SAND HILL WIND PROJECT
FINAL ENVIRONMENTAL IMPACT REPORT

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State Clearinghouse #2013032016
March 2014

ICF International. 2014. *Sand Hill Wind Project Final Environmental Impact Report*. March. (ICF 00151.13.) Sacramento, CA. Prepared for Alameda County, Hayward, CA.

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Acronyms and Abbreviations

APMs	applicant proposed measures
Applicant	Sand Hill Wind, LLC,
APWRA	Altamont Pass Wind Resource Area
BMPs	best management practices
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
County	Alameda County
CUP	conditional use permit
EBZA	East County Board of Zoning Adjustments
EIR	environmental impact report
IS/NOP	initial study and notice of preparation
MT	Monitoring Team
PRC	Public Resources Code
SRC	Scientific Review Committee
TCP	Traffic Control Plan
USFWS	U.S. Fish and Wildlife Service

Chapter 1
Introduction

This document, together with the draft EIR for the Sand Hill Wind Project circulated in November, 2013, constitutes the final environmental impact report (EIR) for the Sand Hill Wind Project in Alameda County (County). This final EIR has been prepared pursuant to the California Environmental Quality Act (CEQA) and the State CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). CEQA requires that state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before taking action on those projects (California Public Resources Code [PRC] 21000 et seq.). This final EIR addresses the environmental effects of the Sand Hill Wind Project, a wind power repowering project proposed for approximately 1,000 acres within the Alameda County portion of the Altamont Pass Wind Resource Area (APWRA). Sand Hill Wind, LLC, (Applicant) submitted an application for a conditional use permit (CUP) to Alameda County on January 15, 2013. for a 40-turbine Initial Repower portion of the project. A subsequent Full Repower project, also addressed in this final EIR, will require one or more additional CUP applications in the future.

Purpose and Format of Final EIR

An EIR is an informational document used in state, regional, and local planning and decision-making processes to meet the requirements of CEQA. The purpose of an EIR is to analyze the environmental impacts of the proposed project, indicate ways to reduce or avoid potential environmental damage of the proposed project, and to identify feasible alternatives. CEQA requires that each public agency mitigate or avoid the significant environmental effects of projects it approves or implements whenever feasible. It is not the purpose of the EIR to recommend either approval or denial of a project. The EIR must disclose environmental effects, including those that cannot be avoided; growth-inducing effects; effects found not to be significant; and significant cumulative impacts of all past, present, and reasonably anticipated future projects. This final EIR has been prepared to meet the requirements of CEQA and the State CEQA Guidelines. As such, it will serve as a decision-making aid for Alameda County's consideration of Sand Hill Wind, LLC's CUP request for the proposed Sand Hill Wind Project. In addition, the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) are trustee and responsible agencies, and may choose to use this EIR to inform their decisions related to project compliance with the federal Migratory Bird Treaty Act (16 U.S. Code § 703 *et seq.*) and Bald and Golden Eagle Protection Act (16 U.S. Code § 668-668d), and the California Fish and Game Code, respectively.

To meet the requirements of CEQA and the State CEQA Guidelines, the final EIR incorporates the draft EIR, which was circulated separately in November 2013, by reference, and includes the public and agency comments received during the public review period on the draft EIR, as well as responses to those comments, and edits and clarifications to the draft EIR text as outlined below. Copies of the draft EIR and final EIR are available for viewing at the Alameda County website (www.acgov.org/cda/planning —select "Pending Land Use Projects," "Current Development Projects," "Wind Turbine Projects," and "Sand Hill Wind Project") and at the website of the Altamont Pass Scientific Review Committee (www.altamontsrc.org). Copies of the draft and final EIR documents are also available for viewing during normal business hours (8:30 a.m. to 5 p.m.),

Monday through Friday, at the Alameda County Community Development Agency, Planning Department, located at 224 West Winton Avenue, Room 111, Hayward, California, 94544. One copy will also be provided for viewing at the Livermore Library, Civic Center, 1188 South Livermore Avenue, Livermore, California, 94550 (phone 925-373-5500).

Opportunities for Public Involvement

CEQA does not require formal hearings at any stage of the environmental review process (State CEQA Guidelines Section 15202[a]). However, it does encourage "wide public involvement, formal and informal…in order to receive and evaluate public reactions to environmental issues" (State CEQA Guidelines Section 15201). CEQA requires the lead agency for a proposed project, after completion of a draft EIR, to consult with and obtain comments from public agencies with legal jurisdiction governing a proposed project and provide the general public with the opportunity to comment on the draft EIR. Public involvement in this project's CEQA process was achieved as described below.

Notice of Preparation and Public Scoping Meeting

The County, as lead agency, prepared and circulated an initial study and notice of preparation (IS/NOP) of a draft EIR (SCH #2013032016) for the proposed project on March 6, 2013. The IS/NOP was distributed for a 30-day comment period that ended on April 6, 2013. In addition, the County held a public scoping meeting in Dublin on March 13, 2013, to solicit input on the scope and focus of the EIR. Comments received on the IS/NOP and during the public scoping meeting were considered in the preparation of the EIR.

Draft EIR Public Review and Hearing

The County prepared and circulated a draft EIR incorporating public and agency responses to the NOP. The draft EIR was circulated for review and comment by appropriate agencies, as well as organizations and individuals who have requested notification, from November 8, 2013 to December 23, 2013. The County presented the draft EIR to the Alameda County Scientific Review Committee (SRC) for comment at the SRC's November 22, 2013 meeting and held a public hearing in Pleasanton on December 19, 2013 to obtain public, organization, and agency comments on the draft EIR. The comments received during the draft EIR public review period are included in this final EIR.

Contents and Organization of the Final EIR

Under CEQA and the State CEQA Guidelines, the lead agency is also required to respond to significant environmental points raised during the review and consultation process. The contents and organization of this final EIR are intended to meet the requirements of CEQA and the State CEQA Guidelines (Section 15132), which require a final EIR to consist of a revision of the draft EIR; comments and recommendations received on the draft EIR; a list of persons, organizations, and public agencies commenting on the draft EIR; and the responses of the lead agency to significant environmental points raised in the review and consultation process.

This final EIR includes the following chapters.

- Chapter 1, *Introduction*, describes the intent of the final EIR, summarizes the opportunities for public involvement to date, and outlines the contents of the final EIR.
- Chapter 2, *Comments*, provides a list of, and includes the written comments of, all agencies, organizations, and individuals that commented on the draft EIR as well as comments made on the draft EIR during the December 19, 2013 public hearing. Each comment letter is presented with brackets that divide it into individual comments. Each letter is labeled according to the type of commenter (agency, organization, or individual), followed by the letter number and comment number. For example, comments in the first agency letter are numbered A1-1, A1-2, A1-3, and so on. Comments made at the public hearing are labeled with PH followed by the comment number (PH-1, PH-2, and so on).
- Chapter 3, *Responses to Comments*, includes the written responses to all written and verbal comments of agencies, organizations, and individuals presented in Chapter 2. Responses are grouped by comment letter and number, corresponding to the numbering system used in Chapter 2. If the topic of one response relates closely to another, the text provides the reader with a cross-reference to the relevant comments and responses.
- Chapter 4, *Draft EIR Errata*, contains changes made to the text of the draft EIR in response to comments received during the public review period, or for purposes of clarification or correction. Changes to the draft EIR text are shown by ~~strikethrough~~ of text that has been deleted and <u>underlining</u> of new text that has been inserted. The revisions contain clarifications and corrections that have been identified, either through public comments or by the County, since publication of the draft EIR. The text revisions do not result in substantive changes to either the analyses or conclusions presented in the draft EIR.
- Appendix A, *Final Mitigation Monitoring and Reporting Program*, indicates the mitigation measures to be incorporated by the County and specifies the implementation and monitoring responsibilities for each of those measures.

Chapter 2
Comments

During the public review period for the project from November 8, 2013 to December 23, 2013, the County received a total of 11 comment letters from agencies, organizations, and individuals. The Scientific Review Committee provided oral consensus comments, as well as comments from individual members, during their November 22, 2013 meeting. Additional oral comments were received from organizations and members of the public, as well as members of the Alameda County East County Board of Zoning Adjustments (EBZA), at the public hearing held on December 19, 2013.

In accordance with Section 15088 of the State CEQA Guidelines, the County has evaluated the comments received on the draft EIR for the Sand Hill Wind Project, and has prepared written responses to these comments. This chapter contains copies of the comments received during the public review process, with each letter and comment numbered as follows. Each commenter was assigned a category: A for agency, O for organization, I for individual, and PH for oral comments made at the December 19, 2013 public hearing. Each commenter was then assigned a number, in chronological order. For example, the first agency letter is A1 and the second agency letter is A2, the first organization letter is O1 and the second organization letter is O2. Within each letter, the comments are delineated and numbered sequentially, with the first comment in letter A1 being numbered A1-1, followed by A1-2, A1-3, and so on. Likewise, the comments in letter A2 begin with A2-1 and proceed in numerical order.

Chapter 3, *Responses to Comments*, provides the County's written responses to each of the comments shown in this chapter.

List of Agencies, Organizations, and Persons Commenting on the Draft EIR

The County received comments on the draft EIR from the following agencies, organizations, and individuals. Each commenter is listed below, along with a corresponding letter number, which corresponds to the comment letters in this chapter and to the responses to comments provided in Chapter 3.

Table 2-1. Comments Received on the Draft EIR

Letter Number	Commenter	Date (rec'd)
Agencies		
A1	Mark A. Seedall, Contra Costa Water District	12/23/13
A2	Scott Wilson, California Department of Fish and Wildlife Bay Delta Region	12/26/13
Organizations		
O1	Scientific Review Committee	12/20/13
O2	Juan Pablo Galvan, Save Mount Diablo	12/20/13
O3	Andrew C. Bell, Downey Brand LLP on behalf of New Dimension Energy Co., LLC	12/23/13
Individuals		
I1	Adrian and Suzanne Dykzeul	11/21/13
I2	Joanna Burger, Scientific Review Committee	12/20/13
I3	Jim Estep, Scientific Review Committee	12/20/13
I4	Michael L. Morrison, Scientific Review Committee	12/20/13
I5	Sue Orloff, Scientific Review Committee	12/20/13
I6	Julie Yee, Scientific Review Committee	12/20/13
Public Hearing		
PH	East County Board of Zoning Adjustments Hearing Meeting Minutes (semi-transcribed)	12/19/13

Written Comments

The County received the following written comments on the draft EIR for the Sand Hill Wind Project.

Written Comments—Agencies

CONTRA COSTA
WATER DISTRICT

1331 Concord Avenue
P.O. Box H2O
Concord, CA 94524
(925) 688-8000 FAX (925) 688-8122
www.ccwater.com

December 23, 2013

VIA email: sandra.rivera@acgov.org
Hard Copy to Follow

Ms. Sandra Rivera, Assistant Planning Director
ATTN: Sand Hill Wind Project DEIR
Alameda County Community Development Agency
224 W. Winton Ave., Suite 110
Hayward, CA 94544

Subject: Receipt of Request for Comments on the DEIR for the Repowering Conditional Use Permit for the Sand Hill Wind Project

Dear Ms. Rivera:

The Contra Costa Water District (CCWD) is in receipt of request for comments on the DEIR for the proposed conditional use permit on the Sand Hill Wind Project. The proposed project involves the removal of 70-80 existing wind turbines at 4 MW capacity and the installation of 40 new generation shrouded turbines at 4 MW capacity. Future phases of the project also involve the repowering of approximately 400 existing wind turbines for a total repowering project capacity of 34 MW.

A1-1

CCWD owns and manages c[illegible]nservation lands in the area of Sand Hill Wind Project repowering. CCWD owns that former Mountain House Golf Course site and the property that houses Sand Hill Wind project substation. The Sand Hill substation is on the Mountain House Golf Course site and there CCWD and Sand Hill Lease Agreement for the substation. The Mountain House Golf Course is conservation property. The Draft EIR advises that the initial repowering will entail no changes to the existing substation and transmission lines (page 2-10). On page 2-19 of the Draft EIR addressing the Full Repower Activities and Components, there is no discussion of any proposed modifications of the existing substation.

As with CCWD's previous comment letter on the Notice of Preparation (NOP) for the project, CCWD's concerns are mainly focused on the potential impact of decommissioning the existing turbines and the installation of the new wind turbines with a consequent potential adverse effect on CCWD conservation

A1-3 A1-2 A1-1

Sandra Rivera
Sand Hill Wind Project DEIR
December 23, 2013

The applicant needs to advise CCWD if its project activities would take place on CCWD conservation property. If so, CCWD permission must first be obtained.

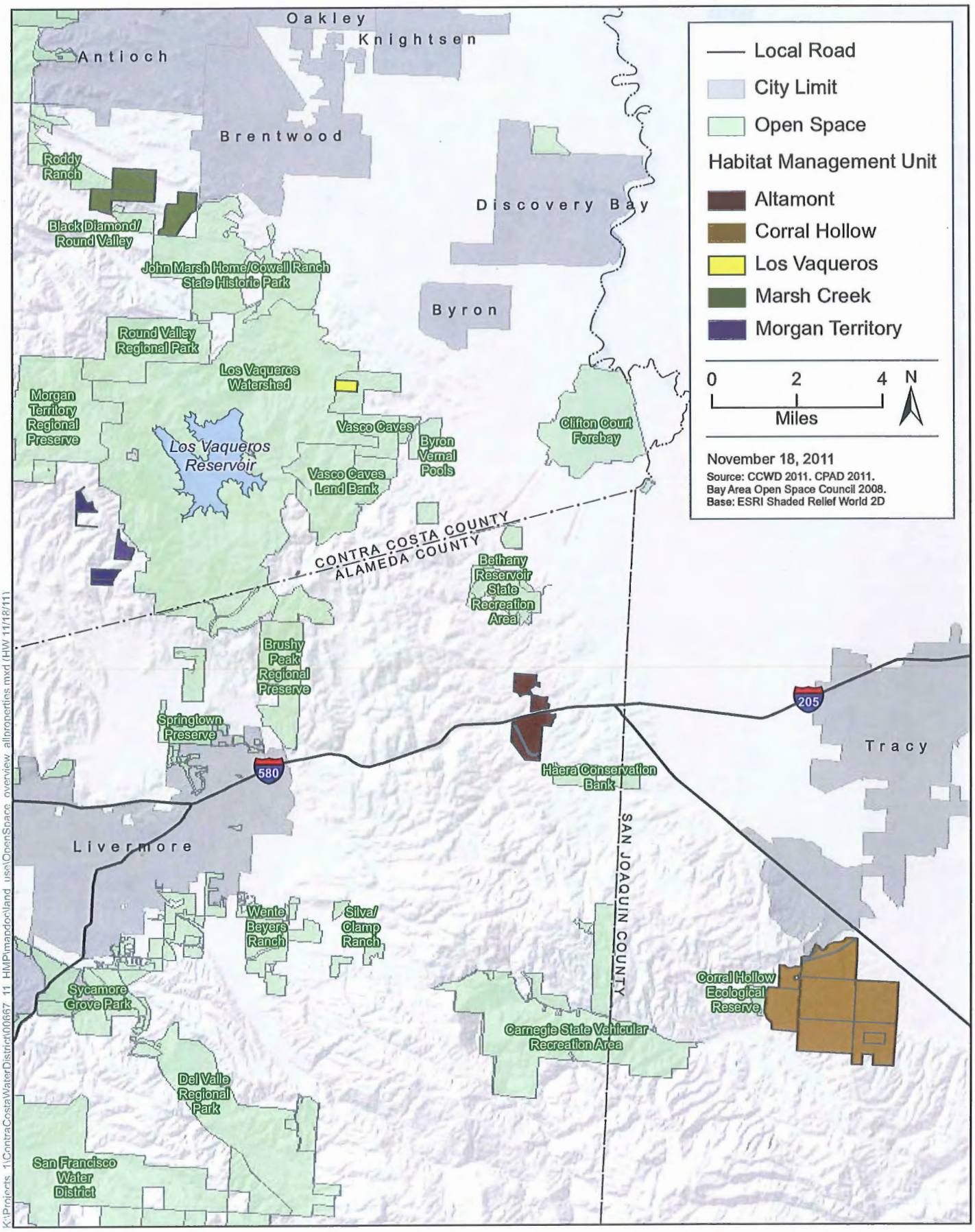
Please contact me at CCWD (925) 688-8119 should you have further questions.

Sincerely,

Mark A. Seedall
Principal Planner

MAS/jmt

Attachment



K:\Projects_1\ContraCostaWaterDistrict\00667_11_HMP\mapdoc\land_use\OpenSpace_overview_allproperties.mxd (HW 11/18/11)

ICF INTERNATIONAL

Los Vaqueros Expansion Project
Open Space Near Habitat Management Units

State of California – The Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
7329 Silverado Trail
Napa, CA 94558
(707) 944-5500
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

A2

December 26, 2013

Ms. Sandra Rivera
County of Alameda
244 W. Winton Avenue, Room 111
Hayward, CA 94544
sandra.rivera@acgov.org

Dear Ms. Rivera:

Subject: Sand Hill Wind Project, Draft Environmental Impact Report, SCH#2013032016, Alameda County

The California Department of Fish and Wildlife (CDFW) has reviewed the draft Environmental Impact Report (EIR) for the proposed Sand Hill Wind Project (Project). CDFW is submitting comments on the draft EIR as a means to inform Alameda County (County), as the Lead Agency, of our concerns regarding potentially significant impacts to sensitive resources associated with the proposed Project. CDFW received an extension to submit comments from December 23, 2013 to January 3, 2014 in an email from you dated December 20, 2013.

CDFW is a trustee agency pursuant to the California Environmental Quality Act (CEQA) Section 15386. Pursuant to Fish and Game Code Section 1802, CDFW has jurisdiction over the conservation, protection and management of the fish, wildlife, native plants and the habitat necessary for biologically sustainable populations of such species. A2-1

CDFW has regulatory authority over projects that could result in take of any species listed, or is a candidate for listing by the state as threatened or endangered, pursuant to the California Endangered Species Act (CESA). If the proposed Project could result in take of any state listed species, the Project developer should apply for an Incidental Take Permit (ITP), pursuant to Fish and Game Code Section 2080 *et seq.*, for the Project.

CDFW has jurisdiction over actions that may result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections protecting birds, their eggs and nests include 3503 (regarding unlawful take, possession or needless destruction of the nests or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird). Fully Protected Species may not be taken or possessed at any time (Fish and Game Code Section 3511).

