIR in Section 3.15.2, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

TRA-1: Develop and implement a construction traffic control plan

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure TRB will ensure that any impacts that would conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

TRA-1: Develop and implement a construction traffic control plan

For the text of Mitigation Measure TRA-1, please refer to the discussion of Impact HAZ-7c above.

Remaining Impacts: Any remaining impact that would conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system will be less than significant.

Impact TRA-4c: Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) due to construction-generated traffic—Patterson Pass Project

Potential Impact: Proposed project ingress/egress to the project area would be via Patterson Pass Road and Jess Ranch Road. As discussed in Section 2.6.2 of the PEIR, minor intersection improvements would be implemented along these roads to allow for safe passage of the oversized vehicles and facilitate ingress/egress from local access roads. Following road construction, all roads would be inspected to determine if and where any additional grading or additional gravel would be necessary to meet Alameda County road standards.

Regardless, the presence of large, slow-moving construction-related vehicles and equipment among the general-purpose traffic on roadways that provide access to the project area could cause other drivers to act impatiently and create traffic safety hazards. In addition, the slow-moving trucks entering or exiting the project area from public roads could pose a traffic hazard to other vehicles and increase the potential for turning movement collisions at the project entrance intersection.

Mitigation Measure: The following mitigation measure, discussed in the PEIR in Section 3.15.2, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

TRA-1: Develop and implement a construction traffic control plan

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure TRA-1 will ensure that any impacts that would substantially increase hazards because of a design feature or incompatible uses due to construction-generated traffic will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

TRA-1: Develop and implement a construction traffic control plan

For the text of Mitigation Measure TRB, please refer to the discussion of Impact HAZ-7c above.

Remaining Impacts: Any remaining impact that would substantially increase hazards because of a design feature or incompatible uses due to construction-generated traffic will be less than significant.

Impact TRA-5c: Result in inadequate emergency access due to construction-generated traffic—Patterson Pass Project

Potential Impact: Slow-moving construction trucks could delay or obstruct the movement of emergency vehicles on Patterson Pass Project area haul routes. In addition, lane/road closures occurring during delivery of oversized loads could impair roadway capacity and increase the response time for emergency vehicles traveling through the closure area. Therefore, construction would have the potential to significantly affect emergency vehicle access.

Mitigation Measure: The following mitigation measure, discussed in the PEIR in Section 3.15.2, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

TRA-1: Develop and implement a construction traffic control plan

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure TRA-1 will ensure that any impacts that would result in inadequate emergency access due to construction-generated traffic will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

TRA-1: Develop and implement a construction traffic control plan

For the text of Mitigation Measure TRB, please refer to the discussion of Impact HAZ-7c above.

Remaining Impacts: Any remaining impact that would result in inadequate emergency access due to construction-generated traffic will be less than significant.

Impact TRA-6c: Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities—Patterson Pass Project

Potential Impact: During construction, slow-moving oversized trucks could potentially disrupt the movement of bicycles traveling on the shoulders along Patterson Pass Road and Jess Road in the

project area and increase the safety concerns for any bicyclists who use the routes. These roadways are not the County classified bikeways, but are used as recreational and inter-regional access routes. In addition, lane/road closures occurring during delivery of oversized loads near the work site access points could temporarily disrupt the bicycle access on the roads. Therefore, construction would have the potential to significantly affect bicycle access.

Mitigation Measure: The following mitigation measure, discussed in the PEIR in Section 3.15.2, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

TRA-1: Develop and implement a construction traffic control plan

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure TRA-1 will ensure that any impacts that would conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

TRA-1: Develop and implement a construction traffic control plan

For the text of Mitigation Measure TRB, please refer to the discussion of Impact HAZ-7c above.

Remaining Impacts: Any remaining impact that would conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities will be less than significant.

Findings and Recommendations Regarding Impacts that are Less Than Significant

Air Quality

Impact AQ-1c: Conflict with or obstruct implementation of the applicable air quality plan—Patterson Pass Project

The project's potential impacts related to the *Bay Area 2010 Clean Air Plan* (Bay Area 2010 CAP) are discussed in Section 3.3.2 of the PEIR. Implementation of the Patterson Pass Project would result in no new permanent employees relative to existing conditions, nor would it increase population projections. Therefore, the Patterson Pass Project would not induce population or employment growth and would result in no net increase in vehicle miles traveled in the SFBAAB. The Patterson Pass Project's potential impacts on population and housing are discussed in Chapter 3.12, *Population*; potential transportation-related impacts are discussed in Section 3.16, *Traffic* of the PEIR.

In addition, although short-term mitigated emissions resulting from Patterson Pass Project construction would exceed the BAAQMD significance threshold for NO_X (see Impact AQ-2c), the Patterson Pass Project would result in long-term benefits from new renewable wind-generated

energy, including reduction of NO_X emissions relative to the production of comparable energy from fossil fuel sources. Accordingly, the Patterson Pass Project would be consistent with the Bay Area 2010 CAP regardless of this short-term impact.

It is assumed that trucks transporting some components and aggregate would travel from the Port of Stockton and the city of Tracy through portions of the SJVAB to the project area. However, SJVAPCD rules and clean air plans would not be applicable to the proposed project because the project area is located in the SFBAAB. Therefore, no conflict with SJVAPCD clean air plans would occur.

This potential impact is determined to be less than significant.

Aesthetics

Impact AES-2c: Have a substantial adverse effect on a scenic vista—Patterson Pass Project

Potential Impact: There are no designated scenic vistas in the Patterson Pass Project area. However, there are a number of scenic vistas available from local roadways in the Patterson Pass Project area, such as those from Patterson Pass Road (see Figure 3.1-6 in the PEIR), out and over the project site. In addition, scenic vistas exist from local recreational trails and, potentially, from nearby residences and businesses located on hillsides could have vista views that include the Patterson Pass Project site. These areas consist of wide open views of the rolling, grass-covered, rural landscape dotted with existing turbines. The hub heights of first- and second-generation turbines located on the site range from 18 to 55 meters (approximately 59 to 180 feet). The proposed fourth-generation towers installed would be 80–96 meters (262–315 feet) tall. Therefore, the proposed fourth-generation towers would be 41–62 meters (135–203 feet) taller than the existing turbines located onsite. Views of the proposed turbines may be more or less prevalent depending on a viewer's location within the landscape and whether the viewer has more direct views of the turbines or views that are partially or fully screened by topography.

Although the new, more efficient turbines are larger than the existing turbines, the new widely spaced configuration detracts less from the natural landscape than the existing string configuration (see Figures 3.1-3 to 3.1-7 in the PEIR). The new, less-cluttered configuration allows for views of the rolling, grassy terrain to become more prominent, back-dropped against the sky, and less interrupted by anthropogenic features. While the larger turbines would draw viewers' attention toward them, the eye is also able to follow the ridgeline of the hills in a more cohesive manner than existing conditions. With existing conditions, the eye is drawn to and focused on the numerous turbines that clutter the view by sticking up and across the hillsides and ridgelines.

Because the new turbines would detract less from the natural landscape than the existing string configuration, this impact would be less than significant. With respect to Policies 170 and 215 of the ECAP, the replacement of the many existing smaller and older turbines with proportionally far fewer fourth-generation turbines with broader spacing would serve these policies and help to protect and enhance scenic values.

This potential impact is determined to be less than significant.

Impact AES-3c: Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings along a scenic highway—Patterson Pass Project

There are no state-designated scenic highways in the Patterson Project area. However, there is one County-designated scenic route in the area: Patterson Pass Road (Figure 3.1-2). Patterson Pass is already lined with existing turbines, so motorists on this route are accustomed to views of turbines, and as discussed for Impact AES-3b above, the new turbines are less visually obtrusive (Figure 3.1-6). This configuration allows for views of the rolling, grassy terrain to become more prominent, back-dropped against the sky, and less interrupted by anthropogenic features. While the 41–62 meters (135–203 feet) taller turbines would draw viewers' attention toward them, the eye is also able to follow the ridgeline of the hills in a more cohesive manner than existing conditions. With existing conditions, the eye is drawn to and focused on the numerous turbines that clutter the view by sticking up and across the hillsides and ridgelines. The replacement of the many existing smaller and older turbines with proportionally far fewer and less intrusive fourth-generation turbines would serve Policies 170 and 215 of the ECAP, and serve to protect and enhance scenic values.

This potential impact is determined to be less than significant.

Impact AQ-5c: Create objectionable odors affecting a substantial number of people—Patterson Pass Project

As discussed in Section 3.3.2 of the PEIR, although project construction would involve the use of diesel equipment and a temporary batch plant that could result in the creation of odors, the construction activities would be temporary (approximately 5 years),spatially dispersed over the 945-acre project area, and would take place in areas that are not in the vicinity of sensitive receptors. This potential impact is determined to be less than significant.

Biological Resources

Impact BIO-13c: Potential for construction activities to temporarily remove or alter bat foraging habitat—Patterson Pass Project

Construction of repowering projects could degrade bat foraging habitat by replacing vegetation with nonvegetated land cover types, as discussed in Section 3.3.2 of the PEIR. Project construction would create a temporary increase in traffic, noise, and artificial night lighting in the project area, reducing the extent of landscape available for foraging. However, the amount of landscape returned to foraging habitat in the process of decommissioning the first- and second-generation turbines would offset the amount of foraging habitat lost to repowering activities. This potential impact is determined to be less than significant.

Impact BIO-17c: Potential for ground-disturbing activities to result in direct adverse effects on common habitats—Patterson Pass Project

Ground-disturbing activities would result in the permanent loss of common habitats as a result of constructing new permanent facilities and the temporary loss of common habitats as a result of constructing temporary facilities and landscape reclamation. These activities would create minor changes in total acreage of common habitats in the Patterson Pass Project area, primarily in the annual grassland plant community.

All lands disturbed by infrastructure installation or removal would be returned to preproject conditions. At each reclamation site, the topography would be contour graded (if necessary and if environmentally beneficial), stabilized, and reseeded with an appropriate seed mixture to maintain slope stability. Reclamation activities would be guided by a reclamation plan developed in coordination with the County and other applicable agencies. This potential impact is determined to be less than significant.

Geology, Soils, Mineral Resources, and Paleontological Resources

Impact GEO-1c: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of rupture of a known earthquake fault—Patterson Pass Project

Placement of a turbine or power collection system on or near a fault could result in damage or destruction of the turbine. If a turbine were constructed on or near a fault, rupture of that fault could damage a turbine or cause harm to personnel on the site. The turbine could be damaged or collapse and possibly injure personnel or property in the immediate area.

There are no active fault traces in or near the Patterson Pass project area. Therefore, construction of the project would be unlikely to expose people or structures to potential substantial adverse effects as a result of rupture of a known fault. This potential impact is determined to be less than significant.

Impact GEO-5c: Result in substantial soil erosion or the loss of topsoil—Patterson Pass Project

As discussed in Section 3.6.2 of the PEIR, an approved SWPPP, as required by the applicable Regional Water Board, is required when a construction project involves 1 acre or more of disturbance. A SWPPP specifies BMPs that would prevent construction pollutants from contacting stormwater with the intent of keeping all products of erosion from moving offsite into receiving waters. Compliance with the federal and local erosion-related regulations applicable to the proposed program (i.e., the SWPPP that is developed for the site and the requirements of the county's Stormwater Quality Management Plan) would ensure that the construction activities do not result in significant erosion and that impacts would be reduced to a less-than-significant level.

To address erosion of decommissioned sites, as described in Chapter 2, *Program Description*, of the PEIR, decommissioned sites will be regraded and seeded to preproject conditions (unless leaving certain roadways or footings is deemed to be more protective of natural resources than removal). The project applicants will develop a reclamation plan in coordination with the County, USFWS, and CDFW. The reclamation plan will be completed and approved by the County 6 months in advance of project decommissioning. This potential impact is determined to be less than significant.

Greenhouse Gas Emissions

Impact GHG-1c: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment—Patterson Pass Project

As discussed in Section 3.7.2 and shown in Table 3.7-6 of the PEIR, total GHG construction emissions in the form of CO_2e would be approximately 1,382 metric tons. These emissions amortized over a

30-year period equal approximately 46 metric tons per year. Adding to that the operation emissions of 27 metric tons CO_2e per year, total Patterson Pass Project GHG emissions would be approximately 73 metric tons CO_2e per year, which would be less than the BAAQMD's significance threshold of 1,100 metric tons CO_2e per year for non-stationary sources.

By replacing older model turbines with new, more efficient ones, the Patterson Pass Project would reduce energy production-related contributions to climate change overall, relative to the existing facility, because it would contribute approximately 150% more power to the grid by installing turbines that are 50% more efficient than the existing turbines. The project would contribute approximately 17,000 MWh of additional wind-generated energy per year to the power grid compared to baseline conditions,[1] and would therefore replace the same amount of conventional (carbon-based) energy production. Using an emission factor of 329.9 pounds of CO_2e per MWh developed by PG&E for its current energy production portfolio (Climate Registry 2013b), it can be estimated that the Patterson Pass Project would result in an annual GHG emissions reduction of 3,111 metric tons CO_2e. Therefore, operation of the Patterson Pass Project would result in a net reduction of approximately 3,038 metric tons CO_2e per year and there would be no long-term impacts associated with project-generated GHG emissions.This potential impact is determined to be less than significant.

Hazards and Hazardous Materials

Impact HAZ-1c: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials— Patterson Pass Project

As discussed in Section 3.8.2 of the PEIR, Construction of the proposed project would involve small quantities of commonly used materials, such as fuels and oils, to operate construction equipment. Because standard construction BMPs would be implemented to reduce pollutant emissions during construction, this impact is considered less than significant.

The majority of hazardous materials to be used during operations, decommissioning, and removal and reclamation activities—fuels, oils, and lubricants—are of low toxicity. As these materials are required for operation of construction vehicles and equipment, BMPs would be implemented to reduce the potential for or exposure to accidental spills involving the use of hazardous materials.

A small percentage (fewer than 10%) of generators to be removed could contain small amounts of asbestos (i.e., the 11-inch wire lead connection insulation/covering is made from asbestos). Additionally, in accordance with industry standards in practice at the time the turbines were built, the towers and nacelle machine components were likely originally coated with galvanized zinc, which contains trace amounts of lead. Disturbance of these materials could cause their release into the environment or endanger worker safety and health. However, wind turbines will be carefully disassembled and removed in a manner consistent with recycling and/or reselling the units. This procedure will help ensure that turbine components will not be damaged and release either lead or asbestos into the environment. The amount of lead and asbestos potentially encountered is very small and not likely to exceed lead or asbestos exposure levels in general construction regulations. Adherence to current BMPs designed to limit worker exposure to lead and/or asbestos will be

[1] Calculation: 19.8 MW * 20% capacity * 8,760 hours per year = 34,690 MWh (baseline); 19.8 MW * 30% capacity * 8,760 hours per year = 52,034 MWh (Repowering Program). Difference = 17,345 MWh.

implemented. These BMPs will be guided by OSHA's lead and asbestos standards as outlined in 29 CFR 1910.134 and 29 CFR 1926.1101.

Once construction is complete, there would be little use of hazardous materials or potential exposure associated with project. Dielectric fluid to be used in transformers is biodegradable, contains no PCBs, and is not considered a hazardous material. This potential impact is determined to be less than significant.

Impact HAZ-2c: 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—Patterson Pass Project

Site workers, the public, and the environment could be inadvertently exposed to preexisting onsite contaminants during project construction, as discussed in Section 3.8.2 of the PEIR. Small quantities of potentially toxic substances (such as petroleum and other chemicals used to operate and maintain construction equipment) would be used in the Patterson Pass Project area and transported to and from the area during construction. During operation, larger quantities (more than 55 gallons of liquid, 500 pounds of solids, or 200 cubic feet of compressed gases) of fuel could be stored in individual project areas. In addition, fuel and other petroleum products could be stored onsite.

However, the handling and disposal of these materials would be governed according to regulations enforced by CUPA, Cal/OSHA, and DTSC, as previously discussed. In addition, regulations under the federal Clean Water Act require contractors to avoid allowing the release of materials into surface waters as part of their SWPPP and NPDES permit requirements (see Chapter 9, *Hydrology and Water Quality*, of the PEIR for a discussion of the CWA and SWPPPs). This regulatory scheme would ensure that safety measures and precautions are taken, thereby reducing any potential impacts associated with the accidental upset or release of hazardous materials. This potential impact is determined to be less than significant.

Impact HAZ-6c: Location within the vicinity of a private airstrip, resulting in a safety hazard for people residing or working in the project area—Patterson Pass Project

As discussed in Section 3.8.2 of the PEIR, the program area boundary is approximately 2.43 miles northeast of the Meadowlark Airstrip, the nearest known private airstrip. Because the program area is not within 2 miles of a private airstrip, implementation of the Patterson Pass Project would not generally result in a safety hazard for people residing or working in the proposed project area. Also, as discussed in Chapter 2, *Project Description*, of the PEIR all repower wind turbines would require FAA lighting as most would be more than 200 feet tall and must be individually lit with obstruction lighting. Through its Notice of Proposed Construction or Alteration (Form 7460.1), the FAA would review the proposed projects prior to construction (14 CFR Part 77). The FAA analysis would include a review of proposed marking (paint scheme) and nighttime lighting to ensure that aircraft could readily identify and avoid the wind turbines. Compliance with FAA requirements would reduce the projects' potential aviation safety impacts to an acceptable level of risk. This potential impact is determined to be less than significant.

Impact HAZ-8c: Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands—Patterson Pass Project

As discussed in Section 3.8.2 of the PEIR, the most likely source of an ignition from the project would be hardware and/or conductor failures of power collection lines, dropping of collection lines, turbine malfunction or mechanical failure, and avian-related incidents.

The proposed project would entail the removal of existing turbines and installation of new turbines. Decommissioning and removing existing wind turbines would require additional work crews, temporarily increasing the number of vehicles in the project area. Climate conditions together with the potential for vehicle-related ignitions make this a concern, especially during the summer months.

The potential for wildland fires already exists in the project area due to the presence of the wind energy facilities. Because CAL FIRE and ACFD already provide fire protection services to the project area, the fire protection facilities and infrastructure required to protect the existing facilities are in place. The proposed project would not alter the Altamont Pass Wind Farms Fire Requirements as described in Exhibit C of the 2005 CUPs. This potential impact is determined to be less than significant.

Impact HAZ-9c: During normal operations, the effects of bending and stress on rotor blades over time could lead to blade failure and become a potential blade throw hazard—Patterson Pass Project

As described in Chapter 2, *Program Description*, of the PEIR, the turbine height for fourth-generation turbines proposed for repowering ranges from 121 to 153 meters. Using the setback requirement above, the minimum safe distance in the context of blade throw hazard zone is, conservatively, 459 meters (1,506 feet) for the taller wind turbines and 918 meters (3,012 feet) from I-580. If existing turbines are replaced with fourth-generation turbines in the same locations, the blade throw hazard zone could possibly encroach into sensitive areas of human occupancy. However, siting of wind turbines would comply with the Standard Conditions, ensuring that no new wind turbines would be sited within the blade throw hazard distance.

Blade throw risks are also reduced as a result of new technologies and engineering design developed over the past decades. Most commercially available turbines, including those proposed for the project, are equipped with safety and engineering features to reduce the risk of blade failure and are designed to ensure safe operation under normal conditions. Fourth-generation rotors include blade pitch controls that regulate the angle of the rotor blade into the wind, and redundant brake mechanisms that can control speed and shutdown or slowdown in response to excessive wind speed.

Repowering would reduce the total number of wind turbines in the Patterson Pass Project area because of the vastly greater nameplate capacity of fourth-generation turbines. The reduced number of turbines would also reduce the potential for wind turbine-related hazards.

In most of the project area, due largely to the setback standards, any potential for blade throw would occur well within windfarm boundaries—not in areas accessible to the public. Individual windfarm companies strictly control access to the existing wind energy facilities, and overall site access is limited to persons approved for entry by the windfarm operators or landowners. This strict

control of public access would further reduce the risk of potential blade strike in the project area. This potential impact is determined to be less than significant.

Hydrology and Water Quality

Impact WQ-2c: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)—Patterson Pass Project

As discussed in Section 3.9.2 of the PEIR, construction of the proposed Patterson Pass Project involves relatively small footprints that would not result in blocking groundwater infiltration to a point that would deplete groundwater supplies or interfere substantially with any nearby agricultural wells. In addition, project construction would not involve a substantial use of water with the exception of normal BMPs such as road and site dust control (this water would be trucked to the site). Operational water consumption would also be minimal. This potential impact is determined to be less than significant.

Impact WQ-9c: Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam—Patterson Pass Project

As discussed in Section 3.9.2 of the PEIR, because the Patterson Pass Project area is in rolling hills and there are no 100-year floodplains, the likelihood of a flood event in the area is considered minimal. In addition, because the proposed project would not involve construction of housing, if Bethany Reservoir Dam were to fail, the likelihood of significant risk or loss is considered minimal. This potential impact is determined to be less than significant.

Noise

Impact NOI-1c: Exposure of residences to noise from new wind turbines—Patterson Pass Project

Potential Impact: Implementation of the project would remove the existing turbines (about 317 turbines) in the project area and install 8 to 12 larger, current-generation turbines. Figure 2-17 in the PEIR shows the layout of proposed turbines in the project area. The specific type of turbine to be used and turbine-specific noise levels have not yet been determined. The new turbines would be installed farther away from the existing residence. One residence located off Patterson Pass Road is currently located about 2,200 feet from the existing turbines and would be located about 3,300 feet from the nearest proposed new turbines.

As discussed under Impact NOI-1a of the PEIR, there are no documented instances of wind turbines causing exceedance of noise standards in the existing CUPs. In addition, proposed modern turbines have several characteristics that reduce aerodynamic sound levels and make for quieter operations than the existing turbines. The modern turbines have relatively low rotational speeds and pitch control on the rotors, both of which reduce sound levels.

The noise prediction results in Table 3.11-5 of the PEIR indicate that residences located within about 1,750 feet of a group of turbines could be exposed to noise that exceeds 55 dBA (L_{dn}) or increases in noise greater than 5 dB. Because the nearest residence would be more than 3,000 feet from the new turbines, operation of the new turbines is not expected to result in noise that exceeds 55 dBA(L_{dn}) or result in a 5 dBA increase in noise at residences.

This potential impact is determined to be less than significant.

Impact NOI-2c: Exposure of residences to noise during decommissioning and new turbine construction—Patterson Pass Project

Potential Impact: Construction noise levels associated with anticipated construction phases and equipment for repowering projects are discussed under Impact NOI-2a and summarized in Tables 3.11-7 and 3.11-8 of the PEIR. Table 3.11-9 of the PEIR summarizes the distances within which Alameda County noise standards could be exceeded as a result of the construction activities.

Because the closest residence is located about 2,200 feet from the nearest turbines, which is beyond the impact distances identified in Table 3.11-9, the construction noise impact on residences is considered to be less than significant.

As discussed under Impact NOI-2a-1 and NOI-2a-2 of the PEIR, the construction traffic increase would increase traffic noise by less than 2 dB, which would not be a noticeable increase at nearby residential uses along the major county roads.

This potential impact is determined to be less than significant.

Transportation/Traffic

Impact TRA-2c: Conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways—Patterson Pass Project

As discussed in Section 3.15.2 of the PEIR, the maintenance needs of the project would be limited and not substantially greater than currently required; post-construction traffic generated by the maintenance activities would be well within the capacity of the CMP roadway system and would not differ materially from the current maintenance traffic level. The increase in construction traffic, as shown in Table 3.15-4 of the PEIR, is a small fraction (less than 0.5 percent) of ADT on I-580 in the project area and the regional CMP roadways (I-205 and I-680) in the project vicinity. Although some of the CMP roadway segments operated at LOS F (Alameda County Transportation Commission 2013b:12-16), the small increase in construction traffic is not expected to degrade the traffic operation of the CMP roadway segments that already exceed the LOS standard E or cause a CMP roadway segment to exceed the LOS standard. This potential impact is determined to be less than significant.

Impact TRA-3c: Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks—Patterson Pass Project

Implementing the Patterson Pass Project would not affect air traffic patterns of the public and private airports in the vicinity of the program area. Additionally, this project would not result in

substantial safety risks associated with airport operations (see airport impact discussion and FAA lighting requirements discussion in PEIR Section 3.8, *Hazards and Hazardous Materials*, under Impact HAZ-5 and Impact HAZ-6). This potential impact is determined to be less than significant.

Utilities and Service Systems

Impact UT-1c: Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board—Patterson Pass Project

As discussed in Section 3.16.2 of the PEIR, the Patterson Pass Project would not generate a significant amount of wastewater that would be treated by public wastewater treatment facilities. Portable toilets would be used during construction and would be serviced by a private contractor. Accordingly, the project would not generate a significant amount of wastewater that would be treated by public wastewater treatment facilities and would not exceed the San Francisco Bay Regional Water Board's wastewater treatment requirements. This impact would be less than significant.This potential impact is determined to be less than significant.

Impact UT-3c: Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects—Patterson Pass Project

As discussed in Section 3.16.2, the Patterson Pass Project is located entirely in a rural setting; stormwater runoff drains primarily through natural drainage swales, ditches, and watercourses. The Patterson Pass Project would not substantially modify the existing stormwater drainage patterns at the project site, and increases in impermeable surfaces onsite would be primarily limited to tower foundations. In addition, because the Patterson Pass Project would disturb more than 1 acre, it would require coverage under the state's Construction General Permit. This includes a SWPPP. Consequently, impacts related to construction of new stormwater drainage facilities or expansion of existing facilities would be very minor. This potential impact is determined to be less than significant.

Impact UT-4c: Require new or expanded entitlements to water resources—Patterson Pass Project

Water quantities used for the Patterson Pass Project are expected to be minimal. The majority of water use would take place during construction. Water would be used for concrete mixing for the turbine tower and electrical substation foundations, as well as for dust control on roads and during grading and site work. Daily water use would vary. For construction of foundations, water would be transported to the batch plant site where it would be used to mix concrete. A minimal amount of water would be required for construction worker needs (e.g., drinking water, sanitation facilities). The project proponent plans to draw needed water for water trucks and drinking water from an offsite source.

This potential impact is determined to be less than significant.

Impact UT-6c: Generate solid waste that would exceed the permitted capacity of landfills to accommodate the program's solid waste disposal needs—Patterson Pass Project

As discussed in Section 3.16.2, the majority of solid waste generation would take place during construction and during the decommissioning of windfarms. Minimal solid waste would be

generated during the operation of the project. The Patterson Pass Project is not anticipated to generate a substantial amount of solid waste because turbines and components will be sold or recycled, which will reduce the amount of solid waste taken to landfills. It is not anticipated that construction or operation of projects associated with the proposed project would generate enough solid waste to affect the capacity of any landfill. This potential impact is determined to be less than significant.

Findings for Cumulative Impacts

State CEQA Guidelines Section 15130 requires the consideration of cumulative impacts in an EIR when a project's incremental effects are cumulatively considerable. Cumulatively considerable "means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects the effects of other current projects and the effects of probable future projects." (CEQA Guidelines Section 15065(a)(3).) In identifying projects that may contribute to cumulative impacts, the State CEQA Guidelines allow the use of a list of past, present, and reasonably anticipated future projects, producing related or cumulative impacts, including those that are outside of the control of the lead agency. The Patterson Pass Project's cumulative contribution to various impacts was considered in conjunction with other proposed and approved projects, as set forth in Chapter 5 of the PEIR.

Based on analysis in the PEIR and the entire record before the County, the County makes the following findings with respect to the project's cumulatively considerable potential cumulative impacts of the proposed project.

Cumulatively Considerable Contributions to Potentially Significant Impacts that Cannot Mitigated to a Less-Than-Significant Level

Air Quality

Construction emissions of NOX would be greater than the BAAQMD thresholds after the implementation of Mitigation Measures AQ-1 and AQ-2, (see DEIR Tables 3.3-16 and 3.3-21), and therefore the Project's contribution to cumulative construction impacts would be significant and unavoidable. There are no other feasible mitigation measures that can reduce these impacts to a less-than-significant level. As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are environmental, economic, or other benefits of the project that override these cumulatively considerable impacts.

Biological Resources

Avian and bat mortality associated with turbine collisions has been identified as a significant and unavoidable impact. By definition, and considered with other sources of avian mortality (e.g., the Contra Costa County portion of the APWRA and the neighboring Montezuma Hills Wind WRA), this would constitute a considerable contribution to a significant cumulative impact. There are no other feasible mitigation measures that can reduce these impacts to a less-than-significant level. As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are

environmental, economic, or other benefits of the project that override these cumulatively considerable impacts.

Contributions to Cumulative Impacts that Can be Mitigated to a Less-Than-Significant Level

Aesthetics

Based on the discussion in the EIR and the entire record before the County, the County finds that the Patterson Pass Project's contributions to cumulative impacts on visual character and daytime/nighttime views will be rendered less than considerable by Alameda County Policy ECAP 105, together with Mitigation Measures AES-2a, AES-2b, AES-c, AES-3, and AES-5. The contributions are therefore less than significant.

Biological Resources

Based on the discussion in the EIR and the entire record before the County, including the mitigation measures for biological resources identified in the EIR, the County finds that the Patterson Pass Project's contributions to cumulative impacts on vegetation and wetlands loss, injury/mortality/disturbance of species, and loss of habitat/land cover would be less than considerable. The contributions are therefore less than significant.

Cultural Resources

Simultaneous construction of multiple repowering projects in the program area and other development and infrastructure projects in the vicinity of the project area could potentially result in significant impacts on historic resources, archaeological resources, and human remains, should they be present within the project area or the vicinity of the project area. Based on the discussion in the EIR and the entire record before the County, implementation of the mitigation measures identified in this EIR will ensure that the Project's contribution would not be such that they would result in or contribute to a cumulative impact. The contributions are therefore less than significant.

Geology, Soils, Mineral Resources, and Paleontological Resources

Construction in a seismically active region puts people and structures at risk from a range of earthquake-related effects, particularly seismic ground shaking and landsliding in the project area. Based on the discussion in the EIR and the entire record before the County, various mechanisms are in place to reduce seismic-related risk, including mitigation measures identified in the DEIR and project-specific geotechnical investigation and seismic design standards promulgated by the county building codes. The Patterson Pass Project would not contribute considerably to the existing cumulative impact related to seismic hazards. The geographic scope of potential cumulative effects with respect to paleontological resources is usually limited to areas within the physical footprint of a proposed project. With the implementation of the mitigation measures presented in this EIR, the proposed project could have a less-than-significant contribution to the cumulative impact on paleontological resources.

Hazards and Hazardous Materials

The Patterson Pass Project, as well as other contributing projects, would be required to adhere to regulations that govern hazardous materials storage and handling, water quality BMPs, FAA regulations related to airspace, and fire prevention and management. Based on the discussion in the EIR and the entire record before the County, these measures would ensure that impacts related to exposure to hazardous materials would be minimized and/or avoided. Therefore, the project's incremental, less-than-significant impacts in these areas would not be cumulatively considerable.

Hydrology and Water Quality

Based on the discussion in the EIR and the entire record before the County, including compliance with NPDES requirements and the mitigation measures for hydrology and water quality, impacts associated with implementation of the Patterson Pass Project would be less than significant. Other projects in the same watersheds would also be required to comply with NPDES requirements, ensuring that significant impacts would not occur.

Noise

The analysis in the EIR indicates that there is potential for the Patterson Pass Project to result in noise that exceeds County noise standards which would result in significant cumulative operational noise impacts. Implementation of Mitigation Measure NOI-1, however, would ensure compliance with County noise standards and would avoid significant cumulative operational noise impacts.

Construction of multiple repowering projects simultaneously in the program area could potentially result in a cumulative construction noise impact at residences located near the construction activities. However, the impact would be temporary and localized and implementation of Mitigation Measure NOI-2 would reduce cumulative impacts to a less-than-significant level.

Based on the discussion in the EIR and the entire record before the County, the County finds that the Project's contributions to cumulative noise impacts on residences in the area would be less than significant.

Transportation/Traffic

Based on the discussion in the EIR and the entire record before the County, the County finds that the Patterson Pass Project's contributions to cumulative traffic impacts would be less than significant. Construction of multiple repowering projects simultaneously in the program area and other development and infrastructure projects in the vicinity of the program area could potentially result in cumulative construction traffic impacts on freeways and county roadways used for haul routes and worker access to the project sites. The cumulative construction impacts on traffic operation, safety hazards, emergency access, and bicycle facilities would be similar to the impacts discussed in Section 3.15.2 and are considered to be significant. Implementation of Mitigation Measure TRA-1 would reduce the Project's cumulative contribution to the significant impact to the level where it is less than considerable. The mitigation includes implementation of circulation and detour plans, installing traffic control devices, scheduling, to the extent feasible, truck and worker trips outside of peak commute hours, and coordination of project construction activities with the affected agencies to identify and minimize overlap with other area construction projects.

The Patterson Pass Project is sufficiently distant and independent of access in relation to the Sand Hill Repowering Project that it will not make a considerable contribution to the cumulative impacts resulting from that project.

No Contribution to a Cumulative Impact

Based on the discussion in Chapter 5 of the PEIR and the entire record before the County, the County finds that the proposed project will not have a cumulatively considerable contribution to the following impact areas.

- Agricultural and forestry resources.
- Greenhouse gases (the project would result in a long-term net reduction of approximately 3,038 metric tons of CO_2e per year).
- Land use and planning.
- Population and housing.
- Public services.
- Recreation.
- Utilities and service systems.

Findings for Alternatives Considered in the PEIR

Section 15091(a)(3) of the State CEQA Guidelines requires findings about the feasibility of project alternatives whenever a project within the responsibility and jurisdiction of the lead agency will have a significant environmental effect that has not been mitigated to a less-than-significant level.

Identification of Project Objectives

The State CEQA Guidelines state that the "range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one of more of the significant effects" of the project (CEQA Guidelines Section 15126[d][2]). Thus, an evaluation of the project objectives is key to determining which alternatives should be assessed in the PEIR.

As explained in Section 4.1.2 of the PEIR, the two primary objectives of the proposal are to "facilitate efficient wind energy production through repowering and to avoid and minimize impacts on terrestrial and avian wildlife caused by repowered wind turbine construction, operation, and maintenance in the program area." The specific objectives of the proposed program, described in Section 4.1.2, are listed below.

- Allow for appropriate and compatible repowering and operation of wind turbines consistent with existing repowering timeline requirements set forth in the existing CUPs, related agreements, and project-specific power purchase agreements.
- Reduce avian mortality caused by wind energy generation in the program area through repowering.

- Meet the County's goals to provide environmentally sensitive, clean-renewable wind energy for the twenty-first century as identified in the ECAP (Policies 168–175 and Programs 73–76).
- Help meet the Governor's Executive Order S-14-08 in meeting the Renewables Portfolio Standard (RPS) target that all retail sellers of electricity serve 33% of their load with renewable energy by 2020.
- Contribute to state progress toward air quality improvement and greenhouse gas emission reduction goals, as set forth in Assembly Bill 32.
- Improve habitat quality in the program area through removal of roads and existing wind turbines and their supporting infrastructure, resulting in lower overall operational footprint, and providing a wide range of habitat benefits to sensitive terrestrial and avian species.

Alternatives Analyzed in the PEIR

The State CEQA Guidelines state that the "range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one or more of the significant effects" of the project. In addition, the PEIR must examine the No Project alternative. The County evaluated the alternatives listed below.

- No Project—No Repowering, Reauthorization of Existing CUPs
- No Repowering, Full Decommissioning
- Fewer New Turbines
- Avoid Specific Biologically Sensitive / Constrained Areas
- No New Roads

No Project—No Repowering, Reauthorization of Existing CUPs Alternative

Under the No Project—No Repowering, Reauthorization of Existing CUPs (No Project) alternative, there would be no decommissioning of the existing turbines. The existing first- and second-generation turbines would continue to operate and no new repowered turbines would be installed. This alternative assumes that new CUPs be authorized by the County.

Finding: Based on the PEIR and the entire record before the County, the County rejects the No Project alternative as infeasible because it would not meet most of the objectives of the project.

Explanation: The No Project alternative would fail to meet many of the following project objectives and is therefore rejected as infeasible.

- *Primary objective:* avoid and minimize impacts on terrestrial and avian wildlife caused by repowered wind turbine construction, operation, and maintenance in the program area. This primary objective relates to the first primary objective and cannot be met if repowering does not occur.
- *Specific objective:* allow for appropriate and compatible repowering and operation of wind turbines consistent with existing repowering timeline requirements set forth in the existing CUPs, related agreements, and project-specific power purchase agreements. The alternative would not meet this objective because it would not allow for repowering.

- *Specific objective:* meet the County's goals to provide environmentally sensitive, clean-renewable wind energy for the twenty-first century as identified in the ECAP (Policies 168–175 and Programs 73–76). Without reauthorization of the existing CUPs, whether or not that is associated with repowering, the existing renewable wind energy production will end. That would be inconsistent with the policies and programs expressed in the ECAP.
- *Specific objective:* help meet the Governor's Executive Order S-14-08 in meeting the Renewables Portfolio Standard (RPS) target that all retail sellers of electricity serve 33% of their load with renewable energy by 2020. The eventual removal of all wind energy generation capacity from the APWRA, including the Patterson Pass Project, would eliminate 417 MW (Alternative 1) to 450 MW (Alternative 2) of renewable energy from the current renewables portfolio. California's operating renewable energy capacity was 17,400 MW in 2013[2]. Elimination of the renewable energy generated at the APWRA (approximately 2.4% of the current statewide operating capacity) would not help meet the RPS target.
- *Specific objective:* contribute to state progress toward air quality improvement and greenhouse gas emission reduction goals, as set forth in Assembly Bill 32. The eventual removal of all wind energy generation capacity from the APWRA, including the Patterson Pass Project, would eliminate a renewable energy source with the capacity to 417 MW (Alternative 1) to 450 MW (Alternative 2) of energy that produces low GHG emissions. As discussed under Impacts GHG-1c and GHG-1a-2 in Section 3.7.2 of the PEIR, operation of the proposed project would offset power needs otherwise produced by GHG emitting powerplants, resulting in a net reduction of approximately 95,792 metric tons CO_2e per year. The No Project alternative would eliminate this contribution toward the reduction of GHG emissions.

No Repowering, Full Decommissioning Alternative

Under the No Repowering, Full Decommissioning alternative, no repowering would occur and the existing windfarms would continue operating using the existing facilities until the CUPs from the County expire. Decommissioning efforts would begin with the expiration of the first CUP. Following expiration of all CUPs and decommissioning/removal of the existing wind turbines, the program area would be restored to pre-permit conditions.

Finding: Based on the PEIR and the entire record before the County, the County rejects the No Repowering, Full Decommissioning alternative as infeasible because it would not meet most of the objectives of the program.

Explanation: The No Repowering, Full Decommissioning alternative would fail to meet most of the following project objectives and is therefore rejected as infeasible.

- *Primary objective:* facilitate efficient wind energy production through repowering. Because no repowering would occur under this alternative, it will not facilitate wind energy production through repowering.
- *Primary objective:* avoid and minimize impacts on terrestrial and avian wildlife caused by repowered wind turbine construction, operation, and maintenance in the program area. This primary objective relates to the first primary objective and cannot be met if repowering does not occur.

[2] California Air Resources Board. 2014. *Appendix B—Status of Initial Scoping Plan Measures*. May 15. Sacramento, CA.