Project Location and Description

The proposed Project is located within the Altamont Pass Wind Resource Area (APWRA) in eastern Alameda County. The Project proponent, Sand Hill Wind, LLC, has applied for a Conditional Use Permit (CUP) for the repowering (removal and replacement) of 73 existing wind turbines equivalent to 4 megawatts (MW) of generating capacity with 40 shrouded wind turbines with a combined generating capacity of 4 MW. One of the objectives of the proposed Project is A2-2

to assess the functionality of the new turbine design and the extent to which it could reduce impact on birds and bats compared to the existing turbines. This objective is proposed to be achieved by implementing a three-year Avian Validation Study funded by a grant from the California Energy Commission. Although the CUP application is for the repower of the 40 shrouded turbines (Initial Repower), the draft EIR also programmatically evaluates the impacts of future repowering of existing turbines with the installation of up to 300 shrouded turbines for the addition of up to 30 MW of generating capacity (Full Repower). The Full Repower would be subject to a separate CUP. A2-2 cont.

The proposed Project site includes eight parcels grouped in three distinct areas totaling approximately 1,000 acres. The Full Repower would occur within the same Project area as the Initial Repower with the addition of a 68-acre parcel. Because the Initial Repower would be located among existing turbines, no new access roads, substation facilities, interconnection lines, or operations and maintenance facilities would be necessary. However, some of the existing internal access roads would require minor improvements, such as grading, addition of aggregate base and widening. Project decommissioning activities would also include construction of new turbine pads, connections to the existing power collection system, and four temporary laydown areas. Activities and components for the Initial Repower would result in approximately 43.6 acres and 11.8 acres of temporary and permanent ground disturbance, respectively.

Special-Status Species

Chapter 3.4, Biological Resources, of the draft EIR, describes the following habitat types that occur within the proposed Project site: annual grassland, alkali grassland, stock ponds and ephemeral drainages. A2-3

The draft EIR states that suitable habitat is present within the Project site for the federally and state threatened California tiger salamander (*Ambystoma californiense*), federally endangered and state threatened San Joaquin kit fox (*Vulpes macrotis mutica*), state threatened Swainson's hawk (*Buteo swainsoni*), Fully Protected Species golden eagle (*Aquila chrysaetos*), Fully Protected Species white-tailed kite (*Elanus leucurus*), state Species of Special Concern American badger (*Taxidea taxus*), pacific pond turtle (*Actinemys marmorata*), as well as other special-status wildlife species. Presence of the federally threatened and state Species of Special Concern California red-legged frog (*Rana draytonii*), state Species of Special Concern burrowing owl (*Athene cunicularia*) and state Species of Special Concern loggerhead shrike (*Lanius ludovicianus*) within the Project site has been confirmed. The draft EIR states that suitable habitat (scrub, chaparral and rock outcrops) is not present within the Project site for the federally and state threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*).

The draft EIR states that results of botanical surveys conducted in 2012 and 2013 documented presence of heartscale (*Atriplex joaquinana*), which is designated as 1B.2 (fairly endangered in California) by the California Native Plant Society (CNPS). Suitable habitat is present within the Project site for federally and state endangered large-flowered fiddleneck (*Amsinckia grandiflora*), however, presence has not been confirmed. A2-4

The draft EIR includes several avoidance and minimization measures, and compensatory mitigation for both temporary and permanents impacts to special-status plants and wildlife species that cannot be avoided (BIO-1a-f through BIO-11c). A2-4 cont.

The draft EIR states that two known occurrences of California tiger salamander are present within 1.2 miles of the proposed Project site, and potentially suitable breeding habitat is present within the Project site. Please be advised that the known dispersal range for the salamander is 1.3 miles. Even with implementation of take minimization measures pertaining to California tiger salamander (BIO-1d-f, BIO-3b and BIO-5), take of the salamander may occur during decommissioning activities involving ground disturbance, such as equipment staging, vegetation removal, concrete pad removal, trenching and grading as well as installation of exclusion fencing, translocation activities and restoration of disturbed areas. A2-5

The draft EIR states that there are historic sightings of San Joaquin kit fox within the Project area; however, if California ground squirrel (*Spermophilus beecheyi*) and other fossorial mammals are present within the grassland habitat, then the kit fox could be present due to available burrows used as denning sites as well as prey. Even with implementation of take minimization measures pertaining to San Joaquin kit fox (BIO-1d-f and BIO-10), take of the canine could occur during decommissioning, construction and restoration activities. A2-6

Due to known raptor mortality associated with the operation of wind turbines, take of Swainson's hawk could occur within the Project site. Although the draft EIR states that the new shrouded turbines are expected to reduce avian mortality compared to conventional turbine designs, the draft EIR still considers the impacts of turbine operations to avian species as significant and unavoidable (Impact BIO-11). Final results of the avian validation study could take up to three years; therefore, the potential impacts of the Initial Repower on Swainson's hawk and other raptors is unknown at this time. The draft EIR states (on page 3.4-21) that no Swainson's hawk fatalities have been detected during surveys conducted within the Project site between 1998 and 2009 and during 2012; however, a Swainson's hawk fatality was detected within the APWRA during the 2005-06 survey season and individuals of this species have been killed elsewhere in California from collisions with turbines. A2-7

Take of a state listed species would be in violation of CESA without a valid ITP. CDFW recommends the County, as the Lead Agency, require the Project proponent to apply for an ITP for California tiger salamander, San Joaquin kit fox and Swainson's hawk as a condition of Project approval. CDFW also recommends that take authorization be requested for the large-flowered fiddleneck if protocol-level surveys described in BIO-1a confirm presence of the plant and take cannot be completely avoided. A2-8

CDFW recommends that the Project proponent not delay initiating the ITP application process until such a time as surveys document Swainson's hawk mortality or injury. CEQA Guidelines [Section 15126.4 (a)(1)(B)] stipulates that it is not appropriate to defer feasible mitigation measures to a future date. CDFW recommends that the draft EIR include additional mitigation measures (based on rotor swept area) to reduce impacts of the Project to Swainson's hawk to less-than-significant levels. Such measures should include protecting habitat in perpetuity or purchasing credits at a CDFW-approved mitigation bank that provides both nesting and foraging habitat for Swainson's hawk. A2-9

Issuance of a CESA permit is subject to CEQA documentation; therefore, the EIR supporting the issuance of a CESA ITP for the Project needs to specify impacts, mitigation measures, and a mitigation monitoring and reporting program. CDFW recommends early consultation when a project is likely to result in take of CESA listed species (see CEQA Guidelines, Section 15380). CDFW appreciates the request from representatives of the Project developer (Ogin), to discuss the proposed Project with CDFW. The request resulted in a meeting with Ogin representatives on December 19, 2013. More information about the CESA permitting process can be found on the CDFW website at http://www.dfg.ca.gov/habcon/cesa/. CDFW Bay Delta Region staff is available to provide guidance on the ITP application process. A2-10

Lake and Streambed Alteration Program

The draft EIR indicates that Project ground-disturbing activities, such as temporary fill, road improvements or culvert replacement, could occur during decommissioning and construction work within or adjacent to aquatic features such ephemeral streams located within the proposed Project site. A2-11

CDFW advises that for any activity that will divert or obstruct the natural flow, or substantially change or use any material from the bed, bank or channel (which may include associated riparian, wetland and pond habitat) of a river or stream, CDFW may require a Lake and Streambed Alteration Agreement (LSAA), pursuant to Section 1600 et seq. of the Fish and Game Code, with the Project developer. Issuance of an LSAA is subject to CEQA. CDFW, as a Responsible Agency under CEQA, will consider the EIR for the proposed Project. The EIR should fully identify the potential impacts to the stream and/or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for completion of the agreement. To obtain information about the LSAA notification process, please access our website at http://www.dfg.ca.gov/habcon/1600/ or to request a notification package, contact CDFW's Bay Delta Regional Office at (707) 944-5500.

Conclusion

CDFW appreciates the opportunity to provide comments to the County on the draft EIR for the Project. CDFW supports the development of renewable energy resources for projects which are in compliance with existing state and federal laws and acts, and when measures are implemented which effectively avoid or reduce impacts to native species and their habitats to levels less-than-significant levels. CDFW staff is available to meet with you to ensure that potential impacts to sensitive species are avoided, minimized or mitigated. If you have any questions, please contact Ms. Brenda Blinn, Senior Environmental Scientist (Supervisory), at (707) 944-5541 or brenda.blinn@wildlife.ca.gov; or Mr. Craig Weightman, Environmental Program Manager, at (707) 944-5577 or craig.weightman@wildlife.ca.gov. A2-12

Sincerely,

Scott Wilson

Scott Wilson
Regional Manager
Bay Delta Region

cc: State Clearinghouse

Written Comments—Organizations

O1

SRC Comments on Sand Hill Draft Environmental Impact Report

Alameda County APWRA Scientific Review Committee

SRC Consensus Input

The Alameda County Scientific Review Committee (SRC) considered the Sand Hill Draft Environmental Impact Report (P276 Sand Hill Wind Draft Environmental Impact Report) at its November 22, 2013 conference call meeting. Alameda County (in P277 Alameda County Memo SRC Guidance on Sand Hill DEIR 2013) had asked the SRC to provide input on the report's methodology, assumptions and proposed mitigations.

The SRC reached consensus agreement on the following input:

- The report should include a more substantive rationale for why alternatives were selected, in particular the rationale for selecting a 10-turbine option for Alternative 1, and should reference the history of the study development and the sample size issues with the original 10-turbine study design. O1-1
- Report authors should review text to add clarifications about certain aspects of the methodology and assumptions that are not clearly explained. Specific examples include: O1-2
  - Context is needed to explain the universe of options from which an environmentally superior alternative is selected;
  - Table 4.1 (page 4-33): it is confusing as to why Table 4-1 would conclude Alternative 1 as having "Reduced" biological impacts compared to the Proposed Project. The only significant biological impacts due to the Proposed Project was BIO-11 (all others were less than significant with mitigation), and following earlier arguments, the impact measured in terms of fatality rates are likely none to unknown, from a conservative assumption that the MEWTs would have equivalent fatality rates as current turbines. O1-3
  - Alternative 1:clarify whether the remaining 3 MW would be removed, replaced with repowered turbines, or continue operating as old generation turbines O1-4
  - There is a lack of definition about what is meant by dry weather (seasonal or daily), temporary (hours, days, weeks), the location of staging areas (as well as the level of staging), and the placement of new access roads. O1-5
  - Page 3.4-27 (second paragraph): "*The baseline fatality rates for the Full Repower are based on the existing fatality rates from the MT*." However, in the Smallwood report (2013; page 5) he integrates both his data and the MT data (ICF) to derive the baseline rates. O1-6

December 20, 2013

O2

Sandra Rivera
Assistant Deputy Director
Alameda County Community Development Agency
224 W. Winton Avenue, Room 110
Hayward, CA 94544

RE: Comments on the Sand Hill Wind Project Draft Environmental Impact Report State Clearinghouse #2013032016

Dear Ms. Rivera,

Thank you for the opportunity to comment on the draft Environmental Impact Report (dEIR) for the Sand Hill Wind Project (Project) as proposed by Sand Hill Wind, LLC (Applicant). We appreciate the chance to provide our input on this regionally important Project. We support efforts to generate energy from local renewable sources, thereby reducing impacts to air quality and helping the state to achieve reductions in greenhouse gas emissions. However, we still have some concerns and comments on the dEIR for the Project. O2-1

While we believe the dEIR has largely done a good job of identifying impacts and commend the research approach to phased repowering and extensive reuse of existing infrastructure, we are concerned about inadequacies in the dEIR, including proposed mitigations, fatality rates for golden eagles, and implications of failure to meet reduction targets for Full Repower. We carefully reviewed proposed mitigation for plants and terrestrial wildlife, the fatality rate reduction targets for golden eagle, and the descriptions provided on existing use permits and technical descriptions of new turbines. Provisions should be included in the EIR that guarantee that neither Initial nor Full Repower can be completed as currently envisioned without meeting target avian fatality reduction rates (including a new reduction target for golden eagle), reducing impacts on terrestrial wildlife and maximizing mitigations for the Project. O2-2

We commend the recent reductions in avian fatality in the Altamont Pass area (ICF International 2012[1]), compared with the historically high number of bird fatalities, especially golden eagles, associated with the many years of operation. However, O2-3

[1] ICF International. 2012. Altamont Pass Wind Resource Area Bird Fatality Study, Bird Years 2005-2010. November. M87. (ICF 00904.08.) Sacramento, CA. Prepared for Alameda County Community Development Agency, Hayward, CA.

1901 Olympic Blvd., # 320, Walnut Creek, CA 94596 • T (925) 947-3535 • SaveMountDiablo.org • Tax ID # 94-2681735

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compared to other wind farm projects across the country and around the world, wind turbines in the Altamont Pass Wind Resource Area represent a significant location-specific and species-specific risk due to the high habitat value and density of golden eagles. The loss of golden eagles due to collisions with wind turbines in the area even after recent reductions in fatality rates may still be too high for the regional population to sustain itself. Therefore, wind repowering projects offer a valuable opportunity to reduce significant negative impacts to birds and other wildlife. O2-3 cont.

Summary of Main Concerns

While the Applicant states that Full Repower would not be implemented until reductions from baseline rates for all four focal species have been documented and accepted by the County, there is no explicit assurance that absolutely no wind turbine construction beyond Initial Repower will be permitted if reduction targets are not met. Assurances should be put in place prior to Full Repower making it clear that if fatality rates after Initial Repower are found to be similar or only marginally better (i.e., ≤10% reduction in fatality relative to baseline fatality rate), than baseline fatality rates, no additional turbine construction may occur without substantial reductions in the number of turbines to be installed during Full Repower and incorporation of long-term seasonal shutdowns to Full Repower management. If monitoring data indicate that the shrouded turbines installed after Initial Repower do not produce a significant reduction in avian fatality rates (especially that of golden eagle), at least an 80% reduction in the number of new turbines constructed during Full Repower after all older turbines are removed should be required, as well as placement specifications using the best science available to reduce avian fatalities, and if necessary, seasonal shutdowns. O2-4

The Applicant proposes fatality reduction targets relative to a baseline fatality rate after Initial Repower for four focal bird species that, if not met, would trigger seasonal shutdowns as described in Applicant Proposed Measure 2. However, in the case of golden eagle, the reduction target is no reduction target at all, but merely a target not to exceed the baseline fatality rate for golden eagle. As the least abundant focal species and the species whose local and regional population viability may be most impacted by wind turbines in the Altamont Pass Wind Resource Area, the golden eagle should have the most ambitious reduction target of all focal species. Given that research has demonstrated that turbines in the Altamont Pass Area significantly impact the local golden eagle population and may even be removing eagles at a greater rate than the population can replenish itself, a reduction target on the order of 80% below baseline golden eagle fatality rates should be adopted. O2-5

With regard to mitigation, we are concerned that the Applicant offers nothing more than an inadequate 1:1 ratio for several special biological resources. Most resource regulatory agencies require a minimum of 3:1. Listing a 1:1 mitigation ratio for sensitive resources provides nothing more than a placeholder and does not allow reviewers to accurately analyze the impacts of the Project on said resources. In addition, all mitigation measures should include objective success criteria that allow a determination of whether mitigation has been successful or not. O2-6

The dEIR should include more specific information with regard to turbine height and rotor swept area of the old turbines to be replaced during both Initial and Full Repower. In addition, the O2-7

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existing and proposed wind turbines are entirely on private land, with their operation and associated activities leased under long-term agreements with landowners. The dEIR should clarify the rights of the private land owners and the rights of the Applicant as owner of the wind rights of the Project site to ensure clarity on who can influence repowering and how they may do so. O2-8

Save Mount Diablo fully supports using a scientifically rigorous experimental approach during Initial Repower to adequately inform the Full Repower phase of the Project. Therefore, with respect to the actual operations of wind turbines and their effects on birds, we have focused operations comments and other associated comments on Full Repower to avoid suggesting changes to the proposed Initial Repower phase that may reduce the statistical strength and experimental rigor of the Avian Validation Study. O2-9

Project Description

The proposed Sand Hill Wind Project consists of two phases: Initial Repower and Full Repower. The applicant is requesting a conditional use permit (CUP) for the Initial Repower aspect of the Project to decommission 70-80 existing 1980s-1990s-era wind turbines and "repower" the facility by replacing them with 40 newer, shrouded turbines. The dEIR evaluates this Initial Repower phase of the Project at the project level, and the Full Repower phase, subject to a separate CUP, at the programmatic level. A Before-After-Control-Impact (BACI) Avian Validation Study is a key component of Initial Repower. As it is currently envisioned, Full Repower would involve decommissioning the remaining 320-330 original turbines and replacing them with up to 300 shrouded turbines to construct up to 30 MW of generating capacity, a potential increase from current production capacity of about 33 percent. O2-10

The project area is comprised of eight parcels in three distinct areas (only three would be part of the Initial Repower) all in the same general vicinity (south of Bethany Reservoir, around Altamont Pass, Mountain House, and North Midway roads), and together total approximately 1,000 acres. All parcels are under private ownership with long term leases held by wind companies over the operations and associated turbine activities. The project area, like much of the surrounding region, is mostly treeless rolling foothills of annual grassland and consists of cattle grazed land on which operating wind turbines and ancillary facilities are currently installed. Save Mount Diablo is greatly interested in the protection and sound management of this area for two main reasons: 1) it is located in an important, relatively undeveloped corridor east of Livermore and west of Tracy and the highly agriculturalized Central Valley that connects Mount Diablo with the rest of the Diablo range to the south, and 2) it is an important area for many wildlife species, especially golden eagle.

Comments on dEIR Section 3.4.2, Environmental Impacts

Implications of Inadequate Avian Fatality Rate Reductions for Full Repower O2-11

The Applicant states that "Full Repower would not be implemented until reductions from the baseline rates for all four focal species have been documented and accepted by the County" and goes on to say that, "If either monitoring option…shows a reduction in fatality rates less than

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identified targets or objectives stated in specific percentages of the baseline fatality rates shown below for each individual focal species, APM-2 [seasonal shutdowns] will be implemented to reduce fatality rates to levels below the applicable, species-specific baseline fatality rate." However, "reductions from the baseline rates" does not necessarily mean that fatality reduction rate targets (including the much more ambitious golden eagle target of an 80% reduction, discussed below) have been met for each focal species. There is no explicit assurance in the dEIR that absolutely no wind turbine construction beyond Initial Repower will be permitted if reduction targets are not met. SMD is strongly opposed to the replacement of old turbines with new ones at a ratio of approximately 1:1 if the new turbines fail to meet their reduction targets, given that this replacement ratio would constitute significant and unavoidable impact to many bird species that cannot be fully mitigated, and would run counter to current positive repowering trends of reducing the number of turbines.

O2-11 cont.