- *Specific objective:* allow for appropriate and compatible repowering and operation of wind turbines consistent with existing repowering timeline requirements set forth in the existing CUPs, related agreements, and project-specific power purchase agreements. The alternative would not meet this objective because it would not allow for repowering.
- *Specific objective:* meet the County's goals to provide environmentally sensitive, clean-renewable wind energy for the twenty-first century as identified in the ECAP (Policies 168–175 and Programs 73–76). Without reauthorization of the existing CUPs and with decommissioning of the existing wind energy production facilities, including the Patterson Pass Project, the existing renewable wind energy production will end. That would be inconsistent with the policies and programs expressed in the ECAP.
- *Specific objective:* help meet the Governor's Executive Order S-14-08 in meeting the Renewables Portfolio Standard (RPS) target that all retail sellers of electricity serve 33% of their load with renewable energy by 2020. The eventual removal of all wind energy generation capacity from the APWRA, including the Patterson Pass Project, would eliminate 417 MW (Alternative 1) to 450 MW (Alternative 2) of renewable energy from the current renewables portfolio. California's operating renewable energy capacity was 17,400 MW in 2013[3]. Elimination of the renewable energy generated at the APWRA (approximately 2.4 percent of the current statewide operating capacity) would not help meet the RPS target.
- *Specific objective:* contribute to state progress toward air quality improvement and greenhouse gas emission reduction goals, as set forth in Assembly Bill 32. The eventual removal of all wind energy generation capacity from the APWRA, including the Patterson Pass Project, through decommissioning would eliminate a renewable energy source with the capacity to 417 MW (Alternative 1) to 450 MW (Alternative 2) of energy that produces low GHG emissions. As discussed under Impacts GHG-1b and GHG-1a-2 in Section 3.7.2 of the PEIR, operation of the program would offset power needs otherwise produced by GHG emitting powerplants, resulting in a net reduction of approximately 95,792 metric tons CO_2e per year. The No Repowering, Full Decommissioning alternative would eliminate this contribution toward the reduction of GHG emissions.

Fewer New Turbines Alternative

Under this alternative, there would be fewer new turbines and a smaller nameplate capacity than under the proposed program. The program area boundaries would be the same as under the proposed program, and all existing first- and second-generation turbines would be decommissioned.

Finding: Based on the PEIR and the entire record before the County, the County rejects the Fewer New Turbines alternative as infeasible because it would not meet several of the program's specific objectives.

Explanation: The Fewer New Turbines alternative would fail to meet most of the following project objectives and is therefore rejected as infeasible.

- *Specific objective:* allow for appropriate and compatible repowering and operation of wind turbines consistent with existing repowering timeline requirements set forth in the existing CUPs, related agreements, and project-specific power purchase agreements. The alternative

[3] Ibid.

would not meet this objective because it would not allow for repowering to the full level of existing permitted capacity.

- *Specific objective:* help meet the Governor's Executive Order S-14-08 in meeting the Renewables Portfolio Standard (RPS) target that all retail sellers of electricity serve 33% of their load with renewable energy by 2020. The Fewer New Turbines alternative would produce less renewable wind energy than is allowed under the APWRA's existing permitted capacity. Reduction of the existing level of renewable energy generated at the APWRA would reduce its contribution to the RPS target and would therefore not help meet the RPS target.
- *Specific objective:* contribute to state progress toward air quality improvement and greenhouse gas emission reduction goals, as set forth in Assembly Bill (AB) 32. The Fewer New Turbines alternative would produce less renewable wind energy than is allowed under the APWRA's existing permitted capacity. As discussed in Impacts GHG-1c and GHG-1a-2 in Section 3.7.2 of the PEIR, operation of the program would continue to offset power needs otherwise produced by GHG emitting powerplants, resulting in a net reduction of approximately 95,792 metric tons CO_2e per year. The Fewer New Turbines alternative would result in a smaller net reduction, thereby reducing the APWRA's existing contribution toward the reduction of GHG emissions. Therefore, although this alternative contributes to meeting the AB 32 statewide GHG emissions goals, it would result in a net reduction in the current level of contribution. That will not contribute to progress toward meeting the AB 32 goals.

Avoid Specific Biologically Sensitive / Constrained Areas Alternative

This alternative would prescribe a turbine layout that would avoid the construction of new roads traversing biologically sensitive or constrained areas. New turbines would be sited so that no damaging new roads would be needed. This alternative's perimeter and the total maximum number of wind turbines would be the same as under the proposed program.

Finding: Based on the PEIR and the entire record before the County, the County rejects the Avoid Specific Biologically Sensitive / Constrained Areas alternative as infeasible because it would not with a high degree of certainty avoid or substantially reduce the significant and unavoidable impacts of the program.

Explanation: The No Repowering, Full Decommissioning alternative would fail to substantially reduce the following significant and unavoidable impacts.

- *Air Quality:* The Avoid Specific Biologically Sensitive / Constrained Areas alternative would have basically the same air quality impacts as the program. It would not avoid or substantially reduce the following significant and unavoidable impacts: AQ-2b and AQ-2a-2, and AQ-3b and AQ-3a-2.
- *Biological Resources:* This alternative would have basically the same impacts on biological resources as the program, with the exception of construction impacts related to new road installation. It would not avoid or substantially reduce the following significant and unavoidable impacts: BIO-11b and BIO-11a-2, BIO-14b and BIO-14a-2and BIO-19b and BIO-19a-2.

No New Roads Alternative

This alternative would entail the same number of turbines in the same program area as the proposed program. However, no new road improvements would be made. Although new roads are not required for the decommissioning of existing turbines, larger and longer trucks and cranes

would be required for transport and installation of repowered turbine components than could be accommodated by the existing site roads. Because the existing roads cannot accommodate the trucks required for construction of the repowered wind turbines, helicopters would be used to transport large equipment and turbine components to project sites for construction.

Finding: Based on the PEIR and the entire record before the County, the County rejects the No New Roads alternative as infeasible because it would not with a high degree of certainty avoid or substantially reduce the significant and unavoidable impacts of the program. Further, it would result in significant effects that exceed the effects of the program.

Explanation: The No New Roads alternative would fail to substantially reduce the following significant and unavoidable impacts.

- *Air Quality:* The Avoid Specific Biologically Sensitive / Constrained Areas alternative would have greater same air quality impacts as the program. Therefore, it would not avoid or substantially reduce the following significant and unavoidable impacts: AQ-2b and AQ-2a-2, and AQ-3b and AQ-3a-2.
- *Biological Resources:* This alternative would have basically the same impacts on biological resources as the program, with the exception of construction impacts related to new road installation. Therefore, it would not avoid or substantially reduce the following significant and unavoidable impacts: BIO-11b and BIO-11a-2, BIO-14b and BIO-14a-2and BIO-19b and BIO-19a-2.

The No New Roads alternative would result in greater impacts than the program in the following resource areas.

- *Aesthetics:* This alternative would involve the use of helicopters to transport large equipment and turbine components to project sites for construction. The highly sensitive viewers in the program area (i.e., residents and recreationists) could perceive the presence of helicopters as a greater visual impact than would occur under the proposed program.
- *Air Quality:* Emissions from helicopter use would be substantially higher than the program's emissions from road construction and truck trips. The program's construction emissions are significant and unavoidable; the No New Roads alternative would worsen the severity of that impact.

Findings and Recommendations Regarding Significant Irreversible Changes

CEQA Section 21100(b)(2)(B) requires that an EIR identify any significant effect on the environment that would be irreversible if the project were implemented. Section 15126.2(c) of the State CEQA Guidelines characterizes irreversible environmental changes as those involving a large commitment of nonrenewable resources or irreversible damage resulting from environmental accidents. The State CEQA Guidelines describe three distinct categories of significant irreversible changes, including changes in land use that would commit future generations to specific uses; irreversible changes from environmental actions; and consumption of nonrenewable resources. The Project's significant and irreversible changes are discussed in Section 5.3 of the DEIR.

Findings: Based on the EIR and the entire record before the County, the County finds that the Project would not result in any significant irreversible effect on the environment.

Explanation: The project area is currently developed as a wind farm, with coexisting grazing activities that would continue. The *East County Area Plan* designates the entire project area as Large Parcel Agriculture, which carries a zoning designation of Agriculture. Chapter 17.06.040 of the Alameda County Code of Ordinances indicates that privately owned wind facilities are a conditionally permitted use on non-prime farmland within the Agriculture zoning district, the Patterson Pass Project would not commit future generations to, or introduce, changes in land use that would vary from the existing conditions.

The project involves the removal of existing foundations, construction and repowering of existing wind farms on approximately 952 acres in unincorporated eastern Alameda County. These activities are not expected to alter or affect the coexisting grazing uses, and are not expected to result in environmental accidents that would cause irreversible damage. Compliance with required plans, such as the Altamont Pass Wind Farms Fire Requirements, will minimize the potential for accidents that could result in environmental damage. No irreversible changes to the project area would occur as a result of the Patterson Pass Project.

Construction of repowered wind farms would require the consumption of nonrenewable resources, such as fuel for construction vehicles and equipment. However, such use would be limited to the short-term construction period. Operation and maintenance of the proposed program and projects would not increase the use of nonrenewable resources relative to existing conditions. The temporary, construction-related increase would not result in significant use of nonrenewable resources and would not commit future generations to similar uses. Moreover, a primary objective of the Patterson Pass Project is to provide an economically viable source of clean, renewable electricity generation that meets California's growing demand for power and fulfills numerous State and national renewable energy policies. The intent is to specifically reduce consumption of non-renewable sources of energy such as coal, natural gas and other hydrocarbon-based fuels.

Findings and Recommendations Regarding Growth-Inducing Impacts

Section 15126.2(d) of the State CEQA Guidelines states that an EIR should discuss "…the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." The State CEQA Guidelines do not provide specific criteria for evaluating growth inducement and state that growth in any area is not "necessarily beneficial, detrimental, or of little significance to the environment" (State CEQA Guidelines Section 15126.2[d]). CEQA does not require separate mitigation for growth inducement, as it is assumed that these impacts are already captured in the analysis of environmental impacts. Furthermore, Section 15126.2(d) of the State CEQA Guidelines requires that an EIR "discuss the ways" a project could be growth inducing and to "discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment."

Growth can be induced in a number of ways, such as elimination of obstacles to growth, stimulation of economic activity within the region, and precedent-setting action such as the provision of new

access to an area or a change in a restrictive zoning or general plan land use designation. In general, a project could be considered growth-inducing if it directly or indirectly affects the ability of agencies to provide needed public services, or if it can be demonstrated that the potential growth significantly affects the environment in some other way. However, the State CEQA Guidelines do not require a prediction or speculation of where, when, and in what form such growth would occur (State CEQA Guidelines, Section 15145). The program's growth-inducing impacts are discussed in Section 5.2 of the PEIR.

Findings: Based on the PEIR and the entire record before the County, the County finds that the proposed project would not induce growth for the following reasons.

Although the proposed project involves the construction of new wind turbines, there would be a commensurate removal of old turbines. Consequently, it would not substantially change the installed electrical generation capacity of the APWRA. Therefore, the project would not be expected to indirectly induce population growth through the provision of substantial new supplies of electrical energy.

Typically, the growth-inducing potential of a project is considered significant if it fosters growth or a concentration of population in a different location or in excess of what is assumed in relevant general plans or land use plans, or projections made by regional planning agencies, such as the Association of Bay Area Governments. As discussed in PEIR Section 3.12, *Population and Housing*, the project does not include the construction or demolition of any housing, and so would not have a direct impact on population or housing growth. Furthermore, the nature of the facilities is such that there would be no direct customers and no incentive for other residences or businesses to locate nearby. Production of electricity from the project facilities is ongoing and would not create additional availability of energy resources beyond those already permitted for the facilities.

Decommissioning and construction activities would result in a short-term increase in construction-related job opportunities in the Alameda County region. However, construction workers can be expected to be drawn from the existing construction employment labor force. The limited, short-term opportunities provided by decommissioning and construction would be unlikely to result in the relocation of construction workers to the project region. Therefore, the employment opportunities provided by construction are not anticipated to induce indirect growth in the region.

Exhibit B

Patterson Pass Wind Farm Repowering Project Mitigation Monitoring and Reporting Program

Purpose of and Need for Monitoring

In compliance with CEQA, an EIR has been prepared for the proposed project. The EIR identified potentially significant impacts in the resource areas listed below, as well as mitigation measures to reduce these impacts to a less-than-significant level where possible.

Significant impacts pertaining to the following resource areas would be reduced to a less-than-significant level by mitigation measures identified in the EIR.

- Aesthetics impacts
- Expose sensitive receptors to substantial pollutant concentrations during construction
- Impacts on non-avian (birds and bats) biological resources
- Cultural resources impacts
- Geology, soils, mineral resources, and paleontological resources impacts
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases
- Hazards
- Water quality impacts
- Construction traffic impacts

Impacts that cannot be reduced to less-than-significant levels, even with implementation of mitigation measures identified in the PEIR, are listed below.

- Air quality impacts associated with construction.
- Impacts on avian species, including raptors, and bats.
- Cumulative traffic impacts (if construction activities are concurrent with construction of the Sand Hill Wind Project, which is not addressed in the PEIR).

CEQA requires that a lead agency adopt a Mitigation Monitoring and Reporting Program (MMRP) for the measures the agency has proposed to avoid or mitigate significant environmental effects (CEQA Guidelines Section 15097). The purpose of the MMRP is to ensure that the mitigation measures identified in the EIR are implemented and to identify who is responsible for their implementation.

Table MMRP-1, which follows this introductory section, identifies the mitigation measures for the proposed project, the parties responsible for implementing and monitoring the measures, the timing of each measure, and a summary of the actions necessary to implement and monitor each measure.

Mitigation Monitoring and Reporting Program

The MMRP has been prepared for the proposed project in accordance with Public Resources Code 21081.6, which specifies that when a public agency makes findings required by paragraph (1) of subdivision (a) of Section 21081, it "shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment." Public Resources Code 21081.6 further specifies that the MMRP will "ensure compliance during project implementation."

This MMRP is intended to ensure the effective implementation of mitigation measures that are within the County's authority to implement, including monitoring where identified, throughout all phases of development and operation of the proposed project.

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Aesthetics				
Mitigation Measure AES-1: Limit construction to daylight hours Major construction activities will not be undertaken between sunset and sunrise or on weekends. Construction activity is specifically prohibited from using high-wattage lighting sources to illuminate work sites after sunset and before sunrise, with the exception of nighttime deliveries under the approved transportation control plan or other construction activities that require nighttime work for safety considerations.	During construction	County—adopt a Condition of Approval; Operator—ensure construction hours are maintained	County	Monitor compliance with Conditions of Approval
Mitigation Measure AES-2a: Require site development review New turbines along ridgelines or hilltops that have not previously been developed with commercial-scale wind turbines will not be allowed unless a separate Site Development Review is completed that determines that the visual effects will be substantially avoided by distance from public viewpoints (e.g., more than 2,000 feet), intervening terrain, screening landscaping, or compensatory improvements to equivalent and nearby (radius of 1 mile) scenic features, as approved by the Planning Director.	Prior to approval of site plans for new turbines along ridgelines that have not previously been developed with wind turbines	County—Require, review, and approve Site Development Review prior to approving new turbines along ridgelines that have not previously been developed with wind turbine strings	County	Ensure that Site Development Review process occurs
Mitigation Measure AES-2b: Maintain site free of debris and restore abandoned roadways Project sites will be cleaned of all derelict equipment, wind turbine components not required for the project, and litter and debris from old turbines and past turbine operations. Such litter and debris may include derelict turbines, obsolete anemometers, unused electrical poles, and broken turbine blades. In addition, abandoned roads that are no longer in use on such parcels will be restored and hydroseeded to reclaim the sites and remove their visual traces from the viewscape, except in cases where the resource agencies (USFWS and CDFW) recommend that the features be left in place for resource protection. All parcels with new turbines will be maintained in such a manner through the life of project operations and until the parcels are reclaimed in accordance with the approved reclamation plan.	During construction and operation	County—adopt a Condition of Approval; Operator—ensure that site conditions are maintained as required	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Mitigation Measure AES-2c: Screen surplus parts and materials Surplus parts and materials that are kept onsite will be maintained in a neat and orderly fashion and screened from view. This can be accomplished by using a weatherproof camouflage material that can be draped over surplus parts and materials stockpiles. Draping materials will be changed out to accommodate for seasonal variations so that surplus materials are camouflaged in an effective manner when grasses are both green and brown.	During construction and operation	County—adopt a Condition of Approval; Operator—ensure that site conditions are maintained as required	County	Monitor compliance with Conditions of Approval
Mitigation Measure AES-5: Analyze shadow flicker distance and mitigate effects or incorporate changes into project design to address shadow flicker Where shadow flicker could result from the installation of wind turbines proposed near residences (i.e., within 500 meters [1,640 feet] in a generally east or west direction to account for all seasons), the project applicant will prepare a graphic model and study to evaluate shadow flicker impacts on nearby residences. No shadow flicker in excess of 30 minutes in a given day or 30 hours in a given year will be permitted. If it is determined that existing setback requirements as established by the County are not sufficient to prevent shadow flicker impacts on residences, Alameda County will require an increase in the required setback distances to ensure that residences are not affected. If any residence is nonetheless affected by shadow flicker within the 30-minute/30-hour thresholds, the applicant will implement measures to minimize the effect, such as relocating the turbine; providing opaque window coverings, window awnings, landscape buffers, or a combination of these features to reduce flicker to acceptable limits for the affected receptor; or shutting down the turbine during the period shadow flicker would occur. Such measures will be undertaken in consultation with the owner of the affected residence. If the shadow flicker study indicates that any given turbine would result in shadow flicker exceeding the 30-minute/30-hour thresholds and the property owner is not amenable to window coverings, window awnings, or landscaping and the turbine cannot be shut down during the period of shadow flicker, then the turbine will be relocated to reduce the effect to acceptable limits.	During project design	County—adopt a Condition of Approval; Operator—ensure that thresholds are maintained as required	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Air Quality				
Mitigation Measure AQ-2a: Reduce construction-related air pollutant emissions by implementing applicable BAAQMD Basic Construction Mitigation Measures The project proponents will require all contractors to comply with the following requirements for all areas with active construction activities. • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered as needed to maintain dust control onsite—approximately two times per day. • All haul trucks transporting soil, sand, or other loose material offsite will be covered. • All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads will be limited to 15 mph. • All roadways, driveways, and sidewalks to be paved will be completed as soon as possible. Building pads will be laid as soon as possible after grading unless seeding or soil binders are used. • Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage will be provided for construction workers at all access points. • All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications. All equipment will be checked by a certified visible emissions evaluator. • Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person will respond and take corrective action within 48 hours. The air district's phone number will also be visible to ensure compliance with applicable regulations.	During construction	County—adopt a Condition of Approval; Operator—ensure compliance	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Mitigation Measure AQ-2b: Reduce construction-related air pollutant emissions by implementing measures based on BAAQMD's Additional Construction Mitigation Measures The project proponents will require all contractors to comply with the following requirements for all areas with active construction activities. • During construction activities, all exposed surfaces will be watered at a frequency adequate to meet and maintain fugitive dust control requirements of all relevant air quality management entities. • All excavation, grading, and/or demolition activities will be suspended when average wind speeds exceed 20 mph, as measured at the Livermore Municipal Airport. • Wind breaks (e.g., trees, fences) will be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50% air porosity. • Vegetative ground cover (e.g., fast-germinating native grass seed) will be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established. • If feasible and practicable, the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time will be limited. • Construction vehicles and machinery, including their tires, will be cleaned prior to leaving the construction area to remove vegetation and soil. Cleaning stations will be established at the perimeter of the construction area. • Site accesses to a distance of 100 feet from the paved road will be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel. • Sandbags or other erosion control measures will be installed to prevent silt runoff to public roadways from sites with a slope greater than 1%. • The idling time of diesel powered construction equipment will be minimized to 2 minutes. • The project will develop a plan demonstrating that the offroad equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20% NO_X reduction and 45% PM reduction compared to the	During construction	County—adopt a Condition of Approval; Operator—ensure compliance	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available. • Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings). • All construction equipment, diesel trucks, and generators will be equipped with BACT for emission reductions of NO_X and PM. • All contractors will use equipment that meets ARB's most recent certification standard for offroad heavy duty diesel engines. Implementation of Mitigation Measures AQ-2a and AQ-2b would ensure that impacts related to fugitive dust emissions in the SFBAAB would be less than significant. However, implementation of these measures would not reduce total ROG or NO_X emissions to a less-than-significant level (Table 3.3-11). This impact of total ROG and NO_X emissions would be significant and unavoidable. Mitigation Measures AQ-2a and AQ-2b would not reduce the onroad emissions in the SJVAB shown in Table 3.3-7, but these emissions would not exceed SJVAPCD's significance thresholds and are, therefore, less than significant.				
Biological Resources				
Mitigation Measure BIO-1a: Conduct surveys to determine the presence or absence of special-status plant species Project proponents will conduct surveys for the special-status plant species within and adjacent to all project sites. All surveys will be conducted by qualified biologists in accordance with the appropriate protocols. Special-status plant surveys will be conducted in accordance with *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (California Department of Fish and Game 2009) during the season that special-status plant species would be evident and identifiable—i.e., during their blooming season. No more than 3 years prior to ground-disturbing repowering activities and during the appropriate identification periods for special-status plants (Table 3.4-4), a qualified biologist (as determined by Alameda County) will conduct field surveys within decommissioning work areas, proposed construction areas, and the immediately adjacent areas to determine the presence of habitat for special-status plant species. The project proponent will submit a	Prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
report documenting the survey results to Alameda County for review and approval prior to conducting any repowering activities. The report will include the location and description of all proposed work areas, the location and description of all suitable habitat for special-status plant species, and the location and description of other sensitive habitats (e.g., vernal pools, wetlands, riparian areas). Additionally, the report will outline where additional species and/or habitat-specific mitigation measures are required. This report will provide the basis for any applicable permit applications where incidental take of listed species may occur.				
Mitigation Measure BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species Project proponents will ensure that the following BMPs, in accordance with practices established in the EACCS, will be incorporated into individual project design and construction documents. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training. Training will include review of environmental laws, mitigation measures, permit conditions, and other requirements that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailboard trainings will take place on an as-needed basis in the field. These trainings will include a brief review of the biology of the covered species and guidelines that must be followed by all personnel to reduce or avoid negative effects on these species during decommissioning and reclamation activities. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Material will be stockpiled only in areas that do not support special-status species or sensitive habitats. • Grading will be restricted to the minimum area necessary. • Prior to ground-disturbing activities in sensitive habitats, project construction boundaries and access areas will be flagged and temporarily fenced during construction to reduce the potential for vehicles and	Prior to and during all site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
equipment to stray into adjacent habitats. • Vehicles or equipment will not be refueled within 100 feet of a wetland, stream, or other waterway unless a bermed and lined refueling area (i.e., a created berm made of sandbags or other removable material) is constructed. • Erosion control measures will be implemented to reduce sedimentation in nearby aquatic habitat when activities are the source of potential erosion. Plastic monofilament netting (erosion control matting) or similar material containing netting will not be used at the project. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • Significant earth moving-activities will not be conducted in riparian areas within 24 hours of predicted storms or after major storms (defined as 1-inch of rain or more). The following will not be allowed at or near work sites for project activities: trash dumping, firearms, open fires (such as barbecues) not required by the activity, hunting, and pets (except for safety in remote locations).				
Mitigation Measure BIO-1c: Avoid and minimize impacts on special-status plant species by establishing activity exclusion zones Where surveys determine that a special-status plant species is present in or adjacent to a project area, direct and indirect impacts of the project on the species will be avoided through the establishment of activity exclusion zones, within which no ground-disturbing activities will take place, including construction of new facilities, construction staging, or other temporary work areas. Activity exclusion zones for special-status plant species will be established around each occupied habitat site, the boundaries of which will be clearly marked with standard orange plastic construction exclusion fencing or its equivalent. The establishment of activity exclusion zones will not be required if no construction-related disturbances will occur within 250 feet of the occupied habitat. The size of activity exclusion zones may be reduced through consultation with a qualified biologist and with concurrence from CDFW based on site-specific conditions.	Prior to and during all site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure BIO-1d: Compensate for impacts on special-status plant species All project proponents will avoid or minimize temporary and permanent impacts on special-status plants that occur on project sites and will compensate for impacts on special-status plant species. Although all impacts on large-flowered fiddleneck,	Prior to and during all site distur-bance If compensa-	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
diamond-petaled California poppy, and caper-fruited tropidocarpum will be avoided, impacts on other special-status plant species will be avoided to the extent feasible, and any unavoidable impacts will be addressed through compensatory mitigation. Where avoidance of impacts on a special-status plant species is infeasible, loss of individuals or occupied habitat of a special-status plant species occurrence will be compensated for through the acquisition, protection, and subsequent management in perpetuity of other existing occurrences at a 2:1 ratio (occurrences impacted: occurrences preserved). The project proponent will provide detailed information to the County and CDFW on the location of the preserved occurrences, quality of the preserved habitat, feasibility of protecting and managing the areas in-perpetuity, responsibility parties, and other pertinent information. If suitable occurrences of a special-status plant species are not available for preservation, then the project will be redesigned to remove features that would result in impacts on that species.	tion is required, submit enforceable plan for implementation prior to site disturbance			
Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas All project proponents will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning, repowering, and reclamation activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). Monitoring will occur during initial ground disturbance where sensitive biological resources are present and weekly thereafter or as determined by the County in coordination with a qualified biologist. The biologist will assist the crew, as needed, to comply with all project implementation restrictions and guidelines. In addition, the biologist will be responsible for ensuring that the project proponent or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources– related mitigation measures.	During all site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure BIO-2: Prevent introduction, spread, and establishment of invasive plant species To avoid and minimize the introduction and spread of invasive nonnative plant species, all project proponents will implement the following BMPs. • Construction vehicles and machinery will be cleaned prior to entering the construction area to remove vegetation and soil. Cleaning stations will be	During all site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
established at the perimeter of the construction area or at a nearby offsite location (no more than 1 mile from the project construction entry point). • Vehicles will be washed only at approved areas. No washing of vehicles will occur at job sites. • To discourage the introduction and establishment of invasive plant species, seed mixtures and straw used within natural vegetation will be either rice straw or weed-free straw, as allowed by state and federal regulation of stormwater runoff. In addition, the project proponents will prepare and implement erosion and sediment control plans to control short-term and long-term erosion and sedimentation effects and to restore soils and vegetation in areas affected by construction activities (Mitigation Measures BIO-1b and WQ-1). Prior to initiating any construction activities that will result in temporary impacts on natural communities, a restoration and monitoring plan will be developed for temporarily affected habitats in each project area (Mitigation Measure BIO-5c). Restoration and monitoring plans will be submitted to the County and CDFW for approval. These plans will include methods for restoring soil conditions and revegetating disturbed areas, seed mixes, monitoring and maintenance schedules, adaptive management strategies, reporting requirements, and success criteria. Following completion of project construction, the project proponents will implement the revegetation plans to restore areas disturbed by project activities to a condition of equal or greater habitat function than occurred prior to the disturbance.				
Mitigation Measure BIO-3a: Conduct preconstruction surveys for habitat for special-status wildlife species No more than 3 years prior to ground-disturbing repowering activities, a qualified biologist (as determined by Alameda County) will conduct field surveys within decommissioning, repowering, and restoration work areas and their immediate surroundings to determine the presence of habitat for special-status wildlife species. The project proponent will submit a report documenting the survey results to Alameda County for review prior to conducting any repowering activities. The report will include the location and description of all proposed work areas, the location and description of all suitable habitat for special-status wildlife species, and the location and description of other sensitive habitats (e.g., vernal pools, wetlands, riparian areas). Additionally, the report will outline where additional species- and/or habitat-specific mitigation measures are required. This report may provide the basis for any applicable permit applications where incidental take may	Prior to and during all site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
occur.				
Mitigation Measure BIO-3b: Implement measures to avoid, minimize, and mitigate impacts on vernal pool branchiopods and curved-footed hygrotus diving beetle Where suitable habitat for listed vernal pool branchiopods and curved-footed hygrotus diving beetle are identified within 250 feet (or another distance as determined by a qualified biologist based on topography and other site conditions) of proposed work areas, the following measures will be implemented to ensure that the repowering projects do not have adverse impacts on listed vernal pool branchiopods or curved-footed hygrotus diving beetle. These measures are based on measures from the EACCS, with some modifications and additions. Additional conservation measures or conditions of approval may be required in applicable project permits (e.g., ESA incidental take permit). • Avoid all direct impacts on sandstone rock outcrop vernal pools. • Ground disturbance will be avoided from the first day of the first significant rain (1 inch or more) until June 1, or until pools remain dry for 72 hours and no significant rain is forecast on the day of such ground disturbance. • If vernal pools, clay flats, alkaline pools, ephemeral stock tanks (or ponds), sandstone pools, or roadside ditches are present within 250 feet of the work area (or another appropriate distance as determined by a qualified biologist on the basis of topography and other site conditions), the biologist will stake and flag an exclusion zone prior to construction activities. The width of the exclusion zone will be based on site conditions and will be the maximum practicable distance that ensures protection of the feature from direct and indirect effects of the project. Exclusion zones will be established around features whether they are wet or dry at the time. The exclusion zone will be fenced with orange construction zone and erosion control fencing (to be installed by construction crew). • No herbicide will be applied within 100 feet of exclusion zones, except when applied to cut stumps or frilled stems or injected into stems. No broadcast applications will be allowed. • Avoid modifying or changing the hydrology of aquatic habitats. • Minimize the work area for stream crossings and conduct work during the dry season (June 1 through the first significant rain of the fall/winter).	During construction and operation If compensation is required, submit enforceable plan for implementation prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
• Install utility collection lines across perennial creeks by boring under the creek. Where impacts cannot be avoided or minimized, compensatory mitigation will be undertaken in accordance with mitigation ratios and requirements developed under the EACCS (Appendix C). In the event that an incidental take permit is required, compensatory mitigation will be undertaken in accordance with the terms of the permit in consultation with USFWS.				
Mitigation Measure BIO-4a: Implement measures to avoid or protect habitat for valley elderberry longhorn beetle If it is determined through preconstruction surveys conducted pursuant to Mitigation Measure BIO-3a that elderberry shrubs are present within proposed work areas or within 100 feet of these areas, the following measures will be implemented to ensure that the proposed project does not have a significant impact on valley elderberry longhorn beetle. • Avoid removal of elderberry shrubs. • Elderberry shrubs/clusters within 100 feet of the construction area that will not be removed will be protected during construction. A qualified biologist (i.e., with elderberry/VELB experience) will mark the elderberry shrubs and clusters that will be protected during construction. Orange construction barrier fencing will be placed at the edge of the buffer areas. The buffer area distances will be proposed by the biologist and approved by USFWS. No construction activities will be permitted within the buffer zone other than those activities necessary to erect the fencing. Signs will be posted every 50 feet (15.2 meters) along the perimeter of the buffer area fencing. The signs will contain the following information: *This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment.* • Buffer area fences around elderberry shrubs will be inspected weekly by a qualified biological monitor during ground-disturbing activities and monthly after ground-disturbing activities until project construction is complete or until the fences are removed, as approved by the biological monitor and the resident engineer. The biological monitor will be responsible for ensuring that the contractor maintains the buffer area	During construction and operation	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
fences around elderberry shrubs throughout construction. Biological inspection reports will be provided to the project proponent and USFWS.				
Mitigation Measure BIO-4b: Compensate for direct and indirect effects on valley elderberry longhorn beetle If elderberry shrubs cannot be avoided and protected as outlined in Mitigation Measure 4a, the project proponent will obtain an incidental take permit from USFWS and compensate for the loss of any elderberry shrubs. Surveys of elderberry shrubs to be transplanted will be conducted by a qualified biologist prior to transplantation. Surveys will be conducted in accordance with the *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (U.S. Fish and Wildlife Service 1999). Survey results and an analysis of the number of elderberry seedlings/cuttings and associated native plants based on the survey results will be submitted to USFWS in a biological assessment or an HCP. After receipt of an incidental take permit and before construction begins, the project proponent will compensate for direct effects on elderberry shrubs by transplanting shrubs that cannot be avoided to a USFWS-approved conservation area. Elderberry seedlings or cuttings and associated native species will also be planted in the conservation area. Each elderberry stem measuring 1 inch or more in diameter at ground level that is adversely affected (i.e., transplanted or destroyed) will be replaced, in the conservation area, with elderberry seedlings or cuttings at a ratio ranging from 1:1 to 8:1 (new plantings to affected stems). The numbers of elderberry seedlings/cuttings and associated riparian native trees/shrubs to be planted as replacement habitat are determined by stem size class of affected elderberry shrubs, presence or absence of exit holes, and whether the shrub lies in a riparian or nonriparian area. Stock of either seedlings or cuttings would be obtained from local sources. At the discretion of USFWS, shrubs that are unlikely to survive transplantation because of poor condition or location, or a plant that would be extremely difficult to move because of access problems, may be exempted from transplantation. In cases where transplantation is not possible, minimization ratios would be increased to offset the additional habitat loss. The relocation of the elderberry shrubs will be conducted according to USFWS-approved procedures outlined in the Conservation Guidelines (U.S. Fish and Wildlife Service 1999). Elderberry shrubs within the project construction area that cannot be avoided will be transplanted during the plant's dormant phase (November through the first 2 weeks of February). A qualified biological monitor	Prior to disturbance If compensation is required, submit enforceable plan for implementation prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
will remain onsite while the shrubs are being transplanted. Evidence of valley elderberry longhorn beetle occurrence in the conservation area, the condition of the elderberry shrubs in the conservation area, and the general condition of the conservation area itself will be monitored over a period of 10 consecutive years or for 7 years over a 15-year period from the date of transplanting. The project proponent will be responsible for funding and providing monitoring reports to USFWS in each of the years in which a monitoring report is required. As specified in the Conservation Guidelines, the report will include information on timing and rate of irrigation, growth rates, and survival rates and mortality.				
Mitigation Measure BIO-5a: Implement best management practices to avoid and minimize effects on special-status amphibians All project proponents will ensure that BMPs and other appropriate measures, in accordance with measures developed for the EACCS, be incorporated into the appropriate design and construction documents. *Implementation of some of these measures will require that the project proponent obtain incidental take permits from USFWS (California red-legged frog and California tiger salamander) and from CDFW (California tiger salamander only) before construction begins.* Additional conservation measures or conditions of approval may be required in applicable project permits (e.g., ESA or CESA incidental take authorization). The applicant will comply with the State of California State Water Resources Control Board NPDES construction general requirements for stormwater. • Ground-disturbing activities will be limited to dry weather between April 15 and October 31. No ground-disturbing work will occur during wet weather. Wet weather is defined as when there has been 0.25 inch of rain in a 24-hour period. Ground disturbing activities halted due to wet weather may resume when precipitation ceases and the National Weather Service 72-hour weather forecast indicates a 30% or less chance of precipitation. No ground-disturbing work will occur during a dry-out period of 48 hours after the above referenced wet weather. • Where applicable, barrier fencing will be installed around the worksite to prevent amphibians from entering the work area. Barrier fencing will be removed within 72 hours of completion of work. • Before construction begins, a qualified biologist will locate appropriate relocation areas and prepare a relocation plan for special-status	During construction and operation	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
amphibians that may need to be moved during construction. The proponent will submit this plan to USFWS and CDFW for approval a minimum of 2 weeks prior to the start of construction. • A qualified biologist will conduct preconstruction surveys immediately prior to ground-disturbing activities (including equipment staging, vegetation removal, grading). The biologist will survey the work area and all suitable habitats within 300 feet of the work area. If individuals (including adults, juveniles, larvae, or eggs) are found, work will not begin until USFWS and/or CDFW is contacted to determine if moving these life-stages is appropriate. If relocation is deemed necessary, it will be conducted in accordance with the relocation plan. Incidental take permits are required for relocation of California tiger salamander (USFWS and CDFW) and California red-legged frog (USFWS). Relocation of western spadefoot and foothill yellow-legged frog requires a letter from CDFW authorizing this activity. • No monofilament plastic will be used for erosion control. • All project activity will terminate 30 minutes before sunset and will not resume until 30 minutes after sunrise during the migration/active season from November 1 to June 15. Sunrise and sunset times are established by the U.S. Naval Observatory Astronomical Applications Department for the geographic area where the project is located. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • Trenches or holes more than 6 inches deep will be provided with one or more escape ramps constructed of earth fill or wooden planks and will be inspected by a qualified biologist prior to being filled. Any such features that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Work will not continue until trapped animals have moved out of open trenches. • Work crews or the onsite biological monitor will inspect open trenches, pits, and under construction equipment and material left onsite in the morning and evening to look for amphibians that may have become trapped or are seeking refuge. • If special-status amphibians are found in the work area during construction and cannot or do not move offsite on their own, a qualified				