Assurances should be included in the dEIR for Full Repower that make it clear that if fatality rates after Initial Repower are found to be similar or only marginally better (i.e., ≤10% reduction in fatality relative to baseline fatality rate) than baseline fatality rates, no additional turbine construction after Initial Repower may occur without substantial reductions in the number of turbines to be installed during Full Repower and using the best available science to place the new turbines in locations likely to pose the least danger to birds. Special attention should be paid to sites that are less hazardous for golden eagle in particular, since wind farms in the area may pose the greatest threat to its populations relative to other species. In addition, long-term incorporation of seasonal shutdowns into Full Repower operations should be seriously considered if shrouded turbines cannot achieve the hoped for target reductions in avian fatality rates.

O2-12

O2-13

Similarly, if data from Initial Repower suggest that while shrouded turbines can reduce avian fatality rates to target levels, increases in total rotor swept area may offset reductions in fatality rates from shrouded turbines, then the number of new shrouded turbines installed under Full Repower should not be so great that reductions in overall fatality rates become compromised. We calculate that replacing 320-330 old turbines with 300 new shrouded turbines would increase rotor swept area by between 24% and 137% relative to old turbines replaced (Based on extremes of specs provided in dEIR Figure 2-9. Detailed calculations of projected changes in rotor swept area should be included in the EIR to give reviewers a more accurate sense of potential Project impacts). If, for example, red-tailed hawk fatalities decrease during Initial Repower by the target amount of 50% relative to baseline due to replacement of 70-80 old turbines by 40 shrouded turbines, but reductions in fatalities diminish as the number of shrouded turbines increases such that replacement of 320-300 old turbines with 300 new shrouded turbines during Full Repower will cause fatality rates to climb again, then the number of shrouded turbines to be installed during Full Repower should be reduced by the amount necessary to avoid offsetting reductions in fatality rates of focal species.

O2-14

The removal of older turbines and their replacement with substantially fewer, larger, newer turbines is typical of repowering projects. For example, the Tres Vaqueros Windfarm Repowering Project Final EIR (State Clearing House No. 200903077, County File No. LP09-2005) entails the removal of 91 obsolete wind turbines and their replacement with up to 21 new, larger, and more efficient turbines, representing at least a 77% reduction in the number of

O2-15

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turbines after repower. The Vasco Winds Repowering Project went even further (State Clearing House No. 2010032094, County File No. LP08-2049), replacing 438 obsolete turbines with up to 50 new, larger, and more efficient turbines, representing at least an 89% reduction in the number of turbines after repower. If post-Initial Repower monitoring data indicates that the shrouded turbines do not produce a significant reduction in avian fatality rates (especially that of golden eagle), at least an 80% reduction (similar to the above mentioned repowering projects) in the number of new turbines constructed during Full Repower should be required, as well as placement specifications using the best available science to reduce avian fatalities (see Figure 3 below).

O2-15 cont.

Currently the dEIR characterizes hazard-based micrositing and other measures to reduce Full Repower avian fatality rates as measures that may or may not occur (Mitigation Measure BIO-11d). If results of the Avian Validation Study demonstrate that Full Repower will likely cause avian fatality rates in excess of Initial Repower performance standards (i.e., if the avian fatality rate reduction targets are unlikely to be met), then hazard-based micrositing and other measures meant to reduce avian fatalities should not be optional. In addition to a drastic reduction in the number of turbines installed during Full Repower, such measures should be required if Full Repower is to proceed.

O2-16

This approach may be most similar to the Alternative 3 – High Risk Avoidance alternative discussed in Section 4.3.4 of the dEIR. We see no reason why this alternative should not be the one adopted if shrouded turbines do not meet fatality rate reduction targets. If shrouded turbines do not meet expectations, using hazard based micro-siting to place new turbines during Full Repower may require greater impacts to terrestrial resources than are currently analyzed by this dEIR. Instead of primarily using existing infrastructure, new roads may have to be constructed, as well as other development necessary to place, construct, and maintain the new turbines. The alternatives analysis seems to fall short in this respect since the proposed project assumes new shrouded turbines would be placed at the same locations as existing turbines under Full Repower, while siting new turbines in the least hazardous areas for birds would likely require new infrastructure, unless the least hazardous areas already have turbines present. The EIR should clarify the number of existing turbines, roads, and other infrastructure that would be necessary for Full Repower if new turbines are not placed in the same locations as old turbines, as well as their associated impacts. Since the Applicant has already stated that Full Repower would be subject to a separate CUP than the one currently being sought with this dEIR, micrositing to reduce the hazards of the new turbines to birds would most greatly affect subsequent CUPs rather than the one currently being sought.

O2-17

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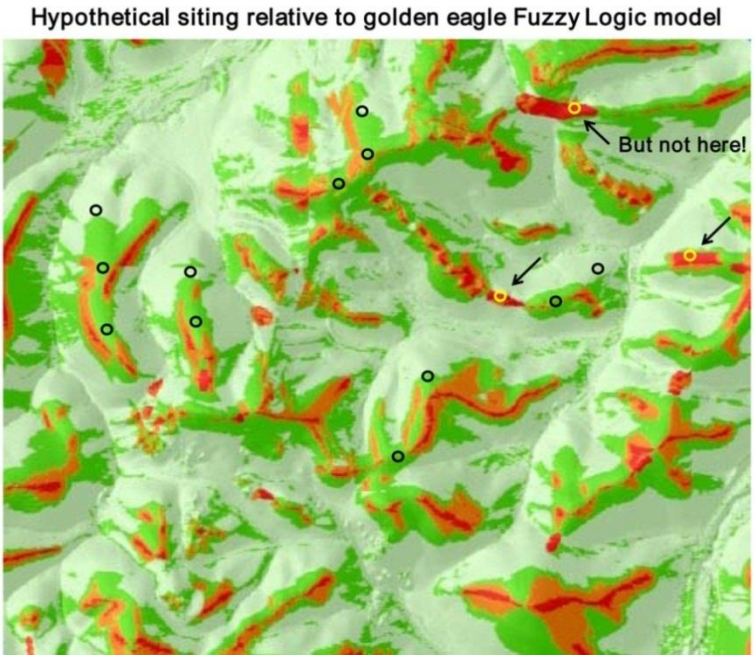

Figure 3. Hazard siting model (specifically, a Fuzzy Logic model) developed for golden eagle. Image taken from a presentation[2] prepared by Dr. Shawn Smallwood, Dr. Lee Neher, and Dr. Douglas Bell. Green areas are areas where wind turbines could be placed that present low risk to golden eagle. Red color indicates areas of high risk to golden eagle. Black circles indicate potential wind turbine locations in low risk areas. Yellow circles indicate potential wind turbine siting locations that should be avoided.

Golden Eagle Fatality Reduction Target

The Applicant proposes fatality reduction targets relative to a baseline fatality rate after Initial Repower for four focal bird species that, if not met, would trigger seasonal shutdowns as described in Applicant Proposed Measure 2. We take these targets as the stated fatality rate reduction targets of the Project. Given their importance in evaluating the success of shrouded turbines, these targets should be clearly described as the actual fatality rate reduction targets and graphics in the EIR should refer to them clearly and more often throughout the document. O2-18

Unfortunately, there is no reduction target for the golden eagle. The importance of the Altamont Pass region to golden eagle and its unusually high population density there is well documented (Hunt et al. 1998[3]). There is also evidence that wind turbine collisions are an important element of a decline in the regional population that may jeopardize its long term viability (Hunt et al. 1998). Given these facts, Save Mount Diablo was surprised that the reduction target the Applicant proposes for golden eagle is merely the baseline fatality rate. In other words, the target is not to exceed the baseline fatality rate for the species. While the Applicant proposes mitigating for the loss of golden eagles by retrofitting electrical facilities, this mitigation occurs post-fatality and would not prevent eagle deaths, and we therefore believe that in and of itself it does not O2-19

[2] http://www.altamontsrc.org/alt_doc/p200_smallwood_2_17_11_presentation_on_siting_hazard_model.pdf

[3] Hunt, W.G., R.E. Jackman, T.L. Hunt, D.E. Driscoll, and L. Culp. 1998. A population study of golden eagles in the Altamont Pass Wind Resource Area: population trend analysis 1997. Report to National Renewable Energy laboratory, Subcontract XAT-6-16459-01. Predatory Bird Research Group, University of California, Santa Cruz.

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adequately address potential Project impacts to golden eagle. It also would not influence Full Repower as a fatality reduction target would. O2-19 cont.

As the least abundant focal species and the species whose local and regional population viability may be most impacted by wind turbines in the Altamont Pass Wind Resource Area, the golden eagle should have the most ambitious reduction target of all focal species. Given that research has demonstrated that turbines in the Altamont Pass Area significantly impact the local golden eagle population and may even be removing eagles at a greater rate than the population can replenish itself, a reduction target on the order of 80% below baseline golden eagle fatality rates should be adopted. O2-20

We recognize that recently there has been significant improvement in overall bird fatalities in the Altamont Pass Wind Resource Area (ICF International 2012) and we applaud these efforts by all parties involved, but it is currently unclear if these reductions are sufficient to ensure the sustainability of the considerable golden eagle population in the area. We also recognize that there may be statistical difficulty in determining when a fatality reduction target of 80% relative to baseline fatality rate has been reached, given that under the conservative assumption that new shrouded turbines will have similar avian fatality rates as older ones, at Full Repower there will only be an estimated two golden eagle fatalities a year caused by the Sand Hill Repower Project. The EIR should include a full discussion of these difficulties and possible solutions, as well as a discussion of the cumulative impact of all wind turbine operations in the region on golden eagle. While the Sand Hill Project may contribute to only a small part of overall golden eagle fatalities in the Wind Resource Area, the cumulative impact on the species may be severe. There are other measures, discussed below, such as hazard-based micrositing, incorporating seasonal shutdowns into long term management, and scaling back Full Repower, that should be strongly considered for implementation at the beginning of Full Repower if an ambitious reduction target of 80% for golden eagle may not be statistically verifiable during Initial Repower. O2-21

Mitigation

We are concerned that the Applicant offers an inadequate 1:1 mitigation ratio for several biological resources for which resource regulatory agencies typically require a minimum of 3:1. Specifically, the Applicant should increase the mitigation ratios of mitigation measures BIO-1c (Compensate for impacts on special-status plant species), BIO-2 (Compensate for the loss of alkali meadow habitat), and BIO-3c (Compensate for unavoidable impacts on waters of the United States) to 3:1. In addition, all mitigation measures should include objective success criteria that allow a determination of whether mitigation has been successful or not, and an adequate period of monitoring to determine if success criteria have been met. O2-22

One of the key requirements of mitigation as defined by CEQA is that mitigation measures must include success criteria, such as survival rates for plantings or other measures. The dEIR fails to describe such success criteria. If no success criteria are provided or if the criteria are subjective, then full performance of mitigation will be difficult to enforce. O2-23

The dEIR describes mitigation measures to avoid impacts to burrowing species (burrowing owl, California tiger salamander, American badger, etc.) through surveys for burrows, identifying O2-24

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which ones are occupied and then employing a variety of means to either exclude the animals or potentially destroy burrows to prevent their re-use. For burrowing owls (Mitigation Measure BIO-8b), despite the fact that the dEIR specifies the project will follow California Department of Fish and Wildlife protocols for this species, it is not actually clear that pre-project surveys for owls adhered to those standards. Guidelines call for surveys during both winter and breeding season along with repeat site visits to obtain the most accurate data. Has this been done or will this be done at a later date before Initial Repower? O2-24 cont.

Mitigation Measure BIO-8b also states that during the non-breeding season, unoccupied burrows within the construction area will be excavated. Why is excavation necessary as opposed to installing exclusion devices to ensure owls do not re-enter the burrowing during construction, then removing the devices when construction is finished? Burrowdestruction should be avoided wherever possible. Where they are within construction, they should be screened from damage and exclusion devices should be used to prevent owls from re-inhabiting them during the Project's construction phase. No monitoring for the long-terms success of the burrowing owl mitigation measures, including relocation, was described. The dEIR should be revised to include a description of a monitoring program for owls and other species for which mitigation has occurred that allows managers to determine if success criteria have been met. O2-25

Comments on dEIR Chapter 2, Project Description

Technical Description of Old turbines

While the dEIR provides a figure that illustrates the possible range of old turbines to be replaced in terms of height and diameter of turbines, it does not include specific information regarding the height and rotor swept area of the particular turbines that will be replaced. The dEIR should include this information and calculations of how the amount of rotor swept area existing in the Project area would change under Initial Repower and Full Repower. A detailed accounting of changes in height and rotor swept area in the dEIR area would provide the public, agency reviewers, and commenters a better sense of what the Project proposes and its potential effects on birds. The role of turbine height and other characteristics in bird collisions with wind turbines is currently a topic of intense research (Loss et al. 2013[4], Smallwood 2013[5]), and the Project should provide much- needed high quality data. O2-26

Section 2.2.3 Existing Use Permits

The dEIR describes lease agreements that cover existing project facilities on the private land that makes up the Project area. However, there is no specific description of what rights the private land owners have with regard to repowering. Could some aspect of the repowering plan be affected by private landowners? The dEIR should clarify the rights of as the private land owners and the rights of the Applicant as owner of the wind rights of the Project site. O2-27

[4] Loss, S.R., T. Will, P.P. Marra. 2013. Estimates of bird collision mortality at wind facilities in the contiguous United States. Biological Conservation 168: 201-209.

[5] Smallwood, K.S. 2013. Comparing bird and bat fatality-rate estimates among North American wind-energy projects. Wildlife Society Bulletin 37: 19-33. O2-26 cont.

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General Comments on the dEIR

It is apparent that the Applicant has attempted to incorporate the best possible science in several ways: by proposing a phased project that uses data gathered during Initial Repower to inform how Full Repower should occur, by relying on the work of expert Sean Smallwood and colleagues to design and implement the Avian Validation Study, and by making this study an integral part of Initial Repower. We appreciate these efforts. We are also pleased to see, as the dEIR makes evident, that the Applicant sought where possible to avoid and to minimize environmental impacts, such as by using existing access roads during Initial Repower that will only require some widening. However, as discussed above, we have significant concerns about certain specific aspects of the Project. O2-28

Closing Remarks

Save Mount Diablo supports development of wind energy and appreciates that the Sand Hill Wind Project demonstrates a good-faith effort to avoid, minimize, and mitigate for its impacts. We are pleased to see that the Project will use existing infrastructure during Initial Repower and has incorporated a scientifically rigorous experimental approach into this phase of the Project. O2-29

However, in the interest of putting together the best possible project that mitigates to the maximum extent possible for impacts to sensitive resources, we hope the dEIR will be revised to add detail and address our concerns on existing use permits, technical descriptions of new turbines, mitigation ratios, mitigation measure success criteria, burrowing owl-specific mitigation measures, the golden eagle fatality reduction target, and the implications of insufficient fatality rate reductions on Full Repower. O2-30

To summarize our position on Full Repower, if data from Initial Repower demonstrate that the new shrouded turbines are successful in achieving avian fatality rate reduction targets, including a much more ambitious target for golden eagle (80% reduction in fatality rate relative to baseline) that actually constitutes a reduction, then replacing old turbines with the shrouded turbines at approximately a 1:1 ratio as is currently envisioned makes sense. However, if shrouded turbines do not reduce fatality rates or only achieve marginal reductions, or if the increase in rotor swept area risks offsetting reductions already achieved, the EIR should explicitly guarantee that Full Repower cannot be initiated without a drastic reduction in the number of turbines (80% reduction relative to number old turbines), using the best available science to microsite new turbines to avoid impacts to birds to the greatest extent possible, and incorporating seasonal shutdowns into long term Full Repower operations. This would ensure that this project starts off on the right foot in terms of minimizing and mitigating impacts, and negate the need to revisit long term operations further down the road. If the new shrouded turbines do not meet fatality reduction targets, then to go forward with Full Repower with the number of turbines currently envisioned would go against the repowering positive trend of reducing the number of turbines and create a significant and unavoidable impact on birds that cannot be mitigated. O2-31

Thank you for the opportunity to provide comments on the Project.

Sincerely,
Juan Pablo Galván
Land Use Planner

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O3

23 December 2013

Sandra Rivera, Assistant Planning Director
ATTN: Sand Hill Wind Project EIR
Alameda County Community Development Agency
224 W. Winton Avenue, Room 111
Hayward, CA 94544

Re: Sand Hill Wind Project DEIR

Dear Ms. Rivera:

Thank you for the opportunity to provide comments on the Draft Environmental Impact Report (DEIR) prepared by Alameda County (County) for the Sand Hill Wind Project, dated November 2013. On behalf of the applicant for the project, New Dimension Energy Company, LLC (NDEC), we greatly appreciate the hard work that went into the DEIR. We also applaud the County's efforts to work with the local community, stakeholders, and other agencies to assess the project.

We have prepared the following comments to assist the County's preparation of the Final EIR. Please contact me if you have any questions. NDEC looks forward working with the County in 2014 as they continue to assess a new, exciting – and potentially revolutionary – wind energy technology.

NDEC DEIR Comments

General

FloDesign Wind Turbine Corp. changed its name to Ogin, Inc. in November 2013. Please reflect this change throughout the Final EIR. O3-1

Pages ES-5 and 2-5.

The following language was not proposed by NDEC as a project objective. Please delete: O3-2

Provide a comparison between the shrouded turbine design and current-generation, large-scale wind turbines, to determine if shrouded turbines would have a lower rate of avian mortality per MW of energy produced, as well as achieve greater energy efficiency and output.

Pages 2-17 and 3.4-52.

In our review of the DEIR we noticed that APM 1 and 2 are difficult to read. Therefore, please insert the following before "Applicant Proposed Measure 1: Conduct avian and bat fatality monitoring": O3-3

APM 1 and 2, which are set forth below in full, would operate as follows:

APM 1: No Full Repower with Ogin, Inc. turbines unless, after one year of post construction fatality monitoring, the avian fatality rates for the Initial Repower are less than 0.562 (birds/MW/yr) for American kestrel, 3.126 (birds/MW/yr) for burrowing owl, 0.190 (birds/MW/yr) for red-tailed hawk or 0.06 (birds/MW/yr) for golden eagle.

- If fatality rates for all four species are not reduced below existing baseline rates within the first year of fatality monitoring, NDEC may either implement APM 2 or continue monitoring for up to an additional two years.

- If fatality rates for all four species are reduced below existing baseline rates within the additional two years of fatality monitoring, NDEC may proceed with the Full Repower.

- If fatality rates still are not reduced below existing baseline rates after an additional two years of fatality monitoring, NDEC must implement APM 2 and may not proceed with the Full Repower until fatality rates for the four species are reduced below existing baseline rates.