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
biologist who is USFWS and/or CDFW-approved under a biological opinion and/or incidental take permit for the specific project, will trap and move special-status amphibians in accordance with the relocation plan. Relocation of western spadefoot and foothill yellow-legged frog requires a letter permit from CDFW authorizing this activity.				
Mitigation Measure BIO-5b: Compensate for loss of habitat for special-status amphibians Where impacts on aquatic and upland habitat for special-status amphibians cannot be avoided or minimized, compensatory mitigation will be undertaken in accordance with mitigation ratios and requirements developed under the EACCS (Appendix C). In the event that take authorization is required, compensatory mitigation will be undertaken in accordance with the terms of the authorization in consultation with USFWS and/or CDFW.	Prior to disturbance If compensation is required, submit enforceable plan for implementation prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure BIO-5c: Restore disturbed annual grasslands Within 30 days prior to any ground disturbance, a qualified biologist will prepare a Grassland Restoration Plan in coordination with CDFW and subject to CDFW approval, to ensure that temporarily disturbed annual grasslands and areas planned for the removal of permanent roads and turbine pad areas are restored to preproject conditions. The Grassland Restoration Plan will include but not be limited to the following measures. • Gravel will be removed from areas proposed for grassland restoration. • To the maximum extent feasible, topsoil will be salvaged from within onsite work areas prior to construction. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the restoration site. • Where appropriate, restoration areas will be seeded (hydroseeding is acceptable) to ensure erosion control. Seed mixes will be tailored to closely match that of reference site(s) within the program area and should include native or naturalized, noninvasive species sourced within the project area or from the nearest available location. • Reclaimed roads will be restored in such a way as to permanently prevent vehicular travel.	Prior to disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
The plan will include a requirement to monitor restoration areas annually (between March and October) for up to 3 years following the year of restoration. The restoration will be considered successful when the percent cover for restored areas is 70% absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5% relative cover of the vegetation in the restoration areas will consist of invasive plant species rated as "high" in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures prescribed in the plan will include supplemental seeding, weed control, and other actions as determined necessary to achieve the long-term success criteria. Monitoring may be extended if necessary to achieve the success criteria or if drought conditions preclude restoration success. Other performance standards may also be required as they relate to special-status species habitat; these will be identified in coordination with CDFW and included in the plan. The project proponent will provide evidence that CDFW has reviewed and approved the Grassland Restoration Plan. Additionally, the project proponent will provide annual monitoring reports to the County by January 31 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary) during the previous year.				
Mitigation Measure BIO-6: Conduct preconstruction surveys for western pond turtle and monitor construction activities if turtles are observed If it is determined through preconstruction surveys conducted pursuant to Mitigation Measure BIO-3a that suitable aquatic or upland habitat for western pond turtle is present within proposed work areas, the following measures, consistent with measures developed for the EACCS, will be implemented to ensure that the proposed project does not have a significant impact on western pond turtle. • One week before and within 24 hours of beginning work in suitable aquatic habitat, a qualified biologist (one who is familiar with different species of turtles) will conduct surveys for western pond turtle. The surveys should be timed to coincide with the time of day and year when turtles are most likely to be active (during the cooler part of the day between 8 a.m. and 12 p.m. during spring and summer). Prior to conducting the surveys, the biologist should locate the microhabitats for turtle basking (logs, rocks, brush thickets) and determine a location to quietly observe turtles. Each survey should include a 30-minute wait time after arriving onsite to allow startled turtles to return to open basking areas. The survey should consist of a minimum 15-minute observation	Prior to and during all site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
period for each area where turtles could be observed. • If western pond turtles are observed during either survey, a biological monitor will be present during construction activities in the aquatic habitat where the turtle was observed. The biological monitor also will be mindful of suitable nesting and overwintering areas in proximity to suitable aquatic habitat and will periodically inspect these areas for nests and turtles. • If one or more western pond turtles are found in the work area during construction and cannot or do not move offsite on their own, a qualified biologist will remove and relocate the turtle to appropriate aquatic habitat outside and away from the construction area. Relocation of western pond turtle requires a letter from CDFW authorizing this activity.				
Mitigation Measure BIO-7a: Implement best management practices to avoid and minimize effects on special-status reptiles Where suitable habitat for Blainville's horned lizard, Alameda whipsnake, or San Joaquin coachwhip is identified in proposed work areas, all project proponents will ensure that BMPs and other appropriate measures, in accordance with measures developed for the EACCS, be incorporated into the appropriate design and construction documents. *Implementation of some of these measures will require that the project proponent obtain incidental take permits from USFWS and CDFW (Alameda whipsnake) before construction begins.* Additional conservation measures or conditions of approval may be required in applicable project permits (i.e., ESA incidental take permit). • A qualified biologist will conduct preconstruction surveys immediately prior to ground-disturbing activities (e.g., equipment staging, vegetation removal, grading) associated with the program. If any Blainville's horned lizards, Alameda whipsnakes, or San Joaquin coachwhips are found, work will not begin until they are moved out of the work area to a USFWS- and/or CDFW-approved relocation site. Incidental take permits from USFWS and CDFW are required for relocation of Alameda whipsnake. Relocation of Blainville's horned lizard and San Joaquin coachwhip requires a letter from CDFW authorizing this activity. • No monofilament plastic will be used for erosion control. • Where applicable, barrier fencing will be used to exclude Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip. Barrier	During construction and operation	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
fencing will be removed within 72 hours of completion of work. • Work crews or an onsite biological monitor will inspect open trenches and pits and under construction equipment and materials left onsite for special-status reptiles each morning and evening during construction. • Ground disturbance in suitable habitat will be minimized. • Vegetation within the proposed work area will be removed prior to grading. Prior to clearing and grubbing operations, a qualified biologist will clearly mark vegetation within the work area that will be avoided. Vegetation outside the work area will not be removed. Where possible hand tools (e.g., trimmer, chain saw) will be used to trim or remove vegetation. All vegetation removal will be monitored by the qualified biologist to minimize impacts on special-status reptiles. • If special-status reptiles are found in the work area during construction and cannot or do not move offsite on their own, a qualified biologist who is USFWS- and/or CDFW-approved under an incidental take permit for the specific project will trap and move the animal(s) to a USFWS and/or CDFW-approved relocation area. Incidental take permits from USFWS and CDFW are required for relocation of Alameda whipsnake. Relocation of Blainville's horned lizard and San Joaquin coachwhip requires a letter from CDFW authorizing this activity.				
Mitigation Measure BIO-7b: Compensate for loss of habitat for special-status reptiles Where impacts on habitat for special-status reptiles cannot be avoided or minimized, compensatory mitigation will be undertaken in accordance with mitigation ratios and requirements developed under the EACCS (Appendix C). In the event that incidental take permits are required for Alameda whipsnake, compensatory mitigation will be undertaken in accordance with the terms of permits in consultation with USFWS and CDFW.	Prior to disturbance If compensation is required, submit enforceable plan for implementation prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non–special-status nesting birds Where suitable habitat is present for raptors within 1 mile (within 2 miles for golden eagles) and for tree/shrub- and ground-nesting migratory birds (non-	During construction and operation	County—adopt a Condition of Approval; Operator—	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
raptors) within 50 feet of proposed work areas, the following measures will be implemented to ensure that the proposed project does not have a significant impact on nesting special-status and non–special-status birds. • Remove suitable nesting habitat (shrubs and trees) during the non-breeding season (typically September 1–January 31) for nesting birds. • To the extent feasible, avoid construction activities in or near suitable or occupied nesting habitat during the breeding season of birds (generally February 1–August 31). • If construction activities (including vegetation removal, clearing, and grading) will occur during the nesting season for migratory birds, a qualified biologist will conduct preconstruction nesting bird surveys within 7 days prior to construction activities. The construction area and a 1-mile buffer will be surveyed for tree-nesting raptors (except for golden eagles), and a 50-foot buffer will be surveyed for all other bird species. • Surveys to locate eagle nests within 2 miles of construction will be conducted during the breeding season prior to construction. A 1-mile no-disturbance buffer will be implemented for construction activities to protect nesting eagles from disturbance. Through coordination with USFWS, the no-disturbance buffer may be reduced to 0.5 mile if construction activities are not within line-of-sight of the nest. • If an active nest (other than golden eagle) is identified near a proposed work area and work cannot be conducted outside the nesting season (February 1–August 31), a no-activity zone will be established around the nest by a qualified biologist in coordination with USFWS and/or CDFW. Fencing and/or flagging will be used to delineate the no-activity zone. To minimize the potential to affect the reproductive success of the nesting pair, the extent of the no-activity zone will be based on the distance of the activity to the nest, the type and extent of the proposed activity, the duration and timing of the activity, the sensitivity and habituation of the species, and the dissimilarity of the proposed activity to background activities. The no-activity zone will be large enough to avoid nest abandonment and will be between 50 feet and 1 mile from the nest, or as otherwise required by USFWS and/or CDFW.		implement		

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Mitigation Measure BIO-8b: Implement measures to avoid and minimize potential impacts on western burrowing owl Where suitable habitat for western burrowing owl is in or within 500 feet of proposed work areas, the following measures will be implemented to avoid or minimize potential adverse impacts on burrowing owls. • To the maximum extent feasible (e.g., where the construction footprint can be modified), construction activities within 500 feet of active burrowing owl burrows will be avoided during the nesting season (February 1–August 31). • A qualified biologist will conduct preconstruction take avoidance surveys for burrowing owl no less than 14 days prior to and within 24 hours of initiating ground-disturbing activities. The survey area will encompass the work area and a 500-foot buffer around this area. • If an active burrow is identified near a proposed work area and work cannot be conducted outside the nesting season (February 1–August 31), a no-activity zone will be established by a qualified biologist in coordination with CDFW. The no-activity zone will be large enough to avoid nest abandonment and will extend a minimum of 250 feet around the burrow. • If burrowing owls are present at the site during the non-breeding season (September 1–January 31), a qualified biologist will establish a no-activity zone that extends a minimum of 150 feet around the burrow. • If the designated no-activity zone for either breeding or non-breeding burrowing owls cannot be established, a wildlife biologist experienced in burrowing owl behavior will evaluate site-specific conditions and, in coordination with CDFW, recommend a smaller buffer (if possible) and/or other measure that still minimizes disturbance of the owls (while allowing reproductive success during the breeding season). The site-specific buffer (and/or other measure) will consider the type and extent of the proposed activity occurring near the occupied burrow, the duration and timing of the activity, the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity to background activities. • If burrowing owls are present in the direct disturbance area and cannot be avoided during the non-breeding season (generally September 1 through January 31), burrowing owls may be excluded from burrows through the installation of one-way doors at burrow entrances. A burrowing owl	During construction and operation	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
exclusion plan, prepared by the project proponent, must be approved by CDFW prior to exclusion of owls. One-way doors (e.g., modified dryer vents or other CDFW-approved method) will be left in place for a minimum of 1 week and monitored daily to ensure that the owl(s) have left the burrow(s). Excavation of the burrow will be conducted using hand tools. During excavation of the burrow, a section of flexible plastic pipe (at least 3 inches in diameter) will be inserted into the burrow tunnel to maintain an escape route for any animals that may be inside the burrow. Owls will be excluded from their burrows as a last resort and only if other avoidance and minimization measures cannot be implemented. • Avoid destruction of unoccupied burrows outside the work area and place visible markers near burrows to ensure that they are not collapsed. • Conduct ongoing surveillance of the project site for burrowing owls during project activities. If additional owls are observed using burrows within 500 feet of construction, the onsite biological monitor will determine, in coordination with CDFW, if the owl(s) are or would be affected by construction activities and if additional exclusion zones are required.				
Mitigation Measure BIO-9: Compensate for the permanent loss of occupied habitat for western burrowing owl If construction activities would result in the removal of occupied burrowing owl habitat (determined during preconstruction surveys described in Mitigation Measure BIO-8a), this habitat loss will be mitigated by permanently protecting mitigation land through a conservation easement or by implementing alternative mitigation determined through consultation with CDFW as described in its *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Game 2012:11–13). The project proponent will work with CDFW to develop the compensation plan, which will be subject to County review and approval.	Prior to disturbance If compensation is required, submit enforceable plan for implementation prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure BIO-10a: Implement measures to avoid and minimize potential impacts on San Joaquin kit fox and American badger Where suitable habitat is present for San Joaquin fit fox and American badger in and adjacent to proposed work areas, the following measures, consistent with measures developed in the EACCS, will be implemented to ensure that proposed projects do not have a significant impact on San Joaquin kit fox or American badger. *Implementation of some of these measures will require that the project proponent*	During construction and operation	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
obtain incidental take permits from USFWS and CDFW (San Joaquin kit fox) before construction begins. Additional conservation measures or conditions of approval may be required in applicable project permits. • To the maximum extent feasible, suitable dens for San Joaquin kit fox and American badger will be avoided. • All project proponents will retain qualified approved biologists (as determined by USFWS) to conduct a preconstruction survey for potential San Joaquin kit fox dens (U.S. Fish and Wildlife Service 2011). Resumes of biologists will be submitted to USFWS for review and approval prior to the start of the survey. • Preconstruction surveys for American badgers will be conducted in conjunction with San Joaquin kit fox preconstruction surveys. • As described in U.S. Fish and Wildlife Service 2011, the preconstruction survey will be conducted no less than 14 days and no more than 30 days before the beginning of ground disturbance, or any activity likely to affect San Joaquin kit fox. The biologists will conduct den searches by systematically walking transects through the project area and a buffer area to be determined in coordination with USFWS and CDFW. Transect distance should be based on the height of vegetation such that 100% visual coverage of the project area is achieved. If a potential or known den is found during the survey, the biologist will measure the size of the den, evaluate the shape of the den entrances, and note tracks, scat, prey remains, and recent excavations at the den site. The biologists will also determine the status of the dens and map the features. Dens will be classified in one of the following four den status categories defined by USFWS (U.S. Fish and Wildlife Service 2011). o Potential den: Any subterranean hole within the species' range that has entrances of appropriate dimensions and for which available evidence is sufficient to conclude that it is being used or has been used by a kit fox. Potential dens include (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, ground squirrel) that otherwise has appropriate characteristics for kit fox use; or an artificial structure that otherwise has appropriate characteristics for kit fox use. o Known den: Any existing natural den or artificial structure that is used or has been used at any time in the past by a San Joaquin kit fox.				

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Evidence of use may include historical records; past or current radiotelemetry or spotlighting data; kit fox sign such as tracks, scat, and/or prey remains; or other reasonable proof that a given den is being or has been used by a kit fox (USFWS discourages use of the terms *active* and *inactive* when referring to any kit fox den because a great percentage of occupied dens show no evidence of use, and because kit foxes change dens often, with the result that the status of a given den may change frequently and abruptly). ○ Known natal or pupping den: Any den that is used, or has been used at any time in the past, by kit foxes to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt or vegetation at one or more entrances. A natal den, defined as a den in which kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two; therefore, for purposes of this definition either term applies. ○ Known atypical den: Any artificial structure that has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings. Written results of the survey including the locations of any potential or known San Joaquin kit fox dens will be submitted to USFWS within 5 days following completion of the survey and prior to the start of ground disturbance or construction activities. • After preconstruction den searches and before the commencement of repowering activities, exclusion zones will be established as measured in a radius outward from the entrance or cluster of entrances of each den. Repowering activities will be prohibited or greatly restricted within these exclusion zones. Only essential vehicular operation on existing roads and foot traffic will be permitted. All other repowering activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited in the exclusion zones. Barrier fencing will be removed within 72 hours of completion of work. Exclusion zones will be established using the following parameters.				

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
○ Potential and atypical dens: A total of four or five flagged stakes will be placed 50 feet from the den entrance to identify the den location. ○ Known den: Orange construction barrier fencing will be installed between the work area and the known den site at a minimum distance of 100 feet from the den. The fencing will be maintained until construction-related disturbances have ceased. At that time, all fencing will be removed to avoid attracting subsequent attention to the den. ○ Natal/pupping den: USFWS will be contacted immediately if a natal or pupping den is discovered in or within 200 feet of the work area. • Any occupied or potentially occupied badger den will be avoided by establishing an exclusion zone consistent with a San Joaquin kit fox potential burrow (i.e., four or five flagged stakes will be placed 50 feet from the den entrance). • In cases where avoidance is not a reasonable alternative, limited destruction of potential San Joaquin kit fox dens may be allowed as follows. ○ Natal/pupping dens: Natal or pupping dens that are occupied will not be destroyed until the adults and pups have vacated the dens and then only after consultation with USFWS. Removal of natal/pupping dens requires incidental take authorization from USFWS and CDFW. ○ Known dens: Known dens within the footprint of the activity must be monitored for 3 days with tracking medium or an infrared camera to determine current use. If no kit fox activity is observed during this period, the den should be destroyed immediately to preclude subsequent use. If kit fox activity is observed during this period, the den will be monitored for at least 5 consecutive days from the time of observation to allow any resident animal to move to another den during its normal activity. Use of the den can be discouraged by partially plugging its entrance(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied will the den be excavated under the direction of a biologist. If the fox is still present after 5 or more consecutive days of monitoring, the den may be excavated when, in the judgment of the biologist, it is temporarily vacant, such as during the fox's normal foraging activities. Removal of known dens requires incidental take authorization from USFWS and CDFW.				

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
○ Potential dens: If incidental take permits have been received (from USFWS and CDFW), potential dens can be removed (preferably by hand excavation) by biologist or under the supervision of a biologist without monitoring, unless other restrictions were issued with the incidental take permits. If no take authorizations have been issued, the potential dens will be monitored as if they are known dens. If any den was considered a potential den but was later determined during monitoring or destruction to be currently or previously used by kit foxes (e.g., kit fox sign is found inside), then all construction activities will cease and USFWS and CDFW will be notified immediately. • Nighttime work will be minimized to the extent possible. The vehicular speed limit will be reduced to 10 miles per hour during nighttime work. • Pipes, culverts, and similar materials greater than 4 inches in diameter will be stored so as to prevent wildlife species from using these as temporary refuges, and these materials will be inspected each morning for the presence of animals prior to being moved. • A representative appointed by the project proponent will be the contact for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured, or entrapped kit fox. The representative will be identified during environmental sensitivity training (Mitigation Measure BIO-1b) and his/her name and phone number will be provided to USFWS and CDFW. Upon such incident or finding, the representative will immediately contact USFWS and CDFW. • The Sacramento USFWS office and CDFW will be notified in writing within 3 working days of the accidental death or injury of a San Joaquin kit fox during project-related activities. Notification must include the date, time, and location of the incident, and any other pertinent information.				
Mitigation Measure BIO-10b: Compensate for loss of suitable habitat for San Joaquin kit fox and American badger Where permanent impacts on habitat for San Joaquin kit fox and American badger cannot be avoided or minimized, compensatory mitigation will be undertaken in accordance with mitigation ratios and requirements developed under the EACCS (Appendix C). In the event that incidental take permits are required for San Joaquin kit fox, compensatory mitigation will be undertaken in accordance with the terms of permits in consultation with USFWS and CDFW.	Prior to disturbance If compensation is required, submit enforceable plan for implemen-	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
	tation prior to site disturbance			
Mitigation Measure BIO-11a: Prepare a project-specific avian protection plan All project proponents will prepare a project-specific APP to specify measures and protocols consistent with the program-level mitigation measures that address avian mortality. The project-specific APPs will include, at a minimum, the following components. • Information and methods used to site turbines to minimize risk. • Documentation that appropriate turbine designs are being used. • Documentation that avian-safe practices are being implemented on project infrastructure. • Methods used to discourage prey for raptors. • A detailed description of the postconstruction avian fatality monitoring methods to be used (consistent with the minimum requirements outlined in Mitigation Measure BIO-11g). • Methods used to compensate for the loss of raptors (consistent with the requirements of Mitigation Measure BIO-11h). Each project applicant will prepare and submit a draft project-specific APP to the County. The draft APP will be reviewed by the TAC for consistency and the inclusion of appropriate mitigation measures that are consistent with the PEIR and recommended for approval by the County. Each project applicant must have an approved Final APP prior to commercial operation.	Prior to commercial operation	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure BIO-11b: Site turbines to minimize potential mortality of birds Siting of turbines—using analyses of landscape features and location-specific bird use and behavior data to identify locations with reduced collision risk—may result in reduced fatalities (Smallwood et al. 2009). All project proponents will conduct a siting process and prepare a siting analysis to select turbine locations to minimize potential impacts on bird and bat species. Proponents will utilize existing data as well as collect new site-specific data as part of the siting analysis. Project proponents will utilize currently available guidelines such as the Alameda County SRC guidelines for siting wind turbines (Alameda County SRC 2010) and/or other currently available research or guidelines to conduct siting analysis.	Prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Additionally, project proponents will use the results of previous siting efforts to inform the analysis and siting methods as appropriate such that the science of siting continues to be advanced. All project proponents will collect field data that identify or confirm the behavior, utilization, and distribution patterns of affected avian and bat species prior to the installation of turbines. Project proponents will collect and utilize available existing information, including but not necessarily limited to: siting reports and monitoring data from previously installed projects; published use and abundance studies and reports; and topographic features known to increase collision risk (trees, riparian areas, water bodies, and wetlands). Project proponents will also collect and utilize additional field data as necessary to inform the siting analysis for golden eagle. As required in Mitigation Measure BIO-8a, surveys will be conducted to locate golden eagle nests within 2 miles of proposed project areas. Siting of turbines within 2 miles of an active or alternative golden eagle nest or active golden eagle territory will be based on a site-specific analysis of risk based on the estimated eagle territories, conducted in consultation with USFWS. Project proponents will utilize methods (i.e., computer models) to identify dangerous locations for birds and bats based on site-specific risk factors informed by the information discussed above. The project proponents will compile the results of the siting analyses for each turbine and document these in the project-level APP, along with the specific location of each turbine.				
Mitigation Measure BIO-11c: Use turbine designs that reduce avian impacts Use of turbines with certain characteristics is believed to reduce the collision risk for avian species. Project proponents will implement the design-related measures listed below. • Turbine designs will be selected that have been shown or that are suspected to reduce avian fatalities, based on the height, color, configuration, or other features of the turbines. • Turbine design will limit or eliminate perching opportunities. Designs will include a tubular tower with internal ladders; external catwalks, railings, or ladders will be prohibited. • Turbine design will limit or eliminate nesting or roosting opportunities. Openings on turbines will be covered to prevent cavity-nesting species from nesting in the turbines. • Lighting will be installed on the fewest number of turbines allowed by FAA	Prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
regulations, and all pilot warning lights will fire synchronously. Turbine lighting will employ only red or dual red-and-white strobe, strobe-like, or flashing lights (U.S. Fish and Wildlife Service 2012). All lighting on turbines will be operated at the minimum allowable intensity, flashing frequency, and quantity allowed by FAA (Gehring et al. 2009; U.S. Fish and Wildlife Service 2012). Duration between flashes will be the longest allowable by the FAA.				
Mitigation Measure BIO-11d: Incorporate avian-safe practices into design of turbine-related infrastructure All project proponents will apply the following measures when designing and siting turbine-related infrastructure. These measures will reduce the risk of bird electrocution and collision. • Permanent meteorological stations will avoid use of guy wires. If it is not possible to avoid using guy wires, the wires will be at least 4/0 gauge to ensure visibility and will be fitted with bird deterrent devices. • All permanent meteorological towers will be unlit unless lighting is required by FAA. If lighting is required, it will be operated at the minimum allowable intensity, flashing frequency, and quantity allowed by FAA. • To the extent possible, all powerlines will be placed underground. However, lines may be placed aboveground immediately prior to entering the substation. All aboveground lines will be fitted with bird flight diverters or visibility enhancement devices (e.g., spiral damping devices). When lines cannot be placed underground, appropriate avian protection designs must be employed. As a minimum requirement, the collection system will conform with the most current edition of the Avian Power Line Interaction Committee guidelines to prevent electrocutions. • Lighting will be focused downward and minimized to limit skyward illumination. Sodium vapor lamps and spotlights will not be used at any facility (e.g., laydown areas, substations) except when emergency maintenance is needed. Lighting at collection facilities, including substations, will be minimized using downcast lighting and motion-detection devices. The use of high-intensity lighting; steady-burning or bright lights such as sodium vapor, quartz, or halogen; or other bright spotlights will be minimized. Where lighting is required it will be designed for the minimum intensity required for safe operation of the facility. Green	Prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
or blue lighting will be used in place of red or white lighting.				
Mitigation Measure BIO-11e: Retrofit existing infrastructure to minimize risk to raptors Any existing power lines in a specific project area that are owned by the wind project operator and that are associated with electrocution of an eagle or other raptor will be retrofitted within 30 days to make them raptor-safe according to Avian Power Line Interaction Committee guidelines. All other existing structures to remain in a project area during repowering will be retrofitted, as feasible, according to specifications of Mitigation Measure BIO-11c prior to repowered turbine operation.	During operation	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure BIO-11f: Discourage prey for raptors All project proponents will apply the following measures when designing and siting turbine-related infrastructure. These measures are intended to minimize opportunities for fossorial mammals to become established and thereby create a prey base that could become an attractant for raptors. • Rodenticide will not be utilized on the project site to avoid the risk of raptors scavenging the remains of poisoned animals. • Boulders (rocks more than 12 inches in diameter) excavated during project construction may be placed in aboveground piles in the project area so long as they are more than 500 meters (1,640 feet) from any turbine. Existing rock piles created during construction of first- and second-generation turbines will also be moved at least 500 meters (1,640 feet) from turbines. • Gravel will be placed around each tower foundation to discourage small mammals from burrowing near turbines.	During construction and operation	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure BIO-11g: Implement postconstruction avian fatality monitoring for all repowering projects A postconstruction monitoring program will be conducted at each repowering project for a minimum of 3 years beginning on the commercial operation date (COD) of the project. Monitoring may continue beyond 3 years if construction is completed in phases. Moreover, if the results of the first 3 years indicate that baseline fatality rates (i.e., nonrepowered fatality rates) are exceeded, monitoring will be extended until the average annual fatality rate has dropped below baseline fatality rates for 2 years, and to assess the effectiveness of adaptive management measures specified in Mitigation Measure BIO-11i. An additional 2 years of	During operation	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
monitoring will be implemented at year 10 (i.e., the tenth anniversary of the COD). Project proponents will provide access to qualified third parties authorized by the County to conduct any additional monitoring after the initial 3-year monitoring period has expired and before and after the additional 2-year monitoring period, provided that such additional monitoring utilizes scientifically valid monitoring protocols. A technical advisory committee (TAC) will be formed to oversee the monitoring program and to advise the County on adaptive management measures that may be necessary if fatality rates substantially exceed those predicted for the project (as described below in Mitigation Measure BIO-11i). The TAC will have a standing meeting, which will be open to the public, every 6 months to review monitoring reports produced by operators in the program area. In these meetings, the TAC will discuss any issues raised by the monitoring reports and recommend to the County next steps to address issues, including scheduling additional meetings, if necessary. The TAC will comprise representatives from the County (including one or more technical consultants, such as a biostatistician, an avian biologist, and a bat biologist), and wildlife agencies (CDFW, USFWS). Additional TAC members may also be considered (e.g., a representative from Audubon, a landowner in the program area, a representative of the operators) at the discretion of the County. The TAC will be a voluntary and advisory group that will provide guidance to the County Planning Department. To maintain transparency with the public, all TAC meetings will be open to the public, and notice of meetings will be given to interested parties. The TAC will have three primary advisory roles: (1) to review and advise on project planning documents (i.e., project-specific APPs) to ensure that project-specific mitigation measures and compensatory mitigation measures described in this PEIR are appropriately and consistently applied, (2) to review and advise on monitoring documents (protocols and reporting) for consistency with the mitigation measures, and (3) to review and advise on implementation of the adaptive management plans. Should fatality monitoring reveal that impacts exceed the baseline thresholds established in this PEIR, the TAC will advise the County on requiring implementation of adaptive management measures as described in Mitigation Measure BIO-11i. The County will have the decision-making authority, as it is the organization issuing the CUPs. However, the TAC will collaboratively inform the decisions of the County.				

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Operators are required to provide for avian use surveys to be conducted within the project area boundaries for a minimum of 30 minutes duration. Surveyors will be qualified and trained and subject to approval by the County. Carcass surveys will be conducted at every turbine for projects with 20 or fewer turbines. For projects with more than 20 turbines, such surveys will be required at a minimum of 20 turbines, and a sample of the remaining turbines may be selected for carcass searches. The operator will be required to demonstrate that the sampling scheme and sample size are statistically rigorous and defensible. Where substantial variation in terrain, land cover type, management, or other factors may contribute to significant variation in fatality rates, the sampling scheme will be stratified to account for such variation. The survey protocol for sets and subsets of turbines, as well as proposed sampling schemes that do not entail a search of all turbines, must be approved by the County in consultation with the TAC prior to the start of surveys. The search interval will not exceed 14 days for the minimum of 20 turbines to be surveyed; however, the search interval for the additional turbines (i.e., those exceeding the 20-turbine minimum) that are to be included in the sampling scheme may be extended up to 28 days or longer if recommended by the TAC. The estimation of detection probability is a rapidly advancing field. Carcass placement trials, broadly defined, will be conducted to estimate detection probability during each year of monitoring. Sample sizes will be large enough to potentially detect significant variation by season, carcass size, and habitat type. Operators will be required to submit copies of all raw data forms to the County annually, will supply raw data in a readily accessible digital format to be specified by the County, and will prepare raw data for inclusion as appendices in the annual reports. The intent is to allow the County to conduct independent analyses and meta-analyses of data across the APWRA, and to supply these data to the regulatory agencies if requested. Annual reports submitted to the County will provide a synthesis of all information collected to date. Each report will provide an introduction; descriptions of the study area, methods, and results; a discussion of the results; and any suitable recommendations. Reports will provide raw counts of fatalities, adjusted fatality rates, and estimates of project-wide fatalities on both a per MW and per turbine basis.				

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Mitigation Measure BIO-11h: Compensate for the loss of raptors and other avian species, including golden eagles, by contributing to conservation efforts **Discussion** Several options to compensate for impacts on raptors are currently available. Some are targeted to benefit certain species, but they may also have benefits for other raptor and non-raptor species. For example, USFWS's ECP Guidelines currently outline a compensatory mitigation strategy for golden eagles using the retrofit of high-risk power poles (poles known or suspected to electrocute and kill eagles). The goal of this strategy is to eliminate hazards for golden eagles. However, because the poles are also dangerous for other large raptors (e.g., red-tailed hawk, Swainson's hawk), retrofitting them can benefit such species as well as eagles. Similarly, although the retrofitting of electrical poles may have benefits for large raptors, such an approach may provide minimal benefits for smaller raptors such as American kestrel and burrowing owl. Consequently, additional measures would be required components of an overall mitigation package to compensate for impacts on raptors in general. The Secretary of the Interior issued Order 3330 on October 31, 2013, outlining a new approach to mitigation policies and practices of the Department of the Interior. This approach recognizes that certain strategies aimed at some species (e.g., raptors) can provide substantial benefit to others (e.g., non-raptors) and to the ecological landscape as a whole. The landscape-scale approach to mitigation and conservation efforts is now central to the Department's mitigation strategy. Although the Order was intended for use by federal agencies and as such is not directly applicable to the County, it is evident that such an approach would likely have the greatest mitigation benefits, especially when considering ongoing and long-term impacts from wind energy projects. With these considerations in mind, the County has outlined several options that are currently available to compensate for impacts on raptors and other avian species. The options discussed below are currently considered acceptable approaches to compensation for impacts on raptors and other species. Although not every option is appropriate for all species, it is hoped that as time proceeds, a more comprehensive landscape-level approach to mitigation will be adopted to benefit a broader suite of species than might benefit from more species-specific measures. The County recognizes that the science of raptor conservation and the understanding of wind-wildlife impacts are continuing to evolve and that the suite of available compensation options may consequently change over the life of the proposed projects.	Prior to and during commercial operation If compensation is required, submit enforceable plan for implementation prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Conservation Measures				
To promote the conservation of raptors and other avian species, project proponents will compensate for raptor fatalities estimated within their project areas. Mitigation will be provided in 10-year increments, with the first increment based on the estimates (raptors/MW/year) provided in this PEIR for the Vasco Winds Project (Table 3.4-10) or the project-specific EIR for future projects. The Vasco Winds fatality rates were selected because the Vasco turbines are the most similar to those likely to be proposed for future repowering projects and consequently represent the best available fatality estimates. Each project proponent will conduct postconstruction fatality monitoring for at least 3 years beginning at project start-up (date of commercial operation) and again for 2 years at year 10, as required under Mitigation Measure BIO-11g, to estimate the average number of raptors taken each year by each individual project. The project proponent will compensate for this number of raptors in subsequent 10-year increments for the life of the project (i.e., three 10-year increments) as outlined below. Mitigation Measure BIO-11g also requires additional fatality monitoring at year 10 of the project. The results of the first 3 years of monitoring and/or the monitoring at year 10 may lead to revisions of the estimated average number of raptors taken, and mitigation provided may be adjusted accordingly on a one-time basis within each of the first two 10-year increments, based on the results of the monitoring required by Mitigation Measure BIO-11g, in consultation with the TAC. Prior to the start of operations, project proponents will submit for County approval an avian conservation strategy, as part of the project-specific APP outlined in Mitigation Measure BIO-11a, outlining the estimated number of raptor fatalities based on the number and type of turbines being constructed, and the type or types of compensation options to be implemented. Project proponents will use the avian conservation strategy to craft an appropriate strategy using a balanced mix of the options presented below, as well as considering new options suggested by the growing body of knowledge during the course of the project lifespan, as supported by a Resource Equivalency Analysis (REA) (see example in Appendix C) or similar type of compensation assessment acceptable to the County that demonstrates the efficacy of proposed mitigation for impacts on raptors. The County Planning Director, in consultation with the TAC, will consider, based on the REA, whether the proposed avian-conservation strategy is adequate, including consideration of whether each avian conservation strategy incorporates a landscape-scale approach such that the conservation efforts achieve the greatest				

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
possible benefits. Compensation measures as detailed in an approved avian conservation strategy must be implemented within 1 year of the date of commercial operations. Avian conservation strategies will be reviewed and may be revised by the County every 10 years, and on a one-time basis in each of the two 10-year increments based on the monitoring required by Mitigation Measure BIO-11g. • **Retrofitting high-risk electrical infrastructure.** USFWS's ECP Guidelines outline a compensatory mitigation strategy using the retrofit of high-risk power poles (poles known or suspected to electrocute and kill eagles). USFWS has developed an REA (U.S. Fish and Wildlife Service 2013a) as a tool to estimate the compensatory mitigation (number of retrofits) required for the take of eagles. The REA takes into account the current understanding of eagle life history factors, the effectiveness of retrofitting poles, the expected annual take, and the timing of implementation of the pole retrofits. The project proponents may need to contract with a utility or a third-party mitigation account (such as the National Fish and Wildlife Foundation) to retrofit the number of poles needed as demonstrated by a project-specific REA. If contracting directly, the project proponent will consult with utility companies to ensure that high-risk poles have been identified for retrofitting. Proponents will agree in writing to pay the utility owner/operator to retrofit the required number of power poles and maintain the retrofits for 10 years and will provide the County with documentation of the retrofit agreement. The first retrofits will be based on the estimated number of eagle fatalities as described above in this measure or as developed in the project-specific EIR for future projects. Subsequent numbers of retrofits required for additional 10-year durations will be based on the results of project-specific fatality monitoring as outlined in Mitigation Measure BIO-11g. If fewer eagle fatalities are identified through the monitoring, the number of future required retrofits may be reduced through a project-specific REA. Although retrofitting poles has not been identified as appropriate mitigation for other large raptors, they would likely benefit from such efforts, as they (particularly red-tailed and Swainson's hawks) constitute the largest non-eagle group to suffer electrocution on power lines (Avian Power Line Interaction Committee 2006). • **Measures outlined in an approved Eagle Conservation Plan and Bird and Bat Conservation Strategy.** Project proponents may elect to apply for programmatic eagle take permits from USFWS. The programmatic eagle				

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
take permit process currently involves preparation of an ECP and a Bird and Bat Conservation Strategy (BBCS). The ECP specifies avoidance and minimization measures, advanced conservation practices, and compensatory mitigation for eagles—conditions that meet USFWS's criteria for issuance of a permit. The BBCS outlines measures being implemented by the applicant to avoid and minimize impacts on migratory birds, including raptors. If programmatic eagle take permits are obtained by project proponents, those permit terms, including the measures outlined in the approved ECP and BBCS, may constitute an appropriate conservation measure for estimated take of golden eagles and other raptors, provided such terms are deemed by the County to be comparable to or more protective of raptors than the other options listed herein.				
• **Contribute to raptor conservation efforts.** Project proponents will contribute funds, in the amount of $580/raptor, in 10-year increments to local and/or regional conservation efforts designed to protect, recover, and manage lands for raptors, or to conduct research involving methods to reduce raptor fatalities or increase raptor productivity. The $580 amount is based on the average cost to rehabilitate one raptor at the California Raptor Center, affiliated with the UC Davis School of Veterinary Medicine, which receives more than 200 injured or ill raptors annually (Stedman pers. comm.). Ten-year installments are more advantageous than more frequent installments for planning and budgeting purposes. The funds will be contributed to an entity or entities engaged in these activities, such as the East Bay Regional Park District and the Livermore Area Regional Park District. Conservation efforts may include constructing and installing nest boxes and perches, conducting an awareness campaign to reduce the use of rodenticide, and conducting research to benefit raptors. The specific conservation effort to be pursued will be submitted to the County for approval as part of the avian conservation strategy review process. The donation receipt will be provided to the County as evidence of payment. The first contributions for any given project will be based on the estimated number of raptor fatalities as described above in this measure or as developed in the project-specific EIR for future projects. Funds for subsequent 10-year installments will be provided on the basis of the average annual raptor fatality rates determined through postconstruction				

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
monitoring efforts, allowing for a one-time adjustment within each 10-year increment after the results of the monitoring efforts are available. If fewer raptor fatalities are determined through the monitoring effort, the second installment amount may be reduced to account for the difference between the first estimated numbers and the monitoring results. • **Contribute to regional conservation of raptor habitat.** Project proponents may address regional conservation of raptor habitat by funding the acquisition of conservation easements within the APWRA or on lands in the same eco-region outside the APWRA, subject to County approval, for the purpose of long-term regional conservation of raptor habitat. Lands proposed for conservation must be well-managed grazing lands similar to those on which the projects have been developed. Project proponents will fund the regional conservation and improvement of lands (through habitat enhancement, lead abatement activities, elimination of rodenticides, and/or other measures) using a number of acres equivalent to the conservation benefit of the raptor recovery and conservation efforts described above, or as determined through a project-specific REA (see example REA in Appendix C). The conservation lands must be provided for compensation of a minimum of 10 years of raptor fatalities, as 10-year increments will minimize the transaction costs associated with the identification and conservation of lands, thereby increasing overall cost effectiveness. The conservation easements will be held by an organization whose mission is to purchase and/or otherwise conserve lands, such as The Trust for Public Lands, The Nature Conservancy, California Rangeland Trust, or the East Bay Regional Parks District. The project proponents will obtain approval from the County regarding the amount of conserved lands, any enhancements proposed to increase raptor habitat value, and the entity holding the lands and/or conservation easement. • **Other Conservation Measures Identified in the Future.** As noted above, additional conservation measures for raptors may become available in the future. Conservation measures for raptors are currently being developed by USFWS and nongovernmental organizations (e.g., American Wind Wildlife Institute)—for example, activities serving to reduce such fatalities elsewhere, and enhancing foraging and nesting habitat. Additional options for conservation could include purchasing credits at an approved mitigation bank, credits for the retirement of windfarms that are particularly dangerous to birds or bats, the curtailment of prey elimination				

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
programs, and hunter-education programs that remove sources of lead from the environment. Under this option, the project proponent may make alternative proposals to the County for conservation measures—based on an REA or similar compensation assessment—that the County may accept as mitigation if they are deemed by the County to be comparable to or more protective of raptor species than the other options described herein.				
Mitigation Measure BIO-11i: Implement an avian adaptive management program If fatality monitoring described in Mitigation Measure BIO-11g results in an estimate that exceeds the preconstruction baseline fatality estimates (i.e., estimates at the nonrepowered turbines as described in this PEIR) for any focal species or species group (i.e., individual focal species, all focal species, all raptors, all non-raptors, all birds combined), project proponents will prepare a project-specific adaptive management plan within 2 months following the availability of the fatality monitoring results. These plans will be used to adjust operation and mitigation to the results of monitoring, new technology, and new research to ensure that the best available science is used to minimize impacts to below baseline. Project-specific adaptive management plans will be reviewed by the TAC, revised by project proponents as necessary, and approved by the County. The TAC will take current research and the most effective impact reduction strategies into account when reviewing adaptive management plans and suggesting measures to reduce impacts. The project-specific adaptive management plans will be implemented within 2 months of approval by the County. The plans will include a stepped approach whereby an adaptive measure or measures are implemented, the results are monitored for success or failure for a year, and additional adaptive measures are added as necessary, followed by another year of monitoring, until the success criteria are achieved (i.e., estimated fatalities are below the baseline). Project proponents should use the best measures available when the plan is prepared in consideration of the specific adaptive management needs. For example, if only one threshold is exceeded, such as golden eagle fatalities, the plan and measures used will target that species. As set forth in other agreements in the APWRA, project proponents may also focus adaptive management measures on individual or multiple turbines if those turbines are shown to cause a significantly disproportionate number of fatalities. In general, the following types of measures will be considered by the TAC, in the	During operation	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
order they are presented below; however, the TAC may recommend any of these or other measures that are shown to be successful in reducing the impact.				
ADMM-1: Visual Modifications. The project proponent could paint a pattern on a proportion of the turbine blades. The proportion and the pattern of the blades to be painted will be determined by the County in consultation with the TAC. USFWS recommends testing measures to reduce *motion smear*—the blurring of turbine blades due to rapid rotation that renders them less visible and hence more perilous to birds in flight. Suggested techniques include painting blades with staggered stripes or painting one blade black. The project proponent will conduct fatality studies on a controlled number of painted and unpainted turbines. The project proponent will coordinate with the TAC to determine the location of the painted turbines, but the intent is to implement this measure in areas that appear to be contributing most to the high number of fatalities detected.				
ADMM-2: Anti-Perching Measures. The County will consult with the TAC regarding the use of anti-perching measures to discourage bird use of the area. The TAC will use the most recent research and information available to determine, on a case-by–case basis, if anti-perching measures will be an effective strategy to reduce impacts. If determined to be feasible, anti-perching devices will be installed on artificial structures, excluding utility poles, within 1 mile of project facilities (with landowner permission) to discourage bird use of the area.				
ADMM-3: Prey Reduction. The project proponent will implement a prey reduction program around the most hazardous turbines. Examples of prey reduction measures may include changes in grazing practices to make the area less desirable for prey species, active reduction through direct removal of prey species, or other measures provided they are consistent with management goals for threatened and endangered species.				
ADMM-4: Implementation of Experimental Technologies. Project proponents can deploy experimental technologies at their facilities to test their efficacy in reducing turbine-related fatalities. Examples may include, but are not limited to, visual deterrents, noise deterrents, and active radar systems.				
ADMM-5: Turbine Curtailment. If postconstruction monitoring indicates patterns of turbine-caused fatalities—such as seasonal spikes in fatalities, topographic or other environmental features associated with high numbers of fatalities, or other factors that can potentially be manipulated and that suggest that curtailment of a specific turbine's operation would result in reducing future avian fatalities—the project operator can curtail operations of the offending turbine or turbines.				