APM 2: In addition, both the Initial Repower and the Full Repower (if it proceeds under APM1) will be subject to seasonal shutdown until operational fatality rates for the shrouded turbines are:

- At least 30 percent lower than existing baseline fatality rates for American kestrel (*i.e.*, less than 0.3934 birds/MW/yr);

- At least 50 percent lower than existing baseline fatality rates for red-tailed hawk (*i.e.*, less than 0.95 birds/MW/yr);

- At least 25 percent lower than existing baseline fatality rates for burrowing owl (*i.e.*, less than 2.445 birds/MW/yr); and

- Less than 0.06 fatalities per MW per year for golden eagle. Any fatality in excess of this rate would require immediate implementation of the APM 2 seasonal shutdown as well as other potential mitigation such as electric pole retrofits.

NDEC may postpone seasonal shutdowns for up to an additional two years of post-construction fatality monitoring. O3-3 cont.

In no event shall post-construction monitoring exceed 3 years under APM 1 and APM 2.

Page 3.1-14.
Please edit the last sentence of the first paragraph on the page as follows: O3-4

While the addition of the shrouded turbines to an area with little existing human-built infrastructure could ~~be so adverse as to make them entirely unacceptable~~create a strong contrast, in the context of the existing visual character of the eastern Altamont Hills, the shrouded turbines may ~~be considered acceptable~~not present as striking a contrast as new elements of ~~the~~ a human-altered landscape that already includes numerous wind turbines and linear water and power infrastructure.

Page 3.4-31.
State and federal regulatory takings law requires compensatory mitigation to be "roughly proportional" to the impact it is intended to remedy. See, *Koontz v. St Johns River Water Management District* (2013) 133 S. Ct. 2586 and *Ehrlich v. Culver City* (1996) 12 Cal.4th 854. We therefore respectfully request that Mitigation Measure BIO1c require compensation for impacts to special-status plant species at a 1:1 ratio rather than a 2:1 ratio. O3-5

Page 3.4-52.
Please replace the first sentence of the first complete paragraph on the page with the following: O3-6

"As stated in the objectives, the Applicant is proposing the Initial Repower to determine if the new turbine technology would reduce impacts on bird and bat species."

Page 3.4-54.
While NDEC does not comment on the County's conclusion of a significant unavoidable avian impact for the Initial Repower, please consider the following edit, which, in the opinion of NDEC, more clearly describes why a significant and unavoidable impact conclusion is appropriate in the context of a new, untested technology: O3-7

Despite anticipated reductions in avian fatalities as a result of the new technology and the Applicant-proposed Avian Fatality Monitoring and Reduction Program, in the absence of site-specific monitoring data following construction of the Initial Repower, it cannot be ascertained whether fatality rates would be above or below the existing fatality rates for the focal species because the avian impacts of the new technology will remain unknown until after installation and monitoring of the Initial Repower turbines. ~~Although the body of evidence points to a potential reduction in avian impacts from the Initial Repower, the amount of the potential reduction is currently unknown. Impacts on avian species, including the focal species, could be similar to the~~

~~existing fatality rates of 3.88 focal species/MW/year (0.562 American kestrel, 3.126 burrowing owl, 0.190 red-tailed hawk, or 0.06 golden eagle fatalities/MW/year). Using a conservative assumption that the new turbines will be similar to the existing fatality rate, the Initial Repower may result in 15.5 total focal species fatalities each year. This equates to 2.2 American kestrels, 12.5 burrowing owls, 0.2 golden eagle, and 0.8 red-tailed hawk fatalities each year for the Initial Repower. Although these numbers represent relatively low numbers of fatalities in the context of the number of fatalities in the overall Altamont Pass Wind Resource Area, the project would reduce the numbers of these special-status species and thus the impact is considered a substantial effect. It is equally feasible that the Initial Repower would result in a significant reduction in these fatality rates. As discussed above, the Applicant has proposed measures to monitor the impacts of the Initial Repower and to implement seasonal shutdowns if pre-determined thresholds are exceeded for the focal species. Implementation of these APM's would reduce, but would not eliminate the potentially significant impact from the proposed project.~~ As a consequence, i~~I~~n addition to the APM's which would be implemented as part of the Initial Repower, the County must also adopt other feasible mitigation measures which may further reduce the potential impacts. Therefore, the Applicant would also be required to implement Mitigation Measures BIO-11a, BIO-11b, and BIO-11c. Implementation of these mitigation measures would further reduce, but ~~would~~ still may not eliminate any increase in impacts above existing levels~~, this potentially significant impact~~, resulting in a significant and unavoidable impact. O3-7 cont.

Page 3.4-55.

To reflect the applicable environmental baseline, please revise the first sentence of Mitigation Measure BIO-11b to read follows: O3-8

"If avian impacts cannot be reduced below existing baseline fatality rates identified in the EIR for American kestrel, burrowing owl, red-tailed hawk and golden eagle~~the applicable species thresholds through the implementation of APM's 1 and 2~~, the Applicant will compensate for the unavoidable loss of avian species through the purchase and preservation of conservation lands, on an in perpetuity basis, from a mitigation and/or conservation bank."

Page 3.4-66.

Please revise the third full paragraph of the page as follows: O3-9

As discussed throughout this EIR, the Applicant is proposing the project, in part, to determine if the new turbine technology would reduce impacts on avian and bat species. The Applicant has committed to ~~several~~ two APMs as part of the proposed project (Initial Repower and Full Repower) to quantify impacts and results of the Avian Validation Study, and to avoid, minimize, and mitigate effects on avian species. Consequently, these APM's must be considered in the context of determining the significance of the potential impacts on avian and bat species. APM 1 concerns to the Initial Repower only. APM 2 concerns both the Initial Repower and the Full Repower.

Page 3.4-67.

To reflect the applicable environmental baseline, please revise MM BIO-11d as follows: O3-10

Mitigation Measure BIO-11d: Implement additional measures to reduce Full Repower avian fatality rates

If the results of the Avian Validation Study demonstrate that the Full Repower will likely cause avian fatality rates in excess of ~~the Initial Repower performance standards~~existing baseline rates for the four indicator raptor species, the results of the Avian Validation Study will be analyzed to formulate measures to reduce the effects of the Full Repower to or below ~~specified performance standards~~existing baseline fatality rates. The specific form such mitigation may take will depend on the results of the Avian Validation Study and engagement with the County, USFWS and CDFW on the basis of such results. Examples of potential measures may include the following.

- Technology modifications
- Hazard-based micrositing
- Hazard-based capacity limitations
- Hazard-based cut-in-speed or real-time curtailment
- Compensatory research funding, habitat protection, ground squirrel control restrictions, or electric pole retro-fits to APLIC standards
- Partial or full siting of conventional turbines instead of shrouded turbines
- Such other measures as may be required by the County, USFWS or CDFW under their respective ~~applicable~~ regulatory regimes applicable to avian species (e.g., County planning and zoning regulations, BGEPA, MBTA, California Fish & Game Code)
- Additional avian fatality monitoring to increase sample size needed for any of the above components of BIO-11d.

Pages 3.6-15 and 3.6-19.

Impact GEO-1 and GEO-1F. Please note that replacement of existing 30-year-old turbines with new turbines designed under state-of-the-art tower and turbine engineering principles will further reduce the risk of exposing people or structures to harm caused by the rupture of a known fault. O3-11

In addition, please make the following clarifying edits to Mitigation Measure GEO-1:

First bullet point:

- Potential for surface fault rupture at turbine site location: The geotechnical report will investigate the Midway fault and determine whether it poses a risk of surface rupture. Turbine foundations will be sited according to recommendations made pursuant to state and local code requirements in this geotechnical report.

Last paragraph: To avoid confusion, please replace all three occurrences of "mitigation" with the phrase "design features." O3-11 cont.

Pages 3.7-13 and 3.7-17.

We urge the County to reconsider its conclusion that the construction impacts of the Initial Repower and Full Repower would be significant and unavoidable because they exceed BAAQMD's *operational* threshold of 1,100 $MTCO_2e$. O3-12

The DEIR correctly notes that the BAAQMD Guidelines do not identify an approach to assessing the significance of construction-related GHG emissions. However, the South Coast Air Quality Management District (SCAQMD) has adopted an approach for assessing construction emissions that includes amortizing construction emissions over the life span of the project, defined as 30 years, then adding those emissions to the operational emissions, and then comparing the combined emissions to the applicable GHG significance threshold. Therefore, in the absence of a BAAQMD-recommended approach for assessing construction GHG emissions, we recommend adopting the SCAQMD's recommended approach of amortizing construction emissions over a 30 year period and comparing combined construction and operational emissions to the applicable GHG significance threshold, which in this case is the BAAQMD non-stationary source threshold of 1,100 metric tons CO2e per year.

In our opinion, this methodology is sound because it weighs the short-term, detrimental GHG effects of construction of a renewable energy project against the long-term, beneficial operational GHG effects of the project that such construction activities bring into being. In this instance, 30 additional years of renewable energy generation at the project site as a result of the Initial Repower and Full Repower clearly and quantifiably outweigh the short-term and proportionately much smaller detrimental effects of their construction, resulting in a net positive effect on the environment.

Section 3.11 Transportation/Traffic.

We respectfully encourage the County to reconsider its conclusion that the construction impacts of the Initial Repower and Full Repower on transportation and traffic would be significant and unavoidable. In our opinion, the Traffic Control Plan required by Mitigation Measure TRA-1 directly addresses each of the impacts deemed significant and unavoidable by the DEIR. O3-13

For example, Impacts TRA-1 and TRA-1F conclude that the Initial Repower and Full Repower will have a significant and unavoidable temporary impact on local routes because, by increasing traffic volume by more than five percent, such increases would be noticeable to drivers and therefore significant. Under this standard, any construction project using unfrequented local roads is likely to trigger a significant impact. In our mind, the proper standard of comparison is to determine whether the additional trips generated by the project in conjunction with existing trips will exceed the design capacity of the road in question for an untenable period of time. The DEIR also concludes that construction traffic on local routes could conflict with ECAP policies

170, 183, 184 and 185. But Mitigation Measure TRA-1 avoids conflict with Policy 170 by requiring measures specifically designed to protect nearby existing uses from windfarm construction traffic. Policy 183 is clearly a long-term policy requiring the county to "minimize traffic congestion levels", rather than a policy focused on short-term construction impacts, and a conflict is particularly unlikely after subjecting the project to the peak-level traffic reduction measures of Mitigation Measure TRA-1. The same holds for Policies 184 (minimize total number of average daily traffic trips throughout East County) and 185 (minimize peak hour trips). O3-13 cont.

Similarly, Impact TRA-2[F] concludes that Full Repower construction traffic will result in a significant and unavoidable impact on Congestion Management Program designated roadways during congested roadway conditions *even though* ADT would increase by less than five percent as a result of the project before mitigation and Mitigation Measure TRA-1 would "Limit truck access to project parcels during typical peak commute hours". In our opinion, these warrant a "less than significant" conclusion. O3-14

Mitigation Measure TRA-1 would similarly reduce impact TRA-4[F] (substantially increase hazards because of a design feature or incompatible uses) to a less than significant level by requiring public safety measures such as fences, barriers, lights, flagging, guards and signs to give adequate warning to the public and by requiring road repairs needed during construction to prevent excessive deterioration. O3-15

Finally, Impact TRA-6[F] concludes that the Full Repower will have a significant and unavoidable impact because it will conflict with adopted policies, plans, or programs regarding bicycle facilities, or otherwise decrease performance or safety of such facilities. But, as the analysis itself acknowledges, there are no adopted bicycle route designations in the project area. And, in any event, it is clear that bicyclist route disruptions and safety concerns are addressed by Mitigation measure TRA-1, which requires NDEC to: O3-16

- Ensure bicycle access on local county roads used by construction haul vehicles, including providing temporary bike routes to ensure access through the construction period; and

- Coordinate with local and regional bicycle organizations regarding routes, events, and tours that use roads in the project vicinity, such as the California Amgen Tour's use of Patterson Pass Road.

We therefore ask the County to reconsider whether the proposed project's construction traffic impacts remain significant after application of Mitigation Measure TRA-1.

***

This concludes NDEC's comments on the DEIR. Thank you once again for your time and consideration.

Very truly yours,

DOWNEY BRAND LLP

Andrew C. Bell
ACB:at

Written Comments—Individuals

I1

November 21, 2013

Sandra Rivera, Assistant Planning Director
Alameda County Community Development Agency
224 W. Winton Avenue Suite 111
Hayward, CA 94544

Re: Sand Hill Wind Project

Dear Ms. Rivera:

We own Parcel 99B-7600-2-3, which is on the west side of the California Aquaduct overlooking one of sites of the Sand Hill Wind Project. I1-1

We received in March, 2013 a copy of the Notice of Availability of a Draft Environmental Impact Report for Modifications to Exiting (Year 2005) Conditional Use Permits – Altamont Winds Inc. The Notice stated in Paragraph 5 "Otherwise, the proposed Project involves no physical changes to existing turbines or related infrastructure prior to decommissioning activities, but only changes to the months or times of operation and the decommissioning schedule". We were not concerned about that schedule so did not comment during the public review. The letter further stated that "an EIR be prepared to evaluate the environmental impacts of a repowering program (the replacement of older turbines with substantially fewer but larger turbines with the same overall output)". Unfortunately, we did not understand that section thoroughly and did not respond to that issue with any comments.

Recently we received a Notice of Availability of a Draft Environmental Impact Report for the Sand Hill Project. Upon researching the DEIR online we find that the "decommissioning schedule" has a name (Sand Hill Wind Project) and a project is underway to replace the current wind turbines. This letter is to serve as our comments during the public review period for the DEIR

We built and designed our home with the view of the valley foremost in our minds. When we built our house we accepted the wind turbines as part of our view. We understand that these turbines will be removed and much larger shrouded wind turbines will be installed. We think these new wind turbines will obstruct our view and adversely affect our property value. If they were to be placed six towers to the northwest the view would not be so adversely affected. I1-2

Upon reading the DEIR further, it is our understanding that perhaps more of these turbines will be installed in the future. Is this correct? I1-3

We will be attending the public hearing on December 19. We would like to be placed on the agenda so we can voice our concerns. Thank you. I1-3 cont.

Sincerely,

Adrian Dykzeul

Suzanne Dykzeul

Adrian and Suzanne Dykzeul
Landowners of Parcel 99B-7600-2-3
Property Address: 16562 W. Grantline Rd. Tracy, CA
PH: 209 603-6645
Mailing Address: 1852 W. 11th St. #415 Tracy, CA 95376

I2

Joanna Burger

This EIS addresses the repowering for wind energy in the Altamont, with shrouded turbines (a new wind energy technology). The SRC was asked to comment on three things as they relate to the Altamont and bird strikes:

Methodology
Assumptions
Mitigations.

GENERAL COMMENTS: While the objectives are clear, and some of the descriptions are clear, the methodology and assumptions are not made clear. Further, small samples sizes, lack of replication, variability in samples, contradictory statements, and lack of clarity in the use of terms makes it difficult to follow some of the methods. Further, it would be better if they made their assumptions clear, and addressed the validity of each one. I2-1

SPECIFIC COMMENTS:

Executive Summary: The executive summary should be clear, in terms of objectives, assumptions and results, and this is not the case. If was hard to discern whether the overall density of turbines is going to increase with full re-powering, and this should be clear. The methodology used to assess impacts is not clear in the summary, and should be. The unavoidable effects on some species need to be addressed more fully in the introduction. I2-2

Methodology: I found it confusing to follow their time line for new turbines, versus the use of old, and the resultant effects on birds, especially our target species. There needs to be more justification that the fatality rates will be similar as existing fatality rates. I2-3

While I applaud studies (Smallwood's) to examine the effects of particular strategies, it seems that these observations should be more clearly described, documented, and defended in the EIS itself. Bat studies need to be implemented as this is potentially a large impact. I2-4

While not our responsibility, the reptile studies need considerably more attention. From our perspective, the wind turbine effects on birds is the main section of interest. It is not clear exactly when the spatial and temporal pattern of turbine placement will be, especially in light of the remaining old turbines. I2-5

Assumptions: The time sequence of re-powering should be more explicitly explained (6-9 months is a long time, and the actual period (seasonally) needs to be discussed). I2-6

There is a lack of definition about the assumption, what is meant by dry weather (seasonal or daily), temporary (hours, days, weeks), the location f the staging areas (as well as the level of staging), and the placement of new access roads. Normally short term impact is not 3 years (which seems excessive (page 3.4-28).

Finally, while the assumptions are clearly stated, their specific effect is not described in detail.

Mitigations:

I found the mitigations to be described way too briefly, and without enough detail to evaluate them completely. Decommissioning, for example, can take a very long time. So are they talking about for the whole facility, for a group of turbines? Again, the temporary staging areas poses a problem, and they should be clearly identified in terms of time and space. I2-7

Temporary stockpiling could also provide roosting areas for predators, and destroy habitat. Again, this needs to be further described and circumscribed to reduce damages. I2-8

There is not enough detail of the mitigation monitoring (page 3.4-33) to determine if this is responsive. Further, what will happen if there are observed effects. What provisions have been made to deal with specific problems?? I2-9

Further, it is not enough, for the mitigation for nesting burrowing own, to simply refer to other sections. This is a critical species, and one that should be addressed specifically with measures directed at that species. How will the impact of construction materials that might serve as resting places for predators be dealt with. These materials could bring in more predators, making the owls even more vulnerable. Further, it would helpful to justify the exclusion distances with references or other aspect. I2-10

Finally, there is no overall estimation of the potential impacts to the four target focal species. What is the final value of the study? A justification of 10 turbines needs to be made, with evidence and potential outcomes. How is the value measured against other impacts. How would one decide, for future work, which alternative is really better? What are the metrics of success or failure and final evaluation? I2-11

I3

Jim Estep

Comments on Sand Hill DEIR – Estep (12-18-13)

The County has asked the SRC to provide individual comments on the San Hill DEIR that are related to biological resources issues, and particularly those related to avian and bat mortality. The County asked for comments specifically related to methods, assumptions, and mitigations. I3-1

The project involves repowering of a portion of the APWRA with a new shrouded turbine design. The DEIR has two primary components, 1) it analyzes the effects of the initial 40 turbine repowering project and the associated 3-year avian validation study (BACI study) and 2) programmatically addresses the effects of the remaining project installation (removal of 340 to 350 old turbines and installation of 300 new turbines). Forty shrouded turbines (4MW) will be initially installed as part of the 3-year avian validation study. This will involve the removal of 70 to 80 old turbines (4 MW). New turbines will installed at selected locations with known high fatalities where old generation turbines were removed. Of the remaining 340 to 350 older generation turbines, 157 will be used as the control group to estimate the differences between the old and the new turbines.

Methodology: What are the SRC's thoughts on the methodology used in the DEIR for analyzing impacts to avian biological resources?

1. Baseline. For purposes of conducting a CEQA impact assessment, using the results of the BACI study (and the ICF results for golden eagle) is appropriate to establish baseline fatality estimates to compare pre- and post-project conditions. However, it would be useful to also compare the results with other repowered projects in the APWRA that use non-shrouded turbines. There is already an expectation that the shrouded turbines will result in less mortality than the existing turbines that have proven to cause high rates avian mortality. Perhaps the more interesting question, particularly since the APWRA is likely to undergo rapid repowering over the next several years, is how they compare with the more traditional repowered turbines. While its somewhat unclear, the alternatives analysis on page 4-13 describing the no-project alternative indicates that this comparison is an objective of the initial repower. So presumably, although it is not specifically stated, the results of the BACI study will address the differences between shrouded and non-shrouded repowered turbines. This information will be highly informative with regard to the full repower phase of the project. I3-2

Because the BACI study is ongoing and will be the source of data to estimate and compare fatality rate differences, the analysis of the no-project alternative for biological resources on page 4-13 is understandably deficient. However, additional consideration of this issue in the final EIR is warranted in order to more clearly describe the treatment it will received in the analysis of the BACI study and in the supplemental EIR for the full repower phase.

2. BACI Study. Neither the methods section in the EIR nor the first year report of the BACI study sufficiently describe the methods used to select the number and locations of study turbines. For example, how were the 157 control turbines selected? The final EIR should provide additional details or reference a more complete study design document. I3-3

3. Full Repower Programmatic Assessment. The programmatic assessment of the full repower seems lacking, at least for biological resource issues. The are several issues associated with the full repowering that could be, but are not described. For example, the full repower project will include 300 turbines, nearly a 1:1 replacement ratio with the old turbines. And because the new turbines are nearly twice the size as the old turbines, the overall extent of physical material that can influence avian and bat movement may increase. While the exact locations of the these turbines is unknown, they presumably will be installed along strings not unlike the existing turbines. We know that the location, number, and orientation of turbines can influence mortality rates, and while the new shrouded turbines may result in low mortality, these other factors should be a consideration in a programmatic analysis of the full repowering. I3-4

Assumptions: What is the SRC's perspective on DEIR assumptions in relation to avian biological resources?

1. The list of assumptions on page 3.4-27 includes only one assumption related to avian biological resources (Avian fatalities are directly proportional to the operational period of wind turbines, calculated as the cumulative installed generation capacity). Because the analysis of avian and bat mortality is based on the BACI study, it would seem appropriate to also include specific assumptions that were used in the development of that study including those related to selection of study turbines, search interval, detection probability, and others. As an alternative, the EIR should refer to the BACI study design to refer the reader to those assumptions. I3-5

Mitigations: What is the SRC's assessment of the appropriateness of the avian-related on- and off-site mitigations set out in the draft document?

1. APM 1. Unless I am misinterpreting this, this mitigation measure on page 3.4-52 states indicates that if the mortality rate following one year of post-construction monitoring is below the baseline rates, then monitoring can end. It appears that monitoring may continue only if the mortality rates exceed the baseline. There is no clear rationale described for this approach. One year of post-construction monitoring may be insufficient to make valid comparisons and conclusions. It is also inconsistent with standard practices for post-construction monitoring. I3-6

2. APM 2. This should be referred to as winter shutdown since the measure includes the dates November 1 to February 15. While this is consistent with the APWRA-wide shut down, it might be more appropriate to rely on the results of the BACI to determine the most appropriate shut-down period. Since we have no data on collision risk of the new I3-7

turbine design, perhaps we should not predetermine the specifics of measures to reduce collision risk until data are available. I3-7 cont.

3. Offsite Mitigation. The other mitigation measures that address avian and bat mortality are standard practice. The measure to retrofit utility poles to avoid electrocution is taken from the USFWS' guidance for the development of an Eagle Conservation Plan (ECP) and thus has been adopted and approved by that agency. Other types of compensatory mitigation, including acquisition of replacement lands or purchasing mitigation bank credits are no longer considered sufficient to offset avian mortality impacts from operation of wind turbines. I3-8

I4

Michael L. Morrison

17 November 2013

My conclusion is this DEIR is a solution in search of a problem. The very purpose of the Sand Hill project is to determine if the new shrouded turbine substantially reduces avian fatalities in the APWRA. If and only if, these turbines can achieve substantial fatality reduction would the applicant proceed with installation of additional units. The ongoing study to determine if such a reduction in fatalities was named "avian validation" to emphasize the essential goal of *validating* that such a reduction did indeed occur. Thus, any alternative that reduces the likelihood of such a determination effectively *invalidates* the study. *Alternative 1 will effectively negate determination of a treatment effect due to the shrouded turbines*. As clearly stated on page 4-2: I4-1

"The underlying purpose of the project is to repower the wind energy production facilities owned by the Applicant with shrouded turbines, a new wind energy generation technology, in two phases, beginning with a test project of a sufficient number of the shrouded turbines to support an Avian Validation Study, and subsequently, if that study demonstrates that the shrouded turbine technology is sufficiently compatible with avian use and behavior in the project area, complete the repowering of the facilities with shrouded turbines to produce an equal or greater amount of energy compared to existing production levels."

The turbines selected for study in the Avian Validation Study were done so to maximize the opportunity to identify a change in fatalities following installation of the shrouded turbines. Impact assessment studies, of which the BACI is a foundational method, are a priori compromised by a lack of replication and low number of sample elements (turbines in this study) within the sampling areas (i.e., treatments and controls). Thus, reducing the inherent variability among sampling elements requires maximizing the number of such elements (turbines). Chapter 6 in the book, Wildlife Study Design (2008, Springer-Verlag, 2nd edition), by Morrison et al. discusses impact assessment and applications to study designs similar to the one being implemented at Sand Hill. Pre-treatment data is currently being collected based on the design using 40 treatment and 40 control turbines. I4-2

The DEIR clearly states that the 40 turbine design is optimal; for example on page 4-9: I4-3

"This is particularly the case with regard to alternatives to the 40-turbine Initial Repower phase; in part
because it is already limited to the minimum number of turbines required to generate a statistically
robust Avian Validation Study of the shrouded turbines, but also because studies like the Avian Validation Study are themselves a common form of mitigation. Similarly, the replacement of existing
turbines with new turbine designs is itself a recognized *Advanced Conservation Practice* for the
potential minimization and avoidance of risk to bald and golden eagles."

Thus, the DEIR acknowledges that 40 turbines is the minimum needed to achieve a rigorous result. And, that the project itself serves as a valuable mitigation. It then logically follows that no change should be made to the 40 turbine design.

I4-3 cont.

The DEIR then contradicts itself by concluding that a 10 turbine experiment might be sufficient; although in the same paragraph it reverses itself and concludes that 10 turbines would not be large enough to provide robust results. On page 4-16:

"Alternative 1 would meet the fundamental project objective of conducting the Avian Validation Study, but to a lesser degree than the Initial Repower because, while the smaller sample size of 10 shrouded turbines would serve to indicate the avian effects of the shrouded turbines, it would not be large enough to provide robust, conclusive statistical results."

In other words, 10 turbines will be fine except that 10 turbines will not be fine!

I was unable to clearly follow the logic in many of the statements regarding potential project impacts. For example on page 4-18:

I4-4

"Impacts on biological resources would generally be similar, but less severe under the Alternative 1 Initial Repower than the impacts associated with the proposed project in the near term. Construction of fewer turbines would result in less ground disturbance and therefore the corresponding impacts on terrestrial species would be less severe. Potential impacts on avian species would also be less severe than the proposed project as each proposed turbine would have some level of impact."

The statement "in the near term" is vague, but implies that the proposed project has no long-term impacts, of that those impacts would be "similar" to the Alternative 1. Later (see below) we read that the shrouded turbines would most likely reduce avian fatalities; yet in the above statement the DEIR concludes that the project would have more impact that Alternative 1. *Clearly if the shrouded turbines reduce avian fatalities, and impacts to other resources "would be generally similar", then the impact would be less overall under the proposed project.*

The DEIR does not appear to acknowledge that repowering of some type will occur in the Sand Hill wind development regardless of turbine type. The purpose of the experiment (proposed project) is to determine if repowering with shrouded turbines—rather than conventional turbines—will substantially reduce avian fatalities. Thus, if a rigorous result (40 turbine project) is not implemented, there will be no justification in the future to use the shrouded turbines. *Thus the DEIR, Alternative 1, effectively ensures that avian fatalities will not be reduced in the future.*

I4-5

On page 4-32:
"Alternative 1 differs from the proposed project and other alternatives primarily because

the Initial Repower phase of this alternative would consist of only 10 shrouded turbines instead of
40. The reduced scale and duration of construction activities associated with Alternative 1 compared to the proposed project and other alternatives, all of which would entail installation of 40
turbines in the Initial Repower, lessens the potential for significant effects on a number of resources
(Table 4-1)."

I4-5 cont.

On page 2 of the Avian Study Design (APP B) the rationale for the 40 turbine sample size was explained; namely, as due to critical peer review by the SRC. I assume that the lower sample size of 10 recommended in the DIER came from the early study design (which was subsequently found to be inadequate by SRC).

I4-6

"The study plan changed somewhat from the proposal the SRC reviewed in 2011. These changes were due principally to SRC comments and recommendations following its review of my 2011 study proposal. With FloDesign's support, I followed the SRC's recommendations and responded to comments and concerns. I prepared a study plan for a larger experiment, and subsequently transformed the study plan into a grant proposal, which I submitted to PIER. I won the PIER grant. At about the same time, FloDesign acquired the wind assets of AES SeaWest in the APWRA. The study increased in size from 10 MEWTs to 40 MEWTs. It shifted locations
from Patterson Pass to four sites managed by AES SeaWest. It involves four types of old generation wind turbines instead of one. It also includes both fatality searches and behavior surveys through the entire winter shutdown period, or year-round."

Table 2 in the Avian Study Design (App B) indicates that, given a sample size of 40 turbines each for treatment and control (reference), the resulting mean and confidence intervals (CI) for the predicted number of birds detected over 1 year would be:

I4-7

- Reference/control 41.5, CI = 34.8 – 49.1
- Treatment 46.5, CI = 37.7 – 55.4

Thus, based on the best empirical data available, Smallwood's analysis suggests that any reduction in fatalities would have to meet or exceed about 10 individuals to show a statistically rigorous outcome of the replacement turbines (all else considered equal between time periods). Clearly any reduction in sample size of turbines will make identification of a treatment effect, even if one occurs, to be highly unlikely. To validate my assumption, I asked Dr. Smallwood to run an analysis for 10 turbines as he did above for the 40 turbine replacement. The predicted number of birds detected at a 10 turbine replacement (following Alternative 1) would be:

- 10 turbine proposal 20.0, CI = -7.9 – 47.9

Thus, the result of implementing Alternative 1 would be to require a reduction of >28 individuals to show a treatment (replacement) effect. Note that ~28 is greater than the mean number detected, making the 10 turbine option untenable.

No citations or other support is provided for the recommendation to reduce the sample size of turbines in the experiment in Chapter 4. Based on the discussion in Chapter 3, it is apparent that the reduction to 10 turbines was based on considerations of disturbance to other resources because of replacing 10 versus 40 turbines. On 3.4-27 the likely impacts to the Initial Repower are listed to be:

· Initial Repower activities, including decommissioning and construction are expected to occur over a 6- to 9-month period.
· All ground disturbing activities would occur during dry weather.
· All impacts associated with decommissioning activities would be temporary.
· Excavation required to remove foundations of old turbines next to proposed new turbines would occur within the disturbance footprint of the proposed turbine.
· Removal of turbines that do not occur next to a proposed turbine would only have surface ground
disturbance and would not require any excavation because foundations would remain in place.
· All equipment staging, materials storage, and vehicle parking would occur within one of the four
designated staging areas, within the limits of construction for each turbine site, or on existing access roads.
· No new access roads, substation facilities, or operations and maintenance facilities would be required for Initial Repower.

I4-7 cont.

Thus, no impacts are expected outside the immediate vicinity of the currently operating turbines during (at least) the Initial Repower.

As noted above, in several locations the DEIR acknowledges that the shrouded turbines have a high probability of reducing avian fatalities. For example, on page 3.4-51 to 52 the DEIR states:

I4-8

"Based on the information available, and the theory that the shrouded turbines will present a physical barrier for birds resulting in less collision with moving blades, the new turbines are not expected to have greater impacts when compared to the existing turbines. However, three scenarios
are possible: (1) the proposed project would have a significant reduction in avian impacts; (2) the
proposed project would have some reduction in avian impacts; or (3) the proposed project would
have no reduction in avian impacts."

Likewise on page 3.4-54 the DEIR states:

"Using a conservative assumption that the new turbines will be similar to the existing fatality rate, the Initial Repower may result in 15.5 total focal species fatalities each year. This equates to 2.2 American kestrels, 12.5 burrowing owls, 0.2 golden eagle, and 0.8 red-tailed hawk fatalities each year for the Initial Repower. Although these numbers represent relatively low numbers of fatalities in the context of the number of fatalities in the overall Altamont Pass Wind Resource Area, the project would reduce the numbers of these special-status species and thus the impact is considered a substantial effect. It is equally feasible that the Initial Repower would result in a significant reduction in these fatality rates."

Thus, the DEIR acknowledges that the baseline number of fatalities in the project area is below that seen APWRA-wide. If the current turbines are not replaced then, on average, we would expect a continuation of the current fatality rates until the existing turbines are decommissioned. The expectation, as noted here in the DEIR, is for a reduction in

fatalities. Thus, it follows that the greater the number of shrouded turbines that are installed, the greater the *likelihood* of a reduction in fatalities, and thus an overall reduction in fatalities than would otherwise be seen without the project. Additionally, on 3.4-52 to 56 the Applicant details an extensive number of mitigation measures should the expected reduction in fatalities not occur.

I4-8 cont.

Throughout the discussion of Alternative 1 (4.3.2) the DEIR repeatedly concludes that 10 turbines would have a lesser impact on resources (e.g., aesthetics, air quality, cultural) than would 40 turbines. Following this logic, *all* projects would necessarily be forced to reduce the number of installed turbines because of the claimed reduction in impact. Because no justification or rationale for the selection of 10 turbines is provided, one could conclude that *all* projects in APWRA should be reduced by 75% when seeking to repower or install newer generation turbines. No claim is made regarding the absolute reduction in impacts based on a reduction from 40 to 10 turbines. As reviewed elsewhere in my comments, the DEIR actually concludes that minimal or no impact will occur to any resources under the proposed (40 turbine) project, and that a detailed and comprehensive mitigation plan has already been developed by the Applicant should impacts occur. Additionally, the DEIR concludes that it is likely that the shrouded turbines will reduce avian fatalities. If Alternative 1 is accepted, then a precedent has been set where all repowering projects in the APWRA should have installed capacity reduced by 75% to lessen resource impacts. All repowering activities in APWRA should thus be reduced by 75% because all projects require modifications of roads, use of vehicles, the presence of people, and so forth.

I4-9

Sue Orloff

Concerns and Questions
Sand Hill EIR – 11/20/13

My main concern is that the methodology for analyzing impacts of the avian fatality study is not well explained. There are several confusing and contradictory statements throughout the EIR and Appendices regarding exactly how the data will be compared and analyzed (specific comments below). I5-1

Also, I use specific page or table numbers below as references, but many of my questions and concerns are applicable to several other sections of the EIR document.

Executive Summary

Page ES-4 (4th and 5th paragraphs): There is close to a 1:2 replacement ratio for the initial phase compared to about a 1:1 replacement ratio for the full repower. Does the density of repowered turbines increase for the full repower? If so it may be hard to apply the results from the first to the second phase. Density of turbines has been linked to fatality rates. I5-2

Impact Analysis - Biological Resources

Page 3.4-24 (Table 3.4-3): Are these fatality rates for both control and impact groups combined? It would be helpful to see a comparison of the control to the impact group fatality rates. I5-3

Page 3.4-24 (Table 3.4-3): Comparisons are made between ICF data (blobs 9, 16, 17, and 22) and Smallwood's high risk turbine data. What percentage of the full repowered area is ICF surveying annually? What is the proportion of high risk turbines in the ICF data set? There are no maps that show the locations of the experimental/control clusters and how they overlap with the ICF samples. I5-4

Page 3.4-26 (Analysis Methods - general): We already have good evidence that new generation repowered turbines reduce mortality. So the true test of the new shrouded turbines is how they compare to other repowered turbines not to the old generation turbines. This comparison is not mentioned in the EIR. I5-5

Page 3.4-27 (second paragraph): "*The baseline fatality rates for the Full Repower are based on the existing fatality rates from the MT*." However, in the Smallwood report (2013; page 5) he integrates both his data and the MT data (ICF) to derive the baseline rates. I5-6

Page 3.4-27 (second paragraph): Will the full repowered area be surveyed for fatalities after construction? How will the project-wide (full repower) baseline fatality estimates be used and compared if there is no post construction surveys of the full repowered area? I5-7

Page 3.4-27 (second paragraph, last sentence): For the full repower comparisons to ICF data, it may be useful to also use annual data as well as averaged over all years for determining trends. I5-8

Page 3.4-52 (APM-1): Don't you also need to compare the pre-construction control group to the post-construction control group for a temporal check? It is not mentioned anywhere. I5-9

Page 3.4-53: The threshold percentages used here seem a bit arbitrary and high, especially for RTH. Also, implementing seasonal shutdown to reduce BUOW fatalities may be risky. Based on MT data, seasonal shutdown may actually increase fatality rates for BUOW. I5-10

Page 3.4-55 (Mitigation Measure Bio-11b): Is using RSA become the standard for compensation? It seems a little low for compensation. I5-11

Page 3.4-67 (Bio-11d): This is the first time the term "performance standards" is used for avian impacts. This needs to be specifically defined - are these target reduction percentages or is it just below baseline. I5-12

Avian Baseline Study

Pages 15 and 20 (Tables 2 and 3): There are several fatality rates used in these tables (as well as Table 3.4-3 in the Impact Analysis – Biological Resources section of the EIR). It's confusing which ones are being used and for what purposes. Which rates will be used for comparisons to controls and to post construction? I5-13

Smallwood (2013)

Page 7 (4th paragraph): "*Also, the burrowing owl fatality estimate was larger than I expected, indicating that the Forebay wind turbine sites remain very dangerous for burrowing owls. The fatality rates we observed, and which I estimated, were likely conservative compared to past fatality rates at these turbines because <50% of the Forebay wind turbines were functional during the first four months of our study, and >25% remained nonfunctional since August 2012.*" I5-14

The high fatality rates were possibly due to many turbines being nonfunctional. Nonfunctional turbines may offer perching opportunities for predators that could increase the fatality rates for burrowing owls.