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Curtailment restrictions would be developed in coordination with the TAC and based on currently available fatality data, use data, and research. **ADMM-6: Cut-in Speed Study.** Changes in cut-in speed could be conducted to see if changing cut-in speeds from 3 meters per second to 5 meters per second (for example) would significantly reduce avian fatalities. The proponent will coordinate with the TAC in determining the feasibility of the measure for the particular species affected as well as the amount of the change in the cut-in speed. **ADMM-7: Real-Time Turbine** Curtailment. The project proponent can employ a real-time turbine curtailment program designed in consultation with the TAC. The intent would be to deploy a biologist to monitor onsite conditions and issue a curtailment order when raptors are near operating turbines. Alternatively, radar, video, or other monitoring measures could be deployed in place of a biological monitor if there is evidence to indicate that such a system would be as effective and more efficient than use of a human monitor.				
Mitigation Measure BIO-12a: Conduct bat roost surveys Prior to development of any repowering project, a qualified bat biologist will conduct a roost habitat assessment to identify potential colonial roost sites of special-status and common bat species within 750 feet of the construction area. If suitable roost sites are to be removed or otherwise affected by the proposed project, the bat biologist will conduct targeted roost surveys of all identified sites that would be affected. Because bat activity is highly variable (both spatially and temporally) across the landscape and may move unpredictably among several roosts, several separate survey visits may be required. Surveys will be repeated at different times of year if deemed necessary by the bat biologist to determine the presence of seasonally active roosts (hibernacula, migratory stopovers, maternity roosts).Appropriate field methods will be employed to determine the species, type, and vulnerability of the roost to construction disturbance. Methods will follow best practices for roost surveys such that species are not disturbed and adequate temporal and spatial coverage is provided to increase likelihood of detection. Roost surveys may consist of both daylight surveys for signs of bat use and evening/night visit(s) to conduct emergence surveys or evaluate the status of night roosts. Survey timing should be adequate to account for individual bats or species that might not emerge until well after dark. Methods and approaches for determining roost occupancy status should include a combination of the following components as the biologist deems necessary for the	Prior to and during all site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
particular roost site. • Passive and/or active acoustic monitoring to assist with species identification. • Guano traps to determine activity status. • Night-vision equipment. • Passive infrared camera traps. At the completion of the roost surveys, a report will be prepared documenting areas surveyed, methods, results, and mapping of high-quality habitat or confirmed roost locations.				
Mitigation Measure BIO-12b: Avoid removing or disturbing bat roosts • Active bat roosts will not be disturbed, and will be provided a minimum buffer of 500 feet where preexisting disturbance is moderate or 750 feet where preexisting disturbance is minimal. Confirmation of buffer distances and determination of the need for a biological monitor for active maternity roosts or hibernacula will be obtained in consultation with CDFW. At a minimum, when an active maternity roost or hibernaculum is present within 750 feet of a construction site, a qualified biologist will conduct an initial assessment of the roost response to construction activities and will recommend buffer expansion if there are signs of disturbance from the roost. • Structures (natural or artificial) showing evidence of significant bat use within the past year will be left in place as habitat wherever feasible. Should such a structure need to be removed or disturbed, CDFW will be consulted to determine appropriate buffers, timing and methods, and compensatory mitigation for the loss of the roost. • All project proponents will provide environmental awareness training to construction personnel, establish buffers, and initiate consultation with CDFW if needed. • Artificial night lighting within 500 feet of any roost will be shielded and angled such that bats may enter and exit the roost without artificial illumination and the roost does not receive artificial exposure to visual predators. • Tree and vegetation removal will be conducted outside the maternity season (April 1–September 15) to avoid disturbance of maternity groups	During construction and operation	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
of foliage-roosting bats. • If a maternity roost or hibernaculum is present within 500 feet of the construction site where preexisting disturbance is moderate or within 750 feet where preexisting disturbance is minimal, a qualified biological monitor will be onsite during groundbreaking activities.				
Mitigation Measure BIO-14a: Site and select turbines to minimize potential mortality of bats All project proponents will use the best information available to site turbines and to select from turbine models in such a manner as to reduce bat collision risk. The siting and selection process will take into account bat use of the area and landscape features known to increase collision risk (trees, edge habitats, riparian areas, water bodies, and wetlands). Measures include but are not limited to siting turbines the greatest distance feasible up to 500 meters (1,640) feet from still or flowing bodies of water, riparian habitat, known roosts, and tree stands (California Bat Working Group 2006:6). To generate site-specific "best information" to inform turbine siting and operation decisions, a bat habitat assessment and roost survey will be conducted in the project area to identify and map habitat of potential significance to bats, such as potential roost sites (trees and shrubs, significant rock formations, artificial structures) and water sources. Turbine siting decisions will incorporate relevant bat use survey data and bat fatality records published by other projects in the APWRA. Roost surveys will be carried out according to the methods described in Mitigation Measure-BIO-12a.	Prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure BIO-14b: Implement postconstruction bat fatality monitoring program for all repowering projects A scientifically defensible, postconstruction bat fatality monitoring program will be implemented to estimate actual bat fatalities and determine if additional mitigation is required. Bat-specific modifications to the 3-year postconstruction monitoring program described in Mitigation Measure BIO-11g, developed in accordance with CEC 2007 and with appropriate recommendations from California Bat Working Group guidelines (2006), will be implemented. In addition to the requirements outlined in Mitigation Measure BIO-11g, the following two bat-specific requirements will be added. • Include on the TAC at least one biologist with significant expertise in bat research and wind energy impacts on bats.	During operation	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
• Conduct bat acoustic surveys concurrently with fatality monitoring in the project area to estimate nightly, seasonal, or annual variations in relative activity and species use patterns, and to contribute to the body of knowledge on seasonal bat movements and relationships between bat activity, environmental variables, and turbine fatality. Should emerging research support the approach, these data may be used to generate site-specific predictive models to increase the precision and effectiveness of mitigation measures (e.g., the season-specific, multivariate models described by Weller and Baldwin 2011:11). Acoustic bat surveys will be designed and data analysis conducted by qualified biologists with significant experience in acoustic bat survey techniques. Methods will be informed by the latest available guidelines (California Energy Commission guidelines, 2007); California Bat Working Group guidelines, 2006), except where best available science supports technological or methodological updates. High-quality, sensitive acoustic equipment will be used to produce data of sufficient quality to generate species identifications. Survey design and methods will be scientifically defensible and will include, at a minimum, the following elements. o Acoustic detectors will be installed at multiple stations to adequately sample range of habitats in the project area for both resident and migratory bats. The number and locations for acoustic monitoring will be developed in consultation with the TAC. The number of detector arrays installed per project site should incorporate emerging research on the density of detectors required to adequately meet sampling goals and inform mitigation approaches (Weller and Baldwin 2011:10). o Acoustic detector arrays will sample multiple airspace heights including as close to the repowered rotor swept area as possible Vertical structures used for mounting may be preexisting or may be installed for the project (e.g., temporary or permanent meteorological towers). o Surveys will be conducted such that data are collected continuously for a minimum of 90 days between mid-August and mid-November to cover the activity transition from maternity to migration season and determine if there is elevated activity during migration. Survey season may be adjusted to more accurately reflect the full extent of the local				

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
migration season and/or season(s) of greatest local bat fatality risk, if scientifically sound data support doing so. ○ Anticipated adaptive management goals, such as determining justifiable timeframes to reduce required periods of cut-in speed adjustments, will be reviewed with the TAC and incorporated in designing the acoustic monitoring and data analysis program. Modifications to the fatality search protocol will be implemented to obtain better information on the number and timing of bat fatalities (e.g., Johnston et al. 2013:85). Modifications will include decreases in the transect width and search interval for a period of time coinciding with high levels of bat mortality, i.e., the fall migration season (roughly August to early November, or as appropriate in the view of the TAC). The nature of bat-specific transect distance and search intervals will be determined in consultation with the TAC and will be guided by scientifically sound and pertinent data on rates of bat carcass detection at wind energy facilities (e.g., Johnston et al. 2013:54–55) and site-specific data from APWRA repowering project fatality monitoring programs as these data become available. Other methods to achieve the goals of the bat fatality monitoring program while avoiding prohibitive costs may be considered subject to approval by the TAC, if these methods have been peer reviewed and evidence indicates the methods are effective. For example, if project proponents wish to have the option of altering search methodology to a newly developed method, such as searching only roads and pads (Good et al. 2011:73), a statistically robust field study to index the results of the methodology against standard search methods will be conducted concurrently to ensure site-specific, long-term validity of the new methods. Finally, detection probability trials will utilize bat carcasses to develop bat-specific detection probabilities. Care should be taken to avoid introducing novel disease reservoirs; such avoidance will entail using onsite fatalities or using carcasses obtained from within a reasonably anticipated flight distance for that species.				
Mitigation Measure BIO-14c: Prepare and publish annual monitoring reports on the findings of bat use of the project area and fatality monitoring results Annual reports of bat use results and fatality monitoring will be produced within 3 months of the end of the last day of fatality monitoring. Special-status bat species records will be reported to CNDDB.	Within 3 months of the end of the last day of fatality monitoring	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Mitigation Measure BIO-14d: Develop and implement a bat adaptive management plan In concert with Mitigation Measure BIO-14b, all project proponents will develop adaptive management plans to ensure appropriate, feasible, and current incorporation of emerging information. The goals of the adaptive management plans are to ensure that the best available science and emerging technologies are used to assess impacts on bats, and that impacts are minimized to the greatest extent possible while maximizing energy production. The project-specific adaptive management plans will be used to adjust operation and mitigation to incorporate the results of project area monitoring and new technology and research results when sufficient evidence exists to support these new approaches. These plans will be reviewed by the TAC and approved by the County. All adaptive management measures will be implemented within a reasonable timeframe, sufficient to allow the measures to take effect in the first fall migration season following the year of monitoring in which the adaptive management threshold was crossed. ADMMs may be modified by the County in consultation with the TAC to take into account current research, site-specific data, and the most effective impact reduction strategies. ADMMs will include a scientifically defensible, controlled research component and minimum post-implementation monitoring time to evaluate the effectiveness and validity of the measures. The minimum monitoring time will consist of three sequential fall seasons of the bat-specific mortality monitoring program covering the 3–4 months of the year in which the highest bat mortality has been observed: likely August–November. The start and end dates of the 3–4 months of bat-specific mortality monitoring period will be based on existing fatality data and in consultation with the TAC. Determining a fatality threshold to trigger adaptive management is not straightforward, as insufficient information exists on the status and vitality of the populations of migratory bat species subject to mortality in the APWRA. The low estimate of anticipated bat fatality rates is from the Vasco Winds project in the APWRA. Applying this rate programmatically would result in an estimate of 21,000 bats killed over the 30-year life of the program. The high estimate is from the Montezuma Hills Wind Resource Area. Applying this rate programmatically would result in an estimate of 49,050 bats killed over the 30-year life of the program. Bats are slow to reproduce, and turbines may be more likely to kill adult bats than juveniles, suggesting that a conservative approach is warranted. Accordingly, an	Prior to and during all site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
initial adaptive management threshold will be established using the low fatality estimates, or 1.679 fatalities/MW/year, to ensure that the most conservative trigger for implementation of adaptive management measures is adopted. If postconstruction fatality monitoring results in a point estimate for the bat fatality rate that exceeds the 1.679 fatalities/MW/year threshold by a statistically significant amount, then, in consultation with the TAC, ADMM-7 and ADMM-8 (described below) for bats will be implemented. It is important to note that neither the high nor the low estimate speaks to the ability of bat populations to withstand the associated levels of take. The initial fatality rate threshold triggering adaptive management may be modified by the TAC if appropriate and if such adaptation is supported by the best available science. The TAC may direct implementation of adaptive management measures for other appropriate reasons, such as an unexpectedly and markedly high fatality rate observed for any bat species, or special-status species being killed in unexpectedly high numbers. ADMMs for bats may be implemented using a stepped approach until necessary fatality reductions are reached, and monitoring methods must be revised as needed to ensure accurate measurement of the effectiveness of the ADMMs. Additional ADMMs for bats should be developed as new technologies or science supports doing so. **ADMM-7: Seasonal Turbine Cut-in Speed Increase.** Cut-in speed increases offer the most promising and immediately available approach to reducing bat fatalities at fourth-generation wind turbines. Reductions in fatalities (53–87%) were observed when increasing modern turbine cut-in speed to 5.0–6.5 m/s (Arnett et al. 2009:3; Good et al. 2012:iii). While implementing this measure immediately upon a project's commencement would likely reduce bat fatalities, that assumption is not yet supported by conclusive data. Moreover, without establishing baseline fatality at repowered projects, there would be no way to determine the effectiveness of the approach or whether the costs of increased cut-in speeds (and consequent power generation reductions) were providing fatality reductions. Cut-in speed increases will be implemented as outlined below, with effectiveness assessed annually. • The project proponent will increase cut-in speed to 5.0 m/s from sunset to sunrise during peak migration season (generally August–October). If this is ineffective, the project proponent will increase turbine cut-in speed by				

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
annual increments of 0.5 m/s until target fatality reductions are achieved. • The project proponent may refine site-specific migration start dates on the basis of pre- and postconstruction acoustic surveys and ongoing review of dates of fatality occurrences for migratory bats in the APWRA. • The project proponent may request a shorter season of required cut-in speed increases with substantial evidence that similar levels of mortality reduction could be achieved. Should resource agencies and the TAC find there is sufficient support for a shorter period (as low as 8 weeks), evidence in support of this shorter period will be documented for the public record and the shorter period may be implemented. • The project proponent may request shorter nightly periods of cut-in speed increases with substantial evidence from defensible onsite, long-term postconstruction acoustic surveys indicating predictable nightly timeframes when target species appear not to be active. Target species are here defined as migratory bats or any other species appearing repeatedly in the fatality records. • The project proponent may request exceptions to cut-in speed increases for particular weather events or wind patterns if substantial evidence is available from onsite acoustic or other monitoring to support such exceptions (i.e., all available literature and onsite surveys indicate that bat activity ceases during specific weather events or other predictable conditions). • In the absence of defensible site-specific data, mandatory cut-in speed increases will commence on August 1 and continue through October 31, and will be in effect from sunset to sunrise. **ADMM-8: Emerging Technology as Mitigation.** The project proponent may request, with consultation and approval from agencies, replacement or augmentation of cut-in speed increases with developing technology or another mitigation approach that has been proven to achieve similar bat fatality reductions. The project proponent may also request the second tier of adaptive management to be the adoption of a promising but not fully proven technology or mitigation method. These requests are subject to review and approval by the TAC and must include a controlled research component designed by a qualified principal investigator so that the effectiveness of the method may be accurately assessed. Some examples of such emerging technologies and research areas that could be incorporated in adaptive management plans are listed below.				

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
• The use of acoustic deterrents (Arnett et al. 2013:1). • The use of altitude-specific radar, night vision and/or other technology allowing bat use monitoring and assessment of at-risk bat behavior (Johnston et al. 2013: 90-91) if research in these areas advances sufficiently to allow effective application of these technologies. • Application of emerging peer-reviewed studies on bat biology (such as studies documenting migratory corridors or bat behavior in relation to turbines) that support specific mitigation methods.				
Mitigation Measure BIO-14e: Compensate for expenses incurred by rehabilitating injured bats The cost of reasonable, licensed rehabilitation efforts for any injured bats taken to wildlife care facilities from the program area will be assumed in full by project proponents.	During operation	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure BIO-16: Compensate for the loss of riparian habitat If riparian habitat is filled or removed as part of a project, the project proponent will compensate for the loss of riparian habitat to ensure no net loss of habitat functions and values. Compensation ratios will be based on site-specific information and determined through coordination with state and federal agencies (CDFW, USFWS, USACE). The compensation will be at a minimum 1:1 ratio (1 acre restored or created for every 1 acre filled) and may be a combination of onsite restoration/creation, offsite restoration, and mitigation credits. A restoration and monitoring plan will be developed and implemented. The plan will describe how riparian habitat will be created and monitored.	Prior to disturbance If compensation is required, submit enforceable plan for implementation prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure BIO-18: Compensate for the loss of wetlands If wetlands are filled or disturbed as part of a project, the project proponent will compensate for the loss to ensure no net loss of habitat functions and values. Compensation ratios will be based on site-specific information and determined through coordination with state and federal agencies (CDFW, USFWS, USACE). The compensation will be at a minimum 1:1 ratio (1 acre restored or created for every 1 acre filled) and may be a combination of onsite restoration/creation, offsite restoration, and mitigation credits. A restoration and monitoring plan will be developed and implemented. The plan will describe how wetlands will be created and monitored.	Prior to disturbance If compensation is required, submit enforceable plan for implementation prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Cultural Resources				
Mitigation Measure CUL-2a: Conduct a preconstruction cultural field survey and cultural resources inventory and evaluation Alameda County will require applicants to retain qualified personnel to conduct an archaeological field survey of the program area to determine whether significant resources exist within the program area. The inventory and evaluation will include the documentation and result of these efforts, the evaluation of any cultural resources identified during the survey, and cultural resources monitoring, if the survey identifies that it is necessary.	Prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure CUL-2b: Develop a treatment plan for any identified significant cultural resources If any significant resources are identified through the preconstruction survey, a treatment plan that could include site avoidance, capping, or data recovery will be developed and implemented.	Prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure CUL-2c: Conduct worker awareness training for archaeological resources prior to construction Prior to the initiation of any site preparation and/or the start of construction, the project applicant will ensure that all construction workers receive training overseen by a qualified professional archaeologist who is experienced in teaching nonspecialists, to ensure that forepersons and field supervisors can recognize archaeological resources (e.g., areas of shellfish remains, chipped stone or groundstone, historic debris, building foundations, human bone) in the event that any are discovered during construction.	Prior to and during all site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure CUL-2d: Stop work if cultural resources are encountered during ground-disturbing activities The project applicant will ensure that construction specifications include a stop-work order if prehistoric or historic-era cultural resources are unearthed during ground-disturbing activities. If such resources are encountered, the project applicant will immediately halt all activity within 100 feet of the find until a qualified archaeologist can assess the significance of the find. Prehistoric materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or tool-making debris; culturally darkened soil ("midden") containing heat-affected rocks and artifacts; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered-stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone, concrete, or adobe	During construction and other site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. If the find is determined to be potentially significant, the archaeologist, in consultation with the Native American representative (if appropriate), will develop a treatment plan that could include site avoidance, capping, or data recovery.				
Mitigation Measure CUL-3: Stop work if human remains are encountered during ground-disturbing activities The project applicant will ensure the construction specifications include a stop-work order if human remains are discovered during construction or demolition. There will be no further excavation or disturbance of the site within a 100-foot radius of the location of such discovery, or any nearby area reasonably suspected to overlie adjacent remains. The Alameda County Coroner will be notified and will make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he will notify the Native American Heritage Commission, who will attempt to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this state law, then the landowner will re-inter the human remains and items associated with Native American burials on the property in a location not subject to further subsurface disturbance. A final report will be submitted to Alameda County. This report will contain a description of the mitigation program and its results, including a description of the monitoring and testing resources analysis methodology and conclusions and a description of the disposition/curation of the resources.	During site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Geology, Soils, Mineral Resources, and Paleontological Resources				
Mitigation Measure GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report Prior to construction activities at any site, the project proponent will retain a geotechnical firm with local expertise in geotechnical investigation and design to prepare a site-specific geotechnical report. This report will be prepared by a licensed geotechnical engineer or engineering geologist and will be submitted to the County building department as part of the approval process. This report will be based on data collected from subsurface exploration, laboratory testing of samples, and surface mapping and will address the following issues. • Potential for surface fault rupture and turbine site location: The geotechnical report will investigate the Greenville, Corral Hollow-Carnegie,	Prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
and the Midway faults (as appropriate to the location) and determine whether they pose a risk of surface rupture. Turbine foundations and power collection systems will be sited according to recommendations in this report. • Strong ground shaking: The geotechnical report will analyze the potential for strong ground shaking in project area and provide turbine foundation design recommendations, as well as recommendations for power collection systems. • Slope failure: The geotechnical report will investigate the potential for slope failure (both seismically and nonseismically induced) and develop site-specific turbine foundation and power collection system plans engineered for the terrain, rock and soil types, and other conditions present at the program area in order to provide long-term stability. • Expansive soils: The geotechnical report will assess the soil types in the program area and determine the best engineering designs to accommodate the soil conditions. • Unstable cut or fill slopes: The geotechnical report will address geologic hazards related to the potential for grading to create unstable cut or fill slopes and make site-specific recommendations related to design and engineering.				
Mitigation Measure GEO-7a: Retain a qualified professional paleontologist to monitor significant ground-disturbing activities The applicant will retain a qualified professional paleontologist as defined by the SVP's *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* (2010) to monitor activities with the potential to disturb sensitive paleontological resources. Data gathered during detailed project design will be used to determine the activities that will require the presence of a monitor. In general, these activities include any ground-disturbing activities involving excavation deeper than 3 feet in areas with high potential to contain sensitive paleontological resources. Recovered fossils will be prepared so that they can be properly documented. Recovered fossils will then be curated at a facility that will properly house and label them, maintain the association between the fossils and field data about the fossils' provenance, and make the information available to the scientific community.	During site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Mitigation Measure GEO-7b: Educate construction personnel in recognizing fossil material The applicant will ensure that all construction personnel receive training provided by a qualified professional paleontologist experienced in teaching non-specialists to ensure that they can recognize fossil materials in the event any are discovered during construction.	Prior to and during all site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure GEO-7c: Stop work if substantial fossil remains are encountered during construction If substantial fossil remains (particularly vertebrate remains) are discovered during earth disturbing activities, activities within 100 feet of the find will stop immediately until a state-registered professional geologist or qualified professional paleontologist can assess the nature and importance of the find and a qualified professional paleontologist can recommend appropriate treatment. Treatment may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds. The applicant will be responsible for ensuring that recommendations regarding treatment and reporting are implemented.	During construction	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Greenhouse Gas Emissions				
Mitigation Measure GHG-2a: Implement best available control technology for heavy-duty vehicles The applicant will require existing trucks/trailers to be retrofitted with the best available technology and/or ARB-approved technology consistent with the ARB Truck and Bus Regulation (California Air Resources Board 2011). The ARB Truck and Bus Regulation applies to all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. Starting January 1, 2015, the applicant must replace lighter trucks (GVWR of 14,001 to 26,000 pounds) with engines that are 20 years or older with newer trucks. The Applicant has the option to install a PM filter retrofit on a lighter truck by 2014 to make the truck exempt from replacement until January 1, 2020, and any lighter truck equipped with a PM filter retrofit prior to July 2011 would receive credit toward the compliance requirements for a heavier truck or bus in the same fleet. Starting January 1, 2012, the applicant is required to meet the engine model year schedule shown below for heavier trucks (GVWR greater than 26,000 pounds). To	During construction and during operation if applicable	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions

comply with the schedule, the applicant will install the best available PM filter on 1996 model year and newer engines and would replace the vehicle 8 years later. The Applicant will replace trucks with 1995 model year and older engines starting in 2015. Replacements with 2010 model year or newer engines meets the final requirements, but the applicant could also replace trucks with used trucks that would have a future compliance date on the schedule. For example, a replacement with a 2007 model year engine complies until 2023. By 2023 all trucks and buses must have 2010 model year engines with few exceptions.

Engine Model Year Schedule for Heavier Trucks

Engine Year	Requirement from January 1
Pre-1994	No requirements until 2015, then 2010 engine
1994–1995	No requirements until 2016, then 2010 engine
1996–1999	PM filter from 2012 to 2020, then 2010 engine
2000–2004	PM filter from 2013 to 2021, then 2010 engine
2005–2006	PM filter from 2014 to 2022, then 2010 engine
2007–2009	No requirements until 2023, then 2010 engine
2010	Meets final requirements

In addition, the applicant could comply with a phase-in option that would allow the applicant to decide which vehicles to retrofit or replace, regardless of engine model year. The applicant must report information about all heavier trucks starting January 31, 2012, to use this option.

The Applicant could comply by demonstrating that trucks have met the percentage requirement each year as shown in the table below. For example, by 2012 the applicant's fleet would need to have PM filters on 30% of the heavier trucks in the fleet. This option counts 2007 model year and newer engines originally equipped with PM filters toward compliance and would reduce the overall number of retrofit PM filters needed. Any engine with a PM filter regardless of model year would be compliant until at least 2020. Beginning January 1, 2020, all heavier trucks would need to meet the requirements specified in the Compliance Schedule for Heavier Trucks.

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Phase-In Option for Heavier Trucks **Compliance Date** — **Vehicles with PM Filters** 1-Jan-12 — 30% 1-Jan-13 — 60% 1-Jan-14 — 90% 1-Jan-15 — 90% 1-Jan-16 — 100%				
Mitigation Measure GHG-2b: Install low SF_6 leak rate circuit breakers and monitoring The applicant will ensure that any new circuit breaker installed at a substation has a guaranteed SF_6 leak rate of 0.5% by volume or less. The applicant will provide Alameda County with documentation of compliance, such as specification sheets, prior to installation of the circuit breaker. In addition, the applicant will monitor the SF_6-containing circuit breakers at the substation consistent with Scoping Plan Measure H-6 for the detection and repair of leaks.	During construction and operation	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure GHG-2c: Require new construction to use building materials containing recycled content The applicant will require the construction of all new substation and other permanent buildings to incorporate materials for which the sum of post-consumer recycled content plus one-half of the post-industrial content constitutes at least 10% of the total value of the materials in the project.	During construction and operation	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval
Mitigation Measure GHG-2d: Comply with construction and demolition debris management ordinance The applicant will comply with the County's revised Green Building Ordinance regarding construction and demolition debris as follows: (1) 100% of inert waste and 50% wood/vegetative/scrap metal not including Alternative Daily Cover (ADC) and unsalvageable material will be put to other beneficial uses at landfills, and (2) 100% of inert materials (concrete and asphalt) will be recycled or put to beneficial reuse.	During construction and operation	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
Hazards and Hazardous Materials				
Mitigation Measure HAZ-4: Perform a Phase I Environmental Site Assessment prior to construction activities and remediate if necessary Prior to construction, the project proponent will conduct a Phase I environmental site assessment in conformance with the American Society for Testing and Materials Standard Practice E1527-05. All environmental investigation, sampling, and remediation activities associated with properties in the project area will be conducted under a work plan approved by the regulatory oversight agency and will be conducted by the appropriate environmental professional consistent with Phase I site assessment requirements as detailed below. The results of any investigation and/or remediation activities conducted in the project area will be included in the project-level EIR. A Phase I environmental site assessment should, at a minimum, include the components listed below. • An onsite visit to identify current conditions (e.g., vegetative dieback, chemical spill residue, presence of above- or underground storage tanks). • An evaluation of possible risks posed by neighboring properties. • Interviews with persons knowledgeable about the site's history (e.g., current or previous property owners, property managers). • An examination of local planning files to check prior land uses and any permits granted. • File searches with appropriate agencies (e.g., State Water Resources Control Board, fire department, County health department) having oversight authority relative to water quality and groundwater and soil contamination. • Examination of historical aerial photography of the site and adjacent properties. • A review of current and historic topographic maps of the site to determine drainage patterns. • An examination of chain-of-title for environmental liens and/or activity and land use limitations. If the Phase I environmental site assessment indicates likely site contamination, a Phase II environmental site assessment will be performed (also by an environmental professional).	Prior to site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
A Phase II environmental site assessment would comprise the following. • Collection of original surface and/or subsurface samples of soil, groundwater, and building materials to analyze for quantities of various contaminants. • An analysis to determine the vertical and horizontal extent of contamination (if the evidence from sampling shows contamination). If contamination is uncovered as part of Phase I or II environmental site assessments, remediation will be required. If materials such as asbestos-containing materials, lead-based paint, or PCB-containing equipment are identified, these materials will be properly managed and disposed of prior to or during the demolition process. Any contaminated soil identified on a project site must be properly disposed of in accordance with DTSC regulations in effect at the time. Hazardous wastes generated by the proposed project will be managed in accordance with the California Hazardous Waste Control Law (HSC, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulation (Title 22, CCR, Division 4.5). If, during construction/demolition of structures, soil or groundwater contamination is suspected, the construction/demolition activities will cease and appropriate health and safety procedures will be implemented, including the use of appropriate personal protective equipment (e.g., respiratory protection, protective clothing, helmets, goggles).				
Hydrology and Water Quality				
Mitigation Measure WQ-1: Comply with NPDES requirements Project contractors will obtain coverage under the General Construction Permit before the onset of any construction activities, because all projects will entail disturbance of 1 acre or more. A SWPPP will be developed by a qualified engineer or erosion control specialist in accordance with the appropriate Board's requirements for NPDES compliance and implemented prior to the issuance of any grading permit before construction. The SWPPP will be kept onsite during construction activity and will be made available upon request to representatives of the Regional Water Boards. Compliance and coverage with the *Storm Water Management Program* and General Construction Permit will require controls of pollutant discharges that utilize BMPs	Prior to and during all site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
and technology to reduce erosion and sediments to meet water quality standards. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater and other nonpoint-source runoff. Measures range from source control, such as reduced surface disturbance, to the treatment of polluted runoff, such as detention basins. BMPs to be implemented as part of the *Storm Water Management Program* and General Construction Permit (and SWPPP) may include the following practices. • Temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) will be employed to control erosion from disturbed areas. • Use a dry detention basin (which is typically dry except after a major rainstorm, when it will temporarily fill with stormwater), designed to decrease runoff during storm events, prevent flooding, and allow for off-peak discharge. Basin features will include maintenance schedules for the periodic removal of sediments, excessive vegetation, and debris that may clog basin inlets and outlets. • Cover or apply nontoxic soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more) that could contribute sediment to waterways. • Enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways. • Ensure that no earth or organic material will be deposited or placed where it may be directly carried into a stream, marsh, slough, lagoon, or body of standing water. • Prohibit the following types of materials from being rinsed or washed into the streets, shoulder areas, or gutters: concrete, solvents and adhesives, thinners, paints, fuels, sawdust, dirt, gasoline, asphalt and concrete saw slurry, and heavily chlorinated water. • Ensure that grass or other vegetative cover will be established on the construction site as soon as possible after disturbance. The contractor will select a combination of BMPs (consistent with Section A of the Construction General Permit) that is expected to minimize runoff and remove				

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
contaminants from stormwater discharges. The final selection of BMPs will be subject to approval by the San Francisco Bay Regional Water Board and the Central Valley Water Board. The contractor will verify that an NOI has been filed with the State Water Board and that a SWPPP has been developed before allowing construction to begin. The contractor will perform inspections of the construction area, to verify that the BMPs specified in the SWPPP are properly implemented and maintained. The contractor will notify the appropriate Regional Water Board immediately if there is a noncompliance issue and will require compliance. If necessary, the contractor or their agent will require that additional BMPs be designed and implemented if those originally constructed do not achieve the identified performance standard.				
Transportation/Traffic				
Mitigation Measure TRA-1: Develop and implement a construction traffic control plan Prior to starting construction-related activities, the Applicant shall prepare and implement a Traffic Control Plan (TCP) that will reduce or eliminate impacts associated with the proposed program. The TCP shall adhere to Alameda County and Caltrans requirements, and must be submitted for review and approval of the County Public Works Department prior to implementation. The TCP shall include the following elements. The County and Caltrans may require additional elements to be identified during their review and approval of the TCP. • Schedule construction hours to minimize concentrations of construction workers commuting to/from the project site during typical peak commute hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.). • Limit truck access to the project site during typical peak commute hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.). • Require that written notification be provided to contractors regarding appropriate haul routes to and from the program area, as well as the weight and speed limits on local county roads used to access the program area. • Provide access for emergency vehicles to and through the program area at all times. • When lane/road closures occur during delivery of oversized loads, provide advance notice to local fire, police, and emergency service providers to	Prior to and during all site disturbance	County—adopt a Condition of Approval; Operator—implement	County	Monitor compliance with Conditions of Approval

Mitigation Measure	Timing	Implementing Party	Monitoring Party	Monitoring Actions
ensure that alternative evacuation and emergency routes are designated to maintain service response times. • Provide adequate onsite parking for construction trucks and worker vehicles. • Require suitable public safety measures in the program area and at the entrance roads, including fences, barriers, lights, flagging, guards, and signs, to give adequate warning to the public of the construction and of any dangerous conditions that could encountered as a result thereof. • Complete road repairs on local public roads as needed during construction to prevent excessive deterioration. This work may include construction of temporary roadway shoulders to support any necessary detour lanes. • Repair or restore the road right-of-way to its original condition or better upon completion of the work. • Coordinate program-related construction activities, including schedule, truck traffic, haul routes, and the delivery of oversized or overweight materials, with Alameda County, Caltrans, and affected cities to identify and minimize overlap with other area construction projects.				

Exhibit C

Patterson Pass Wind Farm Repowering Project Statement of Overriding Considerations

Pursuant to the requirements of Public Resources Code Sections 21002, 21002.1, and 21081, and Section 15093 of the State CEQA Guidelines, the East County Board of Zoning Adjustments (EBZA) finds that approval of the proposed Patterson Pass Wind Farm Repowering Project, whose potential environmental impacts have been evaluated in the Final EIR, and as indicated in the findings presented in Exhibit A, will result in the occurrence of significant effects that are not avoided or substantially lessened, as described in Exhibit A. These significant effects are listed below.

Impact AQ-2c: Violate any air quality standard or contribute substantially to an existing or projected air quality violation—Patterson Pass Project

Impact AQ-3c: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)—Patterson Pass Project

Impact BIO-11c: Avian mortality resulting from interaction with wind energy facilities—Patterson Pass Project

Impact BIO-14c: Turbine-related fatalities of special-status and other bats—Patterson Pass Project

Impact BIO-19c: Potential impact on the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites—Patterson Pass Project

Further, as required by CEQA Section 21081(b) and State CEQA Guidelines Section 15093, the EBZA finds that the unavoidable significant effects listed above are outweighed by specific overriding economic, legal, social, technological, or other benefits offered by the project. Specifically, the project will provide the benefits described below.

Environmental Benefits

California's Renewables Portfolio Standard (RPS) requires all electricity retailers in the state, including publicly owned utilities (POUs), investor-owned utilities, electricity service providers, and community choice aggregators, to adopt RPS goals of obtaining 20% of retail energy sales from renewable energy sources by the end of 2013, 25% by the end of 2016, and the 33% by the end of 2020. Originally established in 2002 under Senate Bill (SB) 1078 and amended in 2010 by SB 107, the current RPS was codified at its current level by SB X1-2 in 2011. This RPS preempts the California Air Resources Board's (ARB's) previous 33% Renewable Electricity Standard.

Wind energy is a renewable energy source. The project will assist California in meeting the legislated RPS for the generation of renewable electric energy in the state both by maintaining renewable energy output and by enabling and accelerating the repowering of old-generation turbines, which are known to be hazardous to avian species.

Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, establishes a statewide goal of reducing greenhouse gas (GHG) emissions to 1990 levels by 2020. This statute requires CARB to develop a "Scoping Plan" that describes the specific programs that California will employ to meet this goal. The Scoping Plan was first considered by CARB in 2008 and its first update was adopted on May 22, 2014. The RPS program is an integral part of the suite of GHG emissions reduction programs that are relied upon by the Scoping Plan. Therefore, the Project will assist California in maintaining its legislated Global Warming Solutions Act criteria that require reductions in carbon dioxide and other GHG emissions, which in turn represent benefits in the region. Approval of the Project will aid the County in meeting energy needs in an efficient and environmentally sound manner, as provided in the County General Plan, which encourages utilization of renewable energy resources.

Economic Benefits

The project will provide new full-time jobs during construction of the project. The project will provide economic benefits to the County and its residents by increased spending in the community as a result of construction and development related work. In addition, the project is compatible with the existing agricultural use. It will promote the long-term economic viability of grazing in unincorporated Alameda County by providing financial support to property owners through a second income stream from ground leases within the Patterson Pass project area. The property owners can use the funding to enhance or continue agricultural operations. Project road maintenance will also enhance agricultural operations by improving access throughout the project properties.

Technological Benefits

The project will provide technological benefits through the replacement of large numbers of existing wind energy collection systems with a smaller number of more technologically advanced systems. Although the new turbines are larger, the available evidence indicates that repowering with the improved technology could substantially reduce turbine-related avian fatalities (although fatalities remain a significant impact).

As discussed in Section 3. 11 of the PEIR, the fourth-generation turbines are upwind turbines, meaning each turbine faces into the wind, so the wind encounters the rotor blades before the tower and nacelle, making for quieter operations than the existing downwind turbines. Additionally, the modern turbines have relatively low rotational speeds and pitch control on the rotors, both of which reduce sound levels compared to the sound produced by the turbines that are now operation within the Patterson Pass Project area.

Safety Benefits

Repowering would result in public safety benefits for several reasons: reductions in fire hazard, the underground placement of electrical lines, and improved turbine technology that reduces the risk of blade throw. Section 3.8 of the PEIR provides a discussion of fire risks, and indicates that the most common causes of wildland fire at windfarms are hardware and/or conductor failures of power collection lines, dropping of collection lines, turbine malfunction or mechanical failure, and avian electrocution incidents. Because of their age, design, and large number, the existing turbines present a greater risk of fire ignition than do the proposed new turbines. Repowering, by reducing the number of turbines and undergrounding the electrical collection system, would therefore reduce the likelihood of fire ignition associated with hardware failure, electrical line failure, and avian electrocutions. Installation of new turbines would also greatly reduce the potential and probability of blade throw or failure associated with existing wind turbines. Most fourth-generation turbines, such as those proposed for the program, are equipped with newer safety and engineering features to reduce the risk of blade failure and are designed for safe operation under normal conditions. The rotors of these turbines are provided with blade pitch controls that regulate the angle of the rotor blade into the wind, as well as redundant brake mechanisms that can control speed and shutdown or slowdown in response to excessive wind speed. The greatly reduced number of individual wind turbines would also reduce the probability of blade throw, which in any case is far lower for new generation than for old-generation turbines.

Benefits to the Knowledge Base

Postconstruction monitoring, which will be required once the new turbines are in operation, will provide data to quantify the actual change in the extent of avian fatalities from repowering and the extent of avian fatalities for projects in the program area. This will contribute to the body of knowledge about avian fatalities in the Altamont Pass region and will support future environmental analyses and mitigations.

Summary

The County is obligated by Section 15093 of the CEQA Guidelines to balance the competing interests of identified project benefits against the unavoidable environmental risks when determining whether to approve a project. The County finds that the project, with all of the mitigation measures proposed, would best balance the advancement of wind technology, while also reducing the unavoidable impacts on protected or special-status avian wildlife species, including golden eagles and other raptors, to the lowest acceptable level.