Page 10 (Table 2): There is a huge difference between PIER's and ICF's mean fatality rates at high risk turbines. So when estimating project-wide impacts from both PIER and ICF, I am concerned that the multipliers used to derive baseline fatality rates can truly adjust for such differences. I5-15

I6

Julie Yee

The County requested SRC input on the methodology and assumptions, as they relate to impacts to avian biological resources, and on the appropriateness of avian-related on- and off-site mitigations. My comments on these topics are as follows:

Methodology: The DEIR analyzes impacts to avian biological resources primarily in terms of the collision fatalities that might be expected from the Proposed Project. The DEIR also identifies and analyzes lesser impacts to avian resources (e.g. disturbance and construction-related mortality), however the DEIR determines these to be less-than-significant with mitigation and I do not consider them further. Instead I focus on the one impact to avian species that was regarded as significant and unavoidable: I6-1

> Impact BIO-11: Operation of the proposed project could have direct impacts on special-status avian species (significant and unavoidable). (pages 3.4–51 through 3.4-55)

The methodology used in the DEIR to analyze this impact is confusing. The DEIR seems to present appropriate background information, however it sometimes reaches conclusions that seem logically inconsistent. Other times, I just think that more detail or explanation is needed. Specific issues: I6-2

1) The baselines for determining impacts (pp. 3.4-26 through 3.4-27) are reasonable, as they are derived from the before-phase of the BACI design, where existing turbines are associated with ongoing collision fatalities. [As a side note, I will mention that when these baselines were first presented (p. 2-17), there had been no explanation of them yet, which confused me. I was further confused when their total was reported as 3.88 (p. 3.4-10) although the numbers on p. 2-17 add to 3.938. Later (p. 3.4-27), the DEIR explains that a slightly different baseline was replaced for GOEA because the baseline based on survey observations (0 fatalities) would be too low. While I understand the baseline definitions now, the references to baseline prior to p. 3.4-27 had been initially very confusing.]

2) Given that the Initial Repower is expected to reduce fatalities from the baseline rates, then the DEIR considers three possible scenarios ranging from significant reduction to no reduction in impacts (pp. 3.4-51 through 3.4-52). The DEIR states the Initial Repower is not expected to have greater impacts than existing turbines, i.e. not expected to have higher fatalities than baseline. How is it, then, that the impacts would be designated "significant and unavoidable"? The DEIR makes the following argument: I6-3

"Using a conservative assumption that the new turbines will be similar to the existing fatality rate, the Initial Repower may result in 15.5 total focal species fatalities each year. This equates to 2.2 American kestrels, 12.5 burrowing owls, 0.2 golden eagle, and 0.8 red-tailed hawk fatalities each year for the Initial Repower. Although these numbers represent relatively low numbers of fatalities in the context of the number of fatalities in the overall Altamont Pass Wind Resource Area, the project would reduce the numbers of these special-status species and thus the impact is considered a substantial effect." (p.3.4-54)

I6-3 cont.

The only way this argument should hold is if the impact was being measured against a baseline of zero fatalities, however the DEIR has already established a baseline with positive fatalities, due to existing turbines and foreseeable repowering (using larger turbines if not the Proposed Project) (section 4.3.1, p. 4-12). The argument seems inappropriate.

3) On p. 3.4-52, the DEIR states that the Applicant Proposed Measures (APMs) ("Conduct Avian and Bat Fatality Monitoring" and "Implement Seasonal Shutdowns") must be considered in the context of determining impacts. I would like to understand better how this was done. APM #2 specifies that seasonal shutdowns continue until fatalities are reduced to a range of 25-50% below baseline rates for three of the focal species (p. 3.4-53). The existing turbines are not subject to these reduction targets, thus the Proposed Project seems to provide additional reassurance for reducing fatality rates rather than settling with maintaining baseline levels. It is unclear how these reduction targets mitigated the impacts determination. The DEIR states:

I6-4

"…the Applicant has proposed measures to monitor the impacts of the Initial Repower and to implement seasonal shutdowns if pre-determined thresholds are exceeded for the focal species. Implementation of these APM's would reduce, but would not eliminate the potentially significant impact from the proposed project." (p.3.4-54)

The wording is vague, but seems to imply that fatalities should be eliminated in order for the impact to be not significant. If so, then this argument would apply only for a baseline with zero fatalities, which is not the case.

4) Given that the Proposed Project was described by the DEIR to have "significant and avoidable" impacts to special status avian species (Impact BIO-11), then I was further confused to see, in the comparison of Project Alternatives (Table 4-1, p. 4-33), that the No Project Alternative is listed as having "Increased" impacts compared to the Proposed Project. If the Proposed Project's impacts are significant, then shouldn't the No Project Alternative have "Reduced" impacts when compared to the Proposed Project? While I believe that a determination of "Increased" impacts is more consistent with the overall information presented in the DEIR, it seems inconsistent with the DEIR's determination of the Proposed Project having "significant and avoidable" impacts. It appears that the

I6-5

determination of the Proposed Project having "significant and avoidable" impact is consistently inconsistent. I6-5 cont.

5) Adding to my confusion about the "Increased" impacts due to the No Project Alternative, when compared to the Proposed Project, the DEIR narrative on this comparison (p. 4-13) describes the two options equivocally: "Overall, the potential impacts of the No Project Alternative would be similar to the proposed Initial and Full Repower phases." If not for information presented elsewhere in the DEIR, this would almost lead one to expect "Similar" be reported in Table 4-1. I6-6

6) Another confusing aspect of Table 4-1 is that Alternative 1 (1 MW repowered instead of 4 MW) was described as "Reduced" biological impacts compared to the Proposed Project. Although the DEIR does not state this assumption, I presume that Alt-1 would replace 1 MW of existing turbines with 1 MW of repowered turbines, so that the total MW at Sand Hill would be similar to total MW under either the Proposed Project or the No Project Alternative. As such, all factors are the same, and only the scope of the Project would differ. Since Alt-1 is a smaller version of the Proposed Project, then I expect that its impacts (relative to Proposed Project) should be in the same direction as the No Project Alternative. Instead, it was opposite ("Reduced" for Alt-1, instead of "Increased" as for No Project). Why? On p. 4-18, the DEIR explains: I6-7

> "Potential impacts on avian species would also be less severe than the proposed project as each proposed turbine would have some level of impact."

This argument is also vague and seems to either: (1) ignore the existing impact due to 3 MW of turbines that would continue to operate unrepowered if only 1 MW were allowed to be repowered; or (2) assume that Alternative 1 would replace all 4 MW of existing turbines under the Proposed Project with only 1 MW of repowered turbines. The EIR should be clearer about the total number of turbines (or, more importantly, the number of MW, since fatalities are projected on a per MW basis) that it assumes will operate under Alt-1. Also, all of the arguments for determining the impacts of various projects should be more consistent with the established baseline, which includes collision fatalities, and not merely stating any fatalities to be a significant impact.

7) When identifying an Environmentally Superior Alternative, it was unclear whether the superior alternative must be selected from a set of candidates which includes the Proposed Project, or whether it could only be selected from the Project Alternatives (e.g. a set which includes Alternatives 1, 2, 3, 4, but not the Proposed Project). After our conference call, I understand now that CEQA requires that the ESA be selected from just the alternatives (as opposed to NEPA which, as I understand, requires that an EIS choose a best alternative from a candidate set that includes the Proposed Project). Thus, it would seem that the selection of the ESA involves no ranking of the Proposed Project. I I6-8

wish that this was clearer in the DEIR because it would be easy for readers who lack that understanding to misinterpret Alternative 1 as being superior to the Proposed Project. I6-8 cont.

Assumptions: I noted three assumptions related to avian impacts: I6-9

8) "Avian fatalities are directly proportional to the operational period of wind turbines, calculated as the cumulative installed generation capacity." (p. 3.4-28)
This is not really true, because temporal variation has been noted in many monitoring reports for the Altamont. However, for lack of a feasible adjustment, it is a standard assumption used in ongoing fatality estimates for the Altamont, and it is reasonable for the DEIR to make the same assumption for approximation.

9) Fatality rates associated with MEWTs are estimated "using a conservative assumption that the new turbines will be similar to the existing fatality rate." (p. 3.4-54) I6-10
This is indeed conservative, in the sense that it assumes no changes. However, the DEIR also notes in the same paragraph that "it is equally feasible that the Initial Repower would result in a significant reduction in these fatality rates." For a balanced report, the analysis should consider impacts under other equally feasible assumptions such as this. In scientific research, this is also known as a sensitivity analysis, so that the conclusions of an analysis can be assessed for its sensitivity to the underlying assumptions. Under an alternative assumption where MEWTs result in a significant reduction in fatalities, then the Impacts Analysis and Alternatives Analysis could have rather different outcomes.

10) A third assumption which was not mentioned in the DEIR, but which is important and necessary for the Alternatives Analysis, has to do with the number of existing turbines (or MW) that would be removed under Alternative 1 (my comment #6 under Methodology). If only 1 MW were repowered, then would all 4 MW still be removed? Or only 1 MW? I6-11

Mitigations:

The types of mitigations sound reasonable, but I have no comment about whether they are of appropriate intensity in order to offset the impacts. Additional supporting information would be an improvement. For two of the mitigations, I have these specific comments: I6-12

11) The DEIR states "The research and BACI testing of new wind technologies as a means to understanding and reducing avian impacts is a recognized form of avian impact mitigation."
This mitigation benefit would be seriously reduced by replacing the proposed BACI (40 turbines) with the smaller Alternative 1 study (10 turbines).

12) Mitigation Measure BIO-11b: Compensate for the loss of burrowing owl (p. 3.4-55) reads: "Lands will be preserved on a 1:1 rotor swept area basis, with the amount of land preserved equal to the total rotor swept area of the proposed turbines." I6-13

I wonder if this is a reasonable amount of area for effective mitigation. References would have been nice. It might be worth noting in the DEIR that FloDesign has a 21.3 m rotor diameter (Fig 2-9, right before p. 2-9), or a radius of r =10.65 m, which amounts to a rotor swept area of 356 sq m per turbine (πr^2). Forty turbines would total to 1.4 hectare.

I6-13 cont.

Public Hearing Comments

The following transcript is a condensed version of the East County Board of Zoning Adjustments Hearing, December 19, 2013. The hearing was recorded, and then later, semi-transcribed. Therefore, this record is incomplete and not wholly accurate. Changes made to the original transcript include listing commenters and their affiliations and more clearly identifying each throughout as well as minor typographic corrections. Brackets indicate the "best guess" as to what was said in the recording.

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT
SAND HILL WIND PROJECT

Semi-transcription (approx. 98% accurate) from the East County Board of Zoning Adjustments Hearing, December 19, 2013 – Regular Calendar, Item 1, 1:30 p.m., Pleasanton Council Chambers.

Sandra Rivera, County Planner

Andrew Young, County Planner

Susan Swift, ICF International (ICF)

Larry Gosselin, East Bay Zoning Authority (EBZA)

Jon Harvey, East Bay Zoning Authority (EBZA)

Andrew Young, County introduces the EIR.

Susan Swift, ICF presents summary of the EIR.

Questions from EBZA

Gosselin, EBZA (@ 0:27:00? on recording) – question re avian validation study, understand it began in 2012, yet what's been offered to us is a draft of the study, so if the study is in progress, why don't we have the study protocol?

Sandra Rivera, County: (@ 0:28:01 on recording) It should be included in the appendices.

Larry Gosselin, EBZA: Again, I believe it was labeled as "draft" – the question is, why do we have the draft to evaluate rather than the final study protocol if it's being implemented?

Sandra Rivera, County: So the grant that was issued to Sean Smallwood – and the operators are here also, so they can clarify if I've misstated anything – but the study that Sean Smallwood had submitted for grant approval, that got approved, so even though it says draft, that's actually the study design that was approved by CEC and then tweaked a little further after SRC had provided some input as well.

Larry Gosselin, EBZA: Okay.

Sandra Rivera, County: So that would be the program he's conducting right now. And it's preconstruction.

Larry Gosselin, EBZA: So would it be possible to include the final protocol in the final EIR so that that's available for public review? The reason I ask is because that's to provide the foundation for future mitigation.

Sandra Rivera, County: Susan, if you can clarify, this draft is actually what's occurring….

Susan Swift, ICF: Right.

Sandra Rivera, County: Right. So in terms of the final, I think what's next would be the final report, the outcomes of the study is what you might be looking at. But the study design, even though it says draft, this is what's actually taking place now. So it's the final, if you want to look at it as what's being implemented.

Larry Gosselin, EBZA: Okay. But in that draft Dr. Smallwood asked for specific questions to be answered before he began the study. So we don't know the answers to those questions.

Sandra Rivera, County: Right. Exactly.

Larry Gosselin, EBZA: But you say that the answers are out there.

Sandra Rivera, County: The study's not completed, so that's why.

Larry Gosselin, EBZA: I understand. But he had questions regarding the actual protocol of the study. So if he went to the Scientific Review Committee and he said, "I need you to respond to these questions before I begin the study" and those responses to the questions aren't included. PH-1

Sandra Rivera, County: I see what you're after.

Larry Gosselin, EBZA: So I'm interested in seeing responses to this, to the study. And there were issues regarding controls that were brought up in the study and so I'm curious and the public is curious about receiving as much information regarding the proposal as possible. So if there was in fact a final study protocol that was produced, that was approved someplace, that'd be great. On the other hand if the study protocol was done much the same way as EIRs, with first a draft study protocol is submitted and then questions were received, then some of the questions, the answers to the questions would make up the final protocol, then having that in print would be appreciated. PH-1 cont.

Sandra Rivera, County: Okay.

Larry Gosselin, EBZA: And then the other thing – but, this is a comment rather than a question, so okay. Great. Thanks.

Jon Harvey, EBZA: I had a couple questions. The acronym BACI, what does that stand for? PH-2

Andrew Young, County: It's before-after control impact study design. You'd see the term, the phrase BACI methodology or a BACI study design it refers to a methodology for comparing conditions before and after.

Jon Harvey, EBZA: Okay. And then, will there be, this was touched on earlier, will there be a separate EIR for the full repower project later? PH-3

Andrew Young, County: No, not necessarily. The idea would be there would be a supplemental or an addendum depending on the results of the validation study and also what the final mitigation measures are and if we're able to determine that the subsequent application is adequately described in this draft EIR or, and/or in the final EIR. So, not necessarily a full-blown EIR for the full repower.

Jon Harvey, EBZA: Okay, so maybe in other words to the extent that this material is valid for the full project you would use this material and with an addendum if it proves to be maybe something very different than it could possibly require. There's not a process like this for the PH-4

whole project where people would be able to comment on scope and then comment on the EIR itself, or not on scope just on content. PH-4 cont.

Andrew Young, County: Well, at an addendum level there's a limited amount of scoping involved. A supplemental EIR involves a little more opportunity to shape the scope of the analysis.

Jon Harvey, EBZA: Okay. And I'm sure the applicant can answer these questions later but just for my own, right now, this new turbine, there's concentric shrouds. Is the outside one fixed and the inside one fixed as well, or does the inside one move?

Andrew Young, County: Yes, they are both fixed.

Jon Harvey, EBZA: Okay. And then the blades spin within the inside turbine?

Andrew Young, County: Right.

Jon Harvey, EBZA: Have these been installed anywhere else before or is this the first?

Andrew Young, County: There's one in San Bernardino County. We have a photograph in the EIR of that installation.

Jon Harvey, EBZA: That's the one turbine?

Andrew Young, County: That's a single turbine. The one that is on the slide, it is the one installed in, I think, Boston Harbor.

Jon Harvey, EBZA: Okay. But it's not in production anywhere yet, this would be the first kind of production environment?

Andrew Young, County: Large deployment. I think the applicant did describe another deployment that is in process.

Sandra Rivera, County: Peter, do you want to add to that?

Peter Pawlowski, Ogin: Sure. Should I go up to the microphone?

Andrew Young, County: Are you ready to take questions for the applicant?

Jon Harvey, EBZA: That partially answers it, and then we'll be able to open the public hearing and we can opine more on that. PH-5

So if I understand it correctly, the project contemplates one year minimum of avian mortality study as part of this ongoing, year one, with the potential for extending it to two years if the first year, if the one year doesn't, either doesn't produce conclusive data or there's some other driver.

Andrew Young, County: Correct. Those are components of what we're calling the APM, the applicant-proposed mitigation measures.

Jon Harvey, EBZA: Okay. I'm done for now. Larry's got a question?

Larry Gosselin, EBZA: The other question I have is one of the proposed mitigations is roosting sites on PG&E poles and it seems like, well, let me ask you this way. Is there nexus between PG&E power poles offsite and this project? PH-6

Andrew Young, County: I think the Fish and Wildlife Service considers that to be so. You're talking about the golden eagle mitigation and retrofitting power line poles.

Larry Gosselin, EBZA: Yes. So they consider….

Andrew Young, County: It's a compensational type measure.

Larry Gosselin, EBZA: Alright. But from a planning perspective and an environmental review perspective the PG&E power poles are a separate project, they're not part of this project in any way. PH-7

Andrew Young, County: Correct. However, there is a nexus in that the species being affected is the same one that would benefit from the retrofits.

Larry Gosselin, EBZA: Right. On the other hand, if the wind industry is expected to compensate for, or provide mitigation for, the impacts of their project it could be argued that PG&E should be the one bearing the burden for the impact of their project, from a planning perspective. Would that be right also? PH-8

Andrew Young, County: Well, PG&E, if they were doing additional new transmission lines, then yes.

Larry Gosselin, EBZA: Okay.

Andrew Young, County: But as you know, the PG&E lines have been in place for many years and not to my knowledge being expanded.

Larry Gosselin, EBZA: So there's a _____.

Jon Harvey, EBZA: Okay. Is that it for now?

Larry Gosselin, EBZA: That's it.

Jon Harvey, EBZA: Okay. So we're going to open the public hearing and just remind folks that if you'd like to come up and speak, we'd love to hear from all of you, whoever wants to comment on the EIR, fill out one of these yellow speaker cards at the back and hand it to Nilma so we can know who you are and call people up in an orderly fashion. I have two right now. Art and Susie….

Adrian Dykzeul, Nearby Resident: Suzanne Dykzeul.

Jon Harvey, EBZA: Okay. If you'd like to come up.

Adrian Dykzeul, Nearby Resident: Good afternoon. Merry Christmas, too. Our concern is that here in the EIR which I've looked at the whole disk that Mr. Young sent to us, there was concern about adjoining and neighboring properties and roadways and I noticed one of our properties, next-door neighbors' properties, was in there but our property was not and we have a substantial investment in a residence and in our ranch that's not considered in the EIR, which would in fact be impacted by the Castello and Arnaudo properties. We sent a letter, dated on November 21, we weren't aware of the March 6th letter that, concerning, our understanding on that was that it was mostly a decommission and since there was no named addressed to the repower we didn't think that was a substantial issue. Obviously now it's changed. So we're concerned about that too. So with those issues, if you read my letter, I understand that we can't do much about this and when we built the house we had the windmills there and present which we were not 100 percent happy but we built our house in such a way to not have that seen, but these new wind machines, particularly six which would be on the northeast corner of the Arnaudo property would substantially impact our view. I'd like to consider those, I believe that would be for the next EIR, when the full powering came up to plan, so that's still plenty of time to consider that and I will probably send another letter to correspond and address that but I would really like to have this commission or the EIR address those issues as far as our values and our investment. And I think Mr. Young knows which property we're talking about. I've already talked to him about that. PH-9

Jon Harvey, EBZA: Okay. Is there anything else? We've got a couple questions up here for you.

Larry Gosselin, EBZA: Do you have any concerns other than view? Is the view the only concern that you have?

Adrian Dykzeul, Nearby Resident: (@40:00 on recording) – Well, it's like this. We built the house with those wind machines already in place. So, we accepted that, obviously. Otherwise we wouldn't have built the house. These other ones are quite a bit larger, taller, so my thought is to work with the environment, work with the individuals and the builders and everybody so they eliminate six from the northeast corner of the Arnaudo property, on the one wing that's a row of windmills there, then I would be very happy with it. Otherwise it would be a substantial impact to my residence and my property. PH-10

Suzanne Dykzeul, Nearby Resident: The aesthetics is our main concern. As my husband has said, that I was concerned about the noise but he said these, the design, will probably be less noisy than the ones that are there now which are not noisy at all as far as I'm concerned. But I think mostly our concern is the aesthetic value. PH-11

Larry Gosselin, EBZA: One of the things you should know is that we can take field trips as a group. You know, staff sets a schedule for that. Or individually, we can go out to the property.

Adrian Dykzeul, Nearby Resident: I would love that.

Larry Gosselin, EBZA: And, so, you should just be aware of that for the future. So if you want to work with staff on that, they can help you out, it'd be great. And, you know, your suggestion of specific mitigations is a big help to the process.

Adrian Dykzeul, Nearby Resident: Well, I know I can't remove all of them and eliminate all of them. I mean, that's not my thought, either. I want to work with them. I mean, I drive a Lexus RX, H vehicle, so it's a hybrid, and I have solar panels so I don't use any of the environmental power. So I'm very much in favor of wind machines to a certain degree, but not when they're right in front of my face.

Larry Gosselin, EBZA: Sure.

Adrian Dykzeul, Nearby Resident: That makes sense.

Jim Goff, EBZA: And I just wanted to clarify, the six that are in question right now are not considered in this particular review.

Adrian Dykzeul, Nearby Resident: From the, for the initial power, no. But in the full repower it will be. So that's why I'm trying to mitigate that aspect of it, since you're only going to not power every single one that you're removing, and my thought is if I can steer the six out of the way and get them somewhere else.

Jon Harvey, EBZA: Could you come up and just show us? I think I know which six you're talking about. Just circle around here. [Commenter shows EBZA members turbines. EBZA members discuss which turbines are proposed and their location.]

Andrew Young, County: Is it five turbines and not six.

Jon Harvey, EBZA: Okay. Any more questions?

Larry Gosselin, EBZA: No.

Jon Harvey, EBZA: Thanks.

Adrian Dykzeul, Nearby Resident: Thank you.

Jon Harvey, EBZA: My next speaker is Juan Pablo Galván?

Juan Pablo Galván, Save Mount Diablo: Good afternoon, everyone, and thank you for the opportunity to comment on this project. So, I am the land use planner for Save Mount Diablo, located at 1901 Olympic Boulevard in Walnut Creek. We would just like to say we commend the research approach to the repowering and their use of existing infrastructure as is proposed during the initial repower for the project but we are concerned about some inadequacies in the draft EIR. PH-12

Firstly, there is no explicit assurance that absolutely no wind turbines will be constructed beyond Initial Repower if fatality reduction targets are not met. If the new turbines fail to meet the reduction targets, we strongly oppose the replacement of old turbines with new ones at a ratio that would be essentially one to one.

The EIR should include clear assurances that if fatality rates after initial repower are found to be similar or only marginally better than baseline fatality rates no additional turbine construction after initial repower may occur without an 80 percent reduction in the number of turbines installed during full repower. This reduction is similar to other repowering projects in the area. In addition, the best available science should be used to place the new turbines in locations that pose the least danger to birds and incorporate potential long term seasonal shutdowns into full repower. PH-13

We are also greatly concerned and opposed to the fact that there is no reduction target for golden eagle. The 100 percent reduction target referred to by Ms. Swift in her presentation is very good news to us, but still is news. Research confirms that the golden eagle has an unusually high population density in Altamont and there is evidence that wind turbine collisions have an important element in the decline in that population that may jeopardize its long term viability. While bird deaths due to wind turbines in the Altamont Pass have recently declined, to date, there is no evidence that these reductions are sufficient to ensure the long term sustainability of the golden eagle population in the area. Given these facts, we are surprised that the reduction target proposed for golden eagle is merely the baseline fatality rate. In other words, instead of reduction, the target is not to exceed the baseline fatality rate.

As the least abundant focal species, and the species whose local and regional populations may be most impacted by wind turbines in the Altamont Pass, the golden eagle should have the most ambitious reduction target of all focal species. A target of 80 percent below baseline golden eagle fatality rates should be adopted and a discussion of potential statistical difficulties and possible solutions related to this target should be included in the EIR. PH-14

We also oppose the inadequate 1 to 1 mitigation ratio for several biological resources for which resource agencies typically require a 3 to 1 ratio, including alkali seasonal meadow and special-status plant species. PH-15

In addition, all mitigation measures should include objective success criteria that allow the determination of whether mitigation has been successful or not and an adequate peer review of monitoring to determine whether success criteria have been met. And lastly, the EIR should include calculations of how the amount of rotor-swept area existing in the project area would change under Initial and Full Repower. Thank you. PH-16

Jon Harvey, EBZA: Thanks. Any questions?

Larry Gosselin, EBZA: Questions, yeah. You know, you, in just a few minutes, you provided us with background information that we don't have a clue as to the origin of and significance of. You've also provided us with a lot of solutions to problems that you've identified that you don't believe are adequately covered in the EIR. So I'm sure you recognize that this is a tough format for us to act on or even evaluate what you've said. So with that being the case, do you have any suggestions or thoughts about how we can best evaluate the testimony you've given today or

expand upon it so that we can make informed decisions regarding mitigation in the future? I think that's one of our tasks, is to mitigate, and we're certainly not a rubber-stamp board by any means. So again, with all that you've provided in this condensed form, how are we supposed to expand upon that and act on it?

Juan Pablo Galván, Save Mount Diablo: Sure. Well, first thing, and definitely most important thing, we will be submitting written comments probably tomorrow, totaling about 13 pages on the whole EIR, so it would definitely be worth reviewing those comments they have additional details and point to specific sections in the EIR. And I guess your question about the, how you guys can act on suggestions based on limited background I guess, you're just going on….

[multiple people speaking simultaneously]

Larry Gosselin, EBZA: Whoa, whoa, whoa, not my limited background. I'm referring to the limited presentation and not because you're not capable of more, it's just that the forum doesn't allow more.

Juan Pablo Galván, Save Mount Diablo: Sure. I guess the only thing I can refer you to is the EIR itself, if you want specific sections and stuff, definitely refer, contact me and I can point to what sections I'm talking about when I'm making these specific comments.

Larry Gosselin, EBZA: Okay.

Juan Pablo Galván, Save Mount Diablo: That sort of answer your question?

Larry Gosselin, EBZA: Yeah.

Juan Pablo Galván, Save Mount Diablo: Okay. Thanks. I don't have any charts or anything, sort of a presentation.

Larry Gosselin, EBZA: Completely understood.

Juan Pablo Galván, Save Mount Diablo: I thought I had only three minutes.

Larry Gosselin, EBZA: That's exactly right.

Jon Harvey, EBZA: Okay. Thank you.

Juan Pablo Galván, Save Mount Diablo: Thank you.

Jon Harvey, EBZA: (@ 0:48:00) That's my last speaker card. Is there anybody else that wishes to address the Board or air concerns or questions about the EIR at this point? Okay, if, with that ….

Larry Gosselin, EBZA: The applicant?

Jon Harvey, EBZA: No they're not getting up. I guess if we have questions from the applicant, we'll raise specific questions and reopen the public hearing later. So we'll close it for now and have more discussion, and questions, further questions for staff?

Larry Gosselin, EBZA: Should we start the questions?

Jon Harvey, EBZA: I've got one burning question.

Larry Gosselin, EBZA: Okay.

Jon Harvey, EBZA: Given the background of, the data, and the statistical analysis that's been done on the Altamont, I know the environmental, Scientific Review Board struggled drawing conclusions with years, consecutive years of studying, the data wasn't always, as it unfortunately is, not always really clear. And I'm struck that the plan here is to take one year of data and effectively prove, as proof of technology. It just seems so minimal.

Sandra Rivera, County: The SRC did review this and they were well aware of our many years of study. And the one year I think for the most part will include more behavioral study and more intervals in terms of that type of monitoring and the operators are here or, the applicant is here, to answer maybe some of those questions that may have come up with regard to that but largely it would be that there's more intense monitoring that's going to occur during that period of time, even though we understand that it might be some seasonal population changes, and to take that into account when you finally get to your analysis. I think they'll have to all be compensated, in some way, statistically, for the one year plus the greater, the intensity of the monitoring, and they may come up with different analysis.

Jon Harvey, EBZA: So who determines, at the end of the one year, whether there's statistical significance and whether more study needs, you know, a second or third or fifth year, needs to happen? Who makes that decision? SRC?

Sandra Rivera, County: No, there are applicant conditions, APMs, applicant-proposed mitigation. So, there's some thresholds that were stated there, and with those thresholds in mind, that would be what you'd be gauging the results against.

Jon Harvey, EBZA: And how are those reviewed and vetted, those results?

Sandra Rivera, County: Well the study is being completed by Shawn Smallwood, and that's part of the CEC grant, so that data will be public through that grant process and that data then can be analyzed further, I mean, if they're going to repower, we're going to have to analyze it again or take a look at the results to get to the next environmental review for a full repower project.

Larry Gosselin, EBZA: And so all this is conditions essentially, right? So ultimately this Board has authority over those conditions unless our decisions are appealed. So we can either be making those decisions as a board or else deferring decision making process to the Director of Planning. Is that correct?

Sandra Rivera, County: As it relates to the Initial Repower? And as well as the Full Repower, that's true.

Jon Harvey, EBZA: Yeah, I'm having some trouble, as I'm sure many of us are, separating the application for the project from the EIR. They're in some ways inextricably linked.

Larry Gosselin, EBZA: Yeah, I think that was the intent of the presentation.

Jon Harvey, EBZA: Yeah. I also noted, as one of the speakers did, that the EIR seems to, to me kind of reads like an investment pro forma. It's all about what occurs if things go well. It doesn't address, at least in my mind adequately, what happens if things are sort of uncertain or unclear, or if things don't go well in terms of mortality rates or noise or any of the other potential impacts. Is the EIR, is it reasonable to ask that the EIR elaborate more on what happens if the data's not conclusive or the mortality rates are the same or worse?

Sandra Rivera, County: We have a portion of, when it doesn't meet a certain threshold, what the next actions are, supposed to be taken. That's the mitigation, that's the applicant-proposed mitigation. So when the results of the avian study come out and they don't meet 80 percent or whatever the percentages are, I don't remember what they are, then they'll either have additional years of study to determine if this is adequate data or they'll do some other action in terms of either wintertime shutdown or, I mean, it's in there as mitigation, as part of the applicant-proposed mitigation, should the study not be as clear.

Jon Harvey, EBZA: Right. Okay. So I'll look at that a little more closely than I did the first time. And then, let's see, on the alternatives, I understand the environmentally superior alternative has to consider all of these different, all these different aspects, from cultural resources to noise

PH-17

to greenhouse gas. But if we were to look at it, if we were to look at it through a lens of just impacts on the four target species, and this would be a question for the consultants, would the avian mortality superior alternative, do you think it would be a different one or would you even want to hazard a guess? PH-17 cont.

Susan Swift, ICF: I think that certainly the factors of the other issue areas affected the determination there, yes. It's a tough call on whether or not that one would be greater or less in terms of the avian mortality and obviously there are fewer turbines, there are fewer terrestrial impacts. But if you look at these particular types of turbines, if they are found to be less impactful, so to speak, than the existing types, then one could argue that it would work the other way around. Brad did a lot of the avian study. Would that make sense? Was that about what you found?

Brad Schafer, ICF: Yeah, I mean the avian impacts were directly correlated with the number of turbines, so certainly.

Susan Swift, ICF: Yeah.

Brad Schafer, ICF: Certainly.

Jon Harvey, EBZA: And they're also pretty, I think, even with a multiplier, impacted by the high-risk locations. That's the one I would have guessed would have been the higher, I should say speculated, would have been the higher, would have been the superior alternative from the avian impacts. But, we don't really know, and obviously if we did the seasonal shutdown, well, they're not there to test, they're not there to kill, so we can't count them, at least in the case of the golden eagle. Okay, that's all I have for now. I'm sure Larry's got some questions.

Larry Gosselin, EBZA: Well I have comments. For the Board. Discussion for the Board.

Jon Harvey, EBZA: So….

Jim Goff, EBZA: I've got a simple question. I'd kind of like a layman's description of the new turbine, why it's being chosen, and any background that, you said the picture was from the Boston Harbor. Any background information as to why we're here with this turbine. PH-18

Jon Harvey, EBZA: In the Altamont.

Jim Goff, EBZA: In the Altamont, yeah.

Sandra Rivera, County: I would leave that for the applicant to say, because that would be their description of why they think their technology is a good technology and possibly bird friendly. So, we can talk about that a little later.

Jon Harvey, EBZA: Okay. Well, we can ask them right now. They don't have to come up if they don't want, but would the applicant be willing to come up and tell us, maybe answer Member Goff's questions and give us a little background?

Peter Pawlowski, Ogin: Sure. Hi, my name's Peter Pawlowski and I'm with Ogin. We manufacture a shrouded wind turbine which has a higher energy, has higher conversion of wind energy to electrical energy as a result of the shrouds, which creates a mixture from smooth air to turbulent air behind the turbine, which allows for a greater, or less resistance at the rotor plane. And the reason that we've chosen to be here in the Altamont is to test the avian-friendliness of the turbine. There's a white paper and a theory as towards why the turbine itself is more avian friendly and has the potential to reduce bird impacts. However the only way that to actually test that theory is to be in one of the most heavily studied areas with avian impact with respect to wind turbines and test the equipment in this region so that we can generate results.

Jim Goff, EBZA: So this is brand new, is what I'm getting out of this. There's really, there's not a whole lot of them everywhere. PH-19

Peter Pawlowski, Ogin: So there's currently one wind turbine located in Boston Harbor just outside Logan International Airport and there's another actually located just outside of Rosamond in Kern County, and then additionally later in this year we anticipate some more going into Kern County. The technology itself, the tower itself, is similar to a traditional wind turbine tower. There's very little difference in that. The generator, the blades, everything except for the static shroud located around the blades itself, is in fact very traditional technology for wind energy.

Jim Goff, EBZA: Okay. I also wanted to know, since now we have a shroud around the blade, from a simple point of view, what's there to keep it, a guard on it from getting a bird in there? Or is that going to cause more fatality just for the fact there's now a screen, for better words. PH-20

Peter Pawlowski, Ogin: So the theory behind the research is that you'll have a decrease in bird strikes because you'll have less angles of entry into the rotor plane and certainly we can look to provide additional information to the County and make sure that Dr. Smallwood's thoughts are clearly conveyed in the final EIR.

Jim Goff, EBZA: I'm not sure if I got that. I'm just looking for a reason why or why not we can't put a fan guard on there.

Peter Pawlowski, Ogin: I'm not…

Jim Goff, EBZA: Chain link fence, even though I know that won't work.

Peter Pawlowski, Ogin: I'm not an engineer and I'm certainly not a biologist so I'm not the appropriate person to answer that question. I don't know the impacts aerodynamically. I can't speak to whether or not that would provide any benefit to reducing avian impacts.

Jim Goff, EBZA: Okay.

JH: And then, I had a question. Is there, there's a number of proposed mitigations but one I didn't see was, on the one hand, the shroud makes the wind turbine more visible. It seems logical that there may be, and there's fewer entry points as you pointed out, but it also seems possible that birds might see that and see this fixed platform and these tie rods and choose to perch or live there. Are there any mitigations proposed to prevent that from happening? I'm imagining that you took things to keep pigeons from perching in places but is there, has that been contemplated at all? PH-21

Peter Pawlowski, Ogin: I can't speak with absolute certainty. I do know that the machine itself which is located in Boston Harbor, which obviously has a large number of seagulls and pigeons in the area, does have, it's not designed to allow for ease of building a nest, or access. Also the machine itself does rotate so while the mixer-ejector is static it rotates in this direction, so it is a moving object and we have not seen any issues with that nor has that been raised as a part of any biologists that have looked at it. But I'm not a biologist so I cannot answer that.

Jon Harvey, EBZA: Okay.

Larry Gosselin, EBZA: Is the white paper available to the public? Would you like to enter it into the public forum to provide background?

Peter Pawlowski, Ogin: I believe it's a part, it's the basis of, the white paper is included in the study design it's the theory as to why it may be more avian friendly. I know it's been submitted to the SRC but we can make sure that it's available to the County. We have certainly presented it to the public before.

Larry Gosselin, EBZA: Okay. Super. And you mentioned that you're not a biologist but did you have a biologist review the study protocol or make comments regarding the potential sample size that can affect the future direction of your project?

Peter Pawlowski, Ogin: So, certainly Dr. Smallwood is a biologist who designed the study. It's been reviewed by the Scientific Review Committee which I believe is composed of biologists.

Larry Gosselin, EBZA: Right.

Peter Pawlowski, Ogin: As I understand it the study was circulated both at the state level for review for receiving the grant from the California Energy Commission, it's been circulated out to U.S. Fish and Wildlife Service, California Departemnt of Fish and Wildlife, and multiple NGOs, and had been out for public comment more than a year before the grant was provided, so as I understand it it's received substantial biological review.

Larry Gosselin, EBZA: So Dr. Smallwood's salary is being paid by you?

Peter Pawlowski, Ogin: Uh, no. That's not the case at all. Dr. Smallwood receives a separate funding from the California Energy Commission and we also provide funding, but his report and evaluation is independent of us.

Larry Gosselin, EBZA: Okay. So then you haven't had a biologist that represents your interests review the protocol?

Peter Pawlowski, Ogin: I don't believe we've, we don't have an in-staff biologist and I don't believe we've hired a consultant specifically to review it. I think we've relied primarily on the independent review that's part of the public forum.

Larry Gosselin, EBZA: Okay. That's it for me.

Peter Pawlowski, Ogin: Okay. Are there any other questions? Thank you.

Jon Harvey, EBZA: Thanks. Okay, more discussion?

Larry Gosselin, EBZA: Yeah. There is a lot of weight that's been placed on this avian validation study and I think it is difficult to review with the information that we have available and it's going to be difficult to use it solely as a resource for mitigation that extends into the future and so I'm concerned that we set ourselves, or set the public that we represent, on a track that may be somewhat similar to the track that's existed in the previous decade, which is that if a protocol is laid out for evaluating the mitigation to this project and the Altamont that moves forward with not a whole lot of public input or review. And so I'm not saying that, at any particular time, that the project should be significantly changed in the future, but there is a limitation to adaptability of mitigation based on new information that could become available through the public review process. So, as an example, what we have here is a [concurrence?] of a behavioral study with a mortality study, and typically observational behavioral studies occur over extended periods of time in order to receive valid information. And one of the most graphic examples of this is the chimpanzee studies that were initiated by Jane Goodall that took several decades to recognize that chimpanzees will attack one another with intent to killing and consuming chimpanzees in other tribes. So that is just such a blatantly powerful behavior that took a remarkably long period of time to recognize. So I support Member Harvey's concern that we have this short period of time and on top of that there's a remarkably small population that could be impacted by this initial group of towers that are put up, which means that to the detriment of the applicant, if there happens to be a variancy of two golden eagles paying attention to one another more than they're paying attention to their environment, they could affect future power production for this project for a very significant period of time and so it moves in both directions. The benefit of green power could be significantly affected by the validation study that may not be of the scope to really answer the questions that we want

answered. So, over a decade ago when this BZA started dealing with mitigation up in the Altamont Pass, we recognized that there should be an ongoing review that's more open to the public and we started, we actually scheduled, the first review before the process was appealed to the supervisors and it eventually went to the court. And, considering the technology that's advanced in terms of mitigation for avian mortality, things like radar systems, and braking systems in towers, I think we should look at an expanded scope of mitigation that's beyond just turning on the windmills for 9 months and turning them off for 3 months, because that affects both production and may not be the best way to mitigate for the impacts of the birds. And that's just the project specific mitigation. You know, there's just so much for us to embrace that's well beyond the scope of the EIR and reflects the concerns of, or maybe responds to the testimony that we've received from Save Mount Diablo. There are also issues of offsite mitigation. There's been recent decisions made by national regulatory bodies to value the deaths of certain avian species, and so if there's been a value put on the species, then there may be a value that's transferrable to offsite mitigation for the enhancement of habitat in other areas. And I'm not saying that's the direction we should go, or that we need to go, it's just that it should be an option for consideration as new information becomes available to us. We're looking at making decisions that are going to extend well into the future ultimately and, based on my review of the way things have progressed over the last 10 years, if we get locked into a track, we're going to see just a glacial progression of mitigation strategies that are enacted from decisions that this Board's going to make over the next few months. And yet I don't think we should be locked into that. I don't think the public wants us to be locked into that. And I think for the benefit of the producers it would be good if we had the ability to be a little bit more adaptable and start encouraging resources that exist in the area, from Lawrence Livermore Lab or private industry, to get engaged with what's happening out here. And so what that leads me to is something that was done a long time ago, which is to start looking at the concept of workshops again to explore options for mitigation and to allow an expansion of testimony that came forward from people like the Audubon and I don't seen that from the perspective of slowing down the decision making process, I see it from the perspective of us meeting our obligation to engage the public and allow them to provide full testimony to the process rather than 12 or 15 page letters.

Jon Harvey, EBZA: Okay. As far as what we need to do today, which is to facilitate the public giving feedback and us providing feedback in terms of the adequacy of the draft EIR, is there anything we can…? Boil it down?

Larry Gosselin, EBZA: I can boil that down into one or two sentences.

Jon Harvey, EBZA: Yeah, because I think a lot of what I've said and what you've said is going to come up when we consider the actual application.

Larry Gosselin, EBZA: Right. I agree. So what I boil that down to is within the final EIR I'd like a discussion of the full range of mitigation possibilities suggested by staff and also the consultants. With regards to whether they'd be workshops, offsite mitigation, onsite mitigation, new technologies that are ever evolving, and I realize that can be a doctoral thesis, so I'm not asking for that, I'm asking for a quick review, an internet search, with a range of processes that we could engage in to evaluate the scope of mitigation that this BZA could become either engaged with or else defer to planning staff. PH-22

Sandra Rivera, County: And as it relates to this process that, I understand you'd be looking, you want to look at more options in terms of the mitigation.

Larry Gosselin, EBZA: That's correct.

Sandra Rivera, County: And there's only so many mitigation measures that were offered in this draft EIR.

Larry Gosselin, EBZA: I understand.

Sandra Rivera, County: So, we need to, if you have some specific ones, right now, that would be great to have because the comment period is closing, and so we don't trigger a need for recirculation during the final because new mitigation is being offered, it'd be best if we had as much information on what type of direction you have…are you understanding what I'm saying?

Larry Gosselin, EBZA: Yes.

Sandra Rivera, County: Okay.

Larry Gosselin, EBZA: What I'm specifically suggesting, and this may become even more vague and I guess that's an intent, what I would like is to have some workshops before we get to the approval process, to allow the public to address concepts of mitigation that can either be consolidated to the BZA or else be part of the BZA process.

Sandra Rivera, County: And…go ahead.

Larry Gosselin, EBZA: Right. So to be more specific, if a public hearing is required to have those workshops, I think that'd be fine if the other Board members were up for it. Or if it was preferred that the workshops be not part of the BZA public hearing process that'd be fine too. So those would be processes that I'd hope staff would deal with.

Sandra Rivera, County: Yeah. If the workshops are possible we can go through the detail of these. I guess what I'm trying to get at is, there's the CEQA process and then there's the CUP process.

Larry Gosselin, EBZA: Right.

Sandra Rivera, County: And in the conditional use permit we can have certain conditions….

Larry Gosselin, EBZA: Right.

Sandra Rivera, County: But they aren't necessarily, for the most part we carry over conditions that come from the mitigation, from CEQA. But in the CEQA process, and the experts are here, too, and you can interrupt me if I've really got this messed up, but that, if the mitigation that is being presented in the draft EIR is what we're reviewing now and that's what's been analyzed, as, making a determination as to whether it's avoidable or not, if you come up with new mitigation that's not been analyzed in the CEQA document and call it mitigation when the project comes up, your CEQA document needs to get recirculated.

Larry Gosselin, EBZA: I understand. I recognize it's quite a quandary that we've presented, so right now what I believe we had offered to us is turning on the light switch and turning off the light switch on power production across the Altamont, changing types of wind generators that are put in, or else putting in roosting sites on somebody else's project. So that's not a broad enough range for me to feel good about making decisions when we get to the permitting process and the conditioning process. So if the consultants and staff …

Sandra Rivera, County: … can expand that.

Larry Gosselin, EBZA: … can expand that, in the broadest sense possible, to lead us to the next 30 years or whatever, so that we're able to serve the public's interest and the public's concern into the future that would be great. And whether we do it as conditions or do it as part of the CEQA process, I think is up to your wonderful professional expertise. But I don't want to be locked into those three options. I just don't think it's broad enough.

Sandra Rivera, County: Okay.

Jon Harvey, EBZA: I guess I'd like to see, if possible, the attention on wind farms has been mostly on avian mortality and it's, at least from my perspective, secondarily, visual, and on this application there's probably going to be a little more input on visual because of the shrouds. But equal or more on the avian mortality because we're all really hoping that this new generation of towers are going to be less lethal. And so if in the EIR we can maybe drill down, maybe focus on that a little bit more in the discussion. I'm looking at the table of, showing all the different alternatives. It doesn't really jump out in any of the alternatives which is better or worse from an avian mortality perspective. I understand why Alternative 1 is chosen as environmentally superior. On the other hand, only testing ten units for one year probably has much less likelihood of producing meaningful information to make a really good decision based on it. So I probably ultimately wouldn't be in favor of that anyway just for that reason. So I think if there could be some discussion or a table that showed, just focused on avian mortality, how these alternatives would play out, I think that would be helpful. And then just a comment for the applicant, I think you know, speaking for myself, I would love to see this application be successful, and success for a study means it's either a clear pass or a clear fail, and I'd also like to see it pass, but the only way we're going to get there is if we get good meaningful early public input and we get solid data to draw some conclusions on a year from now or years from now.

The last question I had was, just so I understand what the role of the EIR in this, if the applicant had proposed, and I'm just going to make the example really gross, had proposed we're going to do a one-month study, and if that's not good enough, we'll do a two-month or a three-month study, would the EIR still just get written that way? Or is there some ability to say well, that's probably not long enough, it needs to be at least a year, or maybe, as I'd indicated, maybe it needs to be based, a baseline needs to be multiple years. How does that get reconciled?

Sandra Rivera, County: I wouldn't typically think you'd be able to get very far in the scientific world, I mean, they have, in this case we didn't have to consider that because it did get vetted through the grant process at the state and then even through our SRC, that enough eyes evaluated it so that we didn't have to consider that at the staff level, say go back and come up with some other numbers. There was a process that the applicant took as well as what the County, had taken through the structure that we already have in place, so we didn't have to consider that.

Jon Harvey, EBZA: Okay. Any other comments?

Larry Gosselin, EBZA: Yeah, I had a comment regarding that last exchange. If, you know, there was a document that was presented to the BZA that was about this size over ten years ago, twelve years ago. It was considered to be kind of a foundation document that was put together by a couple authors who've stayed involved with the process and the Attorney General actually attacked my county and the staff that serves us so well based on information in that document. About a year later, the very same authority that is making decisions about the process now came forward and said decisions shouldn't be made on that very thick document. And that statement was relatively obscure but in the public forum and nobody came back down to the County to apologize for saying "Let's change directions." So I think, I know me, personally, I have a concern about deferring to anybody at any level. I believe that this staff and the population that we have in the Bay Area here, and this BZA, can in fact make decisions that are based on the information that comes before us without deferring to decisions that are made by outside groups. And so, certainly I value their opinion, and I value their input, and I think it's important, but in the same way that the consultants have opinions or presentations that I value and staff has those, and members of the community and the applicants have opinions and decisions that I value. I value all of those. So I don't want to put more weight on a state decision just because they're the state. So.

Sandra Rivera, County: Understood. It was more that we felt comfortable because there were enough eyes on it.

Larry Gosselin, EBZA: Yeah, I know.

Jon Harvey, EBZA: Fair enough. All right, is there anything else anybody would like to add? Okay.

Jon Harvey, EBZA: I'm going to reopen the public hearing, there's somebody who'd like to speak.

Adrian Dykzeul, Nearby Resident: I just want to give a reflection on a direct experience on my property. Back in about 2000, I had my power line in, it was before my house was built, and I noticed that a red tailed hawk was hanging from the power line that came over across the canal that serviced a sump pump to keep the canal dry underneath because Mountain House Road was a fill for the aqueduct. So anyway, I called PG&E, and I stated, "Hey, there's a hawk on my power line coming into my property." My own power line is underground 3,000 feet from this location. And I happened to be off the day they came out to pull the bird off the power line. And he said, "Why did you call us?" I said, "Well, I was concerned for my operation as well as my freezer full of meat," and whatever else I had going on. He said, "You shouldn't have called us because what would've happened if it fallen off or caused a short we would have handled it right away but," he said, "Since you called us, because the way the wind area is considering bird deaths," he said, "We have to report that to the wind area, because it really doesn't matter if the bird dies from the wind machine, a car, another bird fighting, we have to report that and that gets counted against the wind area." So that tells me that to a certain degree, that all these wind bird deaths are not considered exactly deaths from the wind machines but in the wind area. So with that said, you could substantially say if I was a betting man once these new wind machines came off, they actually attributed bird deaths to wind machines and obviously that went down, you could substantially state that your percentages were going down so therefore the wind machines were a benefit to the birds. So that's all I want to say. Thank you.

Jon Harvey, EBZA: Thanks. All right, I don't have anything else. So there's … not taking any action on this item. We've received your comments.

Chapter 3
Responses to Comments

This chapter presents the County's responses, in compliance with State CEQA Guidelines Section 15088(a), to the comments received on the draft EIR (see Chapter 2, *Comments*). Where appropriate, draft EIR text changes associated with individual responses are described, referenced, and included in Chapter 4, *Draft EIR Errata*. These responses consist of clarifications, amplifications, or insignificant modifications to the draft EIR, as allowable by State CEQA Guidelines Section 15088.5(b). The responses do not significantly alter the project, do not change the significance conclusions of the draft EIR, and do not result in a conclusion that the project would result in significantly greater environmental impacts.

Responses to Agency Comment Letters

The responses to agency comment letters are presented below. Numbering of responses corresponds to the numbering of letters and individual comments in Chapter 2, *Comments*.

Responses to Comment Letter A1—Contra Costa Water District

Response to Comment A1-1

The commenter summarizes the proposed project. No further response is necessary.

Response to Comment A1-2

The commenter indicates that CCWD owns the former Mountain House Golf Course site, which is conservation property, as well as the property that houses the existing Sand Hill Wind project substation. The subject CCWD property is immediately east of the Ralph property and north of the Pombo parcel, and does not fall within the project area. As indicated in Chapter 2, Project Description, of the draft EIR, project activities would occur within the parcels listed on Table 2-1, Parcels and Turbines Included in Repower Project. As noted in the text on page 2-7, the Full Repower would occur within the same project area as the Initial Repower. The commenter correctly observes that no changes to either the existing Sand Hill substation or existing transmission lines are proposed as part of either the Initial Repower or the Full Repower.

Response to Comment A1-3

The commenter expresses concern that decommissioning of existing Sand Hill turbines and their replacement with new wind turbines could have an adverse effect on the CCWD conservation property, and indicates that permission from CCWD must be obtained before any project activities take place on CCWD conservation property. The property does not fall within the project area and neither access nor project activities are anticipated. Please see also response to comment A1-2.

Responses to Comment Letter A2—California Department of Fish and Wildlife, Bay Delta Region

Response to Comment A2-1

The commenter identifies the authority under which the California Department of Fish and Wildlife bears responsibilities related to the proposed project. The County acknowledges the commenter's role as a trustee agency, and that a statement of overriding consideration does not alter the applicants' obligations as to the Fish and Game Codes.

Response to Comment A2-2

The commenter summarizes the proposed project. No response is necessary.

Response to Comment A2-3

The commenter summarizes the EIR's presentation of existing conditions for special-status wildlife species. Please see responses to comments A2-5 through A2-9, which address the commenter's specific concerns related to special-status wildlife species.

Response to Comment A2-4

The commenter summarizes the EIR's presentation of existing conditions for special-status plant species. Please see responses to comments A2-8, A2-10, and A2-11, which address the commenter's specific concerns related to special-status plant species.

Response to Comment A2-5

The commenter notes that the dispersal range for California tiger salamander is 1.3 miles, and that take may occur even with implementation of appropriate take minimization measures. The CESA regulatory section, page 3.4-5 of the draft EIR, states that California tiger salamander has the potential to be affected by the project and would require consultation with CDFW under CESA. Also, Mitigation Measure BIO-5 requires that, if all potential direct and indirect impacts on California tiger salamander cannot be avoided, the Applicant will consult with USFWS and CDFW under the ESA and CESA before construction can occur.

Response to Comment A2-6

The commenter notes that the EIR states that San Joaquin kit fox could be affected by the project. The commenter further notes that take may occur even with implementation of appropriate take minimization measures. Mitigation Measure BIO-10 states that implementation of avoidance and minimization measures could result in take and would require consultation with USFWS and/or CDFW under ESA and/or CESA.

Response to Comment A2-7

The commenter notes that the draft EIR states that no Swainson's hawk fatalities have been detected within the project site between 1998 and 2009 and during 2012. This statement is correct. The commenter also indicates that one Swainson's hawk fatality has been recorded in the APWRA, during the 2005-2006 survey season. This statement is also correct and clarification has been added to the EIR. Please see Chapter 4, *Draft EIR Errata*, of this final EIR for the clarification, which does not affect any of the impact conclusions in the EIR.

The commenter further states that the final results of the avian validation study could take up to three years (assumed to refer to the potential for two additional years of observation of the Initial Repower) and therefore the potential impacts of the Initial Repower on Swainson's hawk and other raptors is unknown at this time. While the commenter is correct that the avian study may not be completed for up to three years, interim results will be made available and the body of evidence suggests that the new turbines will have less impact on avian species than the old turbines. The County is required under CEQA to assess the impacts of the proposed project using the best available information. Waiting for the results of the Avian Validation Study is simply not an option in this case. Considering that the existing fatality rate for Swainson's hawk is zero within the project area based on numerous years of fatality monitoring, and effectively zero for the entire APWRA (one fatality record out of thousands of recorded bird fatalities), unlike certain other avian species, the potential for Swainson's hawk to collide with the new turbines is expected to be extremely remote, and therefore is not considered to be a potentially significant impact in the EIR. As shown in Chapter 4, *Draft EIR Errata*, of this final EIR, clarification has been added to page 3.4-54 of the draft EIR to further explain this conclusion. This clarification does not affect any of the impact conclusions in the EIR. The County also notes that CDFW has jurisdiction over the take of Swainson's hawk under CESA, as stated on page 3.4-5 of the draft EIR, regardless of the conclusions of the EIR, and that the Applicant would be required to apply for and obtain take coverage prior to any activity that would violate CESA.

Response to Comment A2-8

The commenter recommends an ITP for CTS, kit fox, and Swainson's hawk, and also recommends that a take authorization be requested for large-flowered fiddleneck if surveys confirm its presence and it cannot be avoided. The draft EIR acknowledges that state-listed species are known to be present in the study area. Additionally, page 3.4-5 of the draft EIR states that state-listed species have the potential to be affected by the project and would require consultation with CDFW under CESA.

Response to Comment A2-9

The commenter recommends the ITP application process for Swainson's hawk occur before surveys document mortality or injury, and also recommends additional mitigation measures. As noted on page 3.4-5 of the draft EIR, CDFW has jurisdiction over the take of state-listed species under CESA. The commenter recommends additional mitigation measures to reduce impacts of the project to Swainson's hawk to less than significant levels. As discussed above under response to comment A2-7, the County has assessed the potential impact to Swainson's hawk and has determined that there are unlikely to be collisions with turbines. Additionally, the available data indicates the effective fatality rate for the project area and overall APWRA is effectively zero. Considering this context, additional mitigation measures based on rotor swept area, as suggested by the commenter, are not appropriate because they are not commensurate with the expected impact.

Response to Comment A2-10

The commenter notes that since issuance of a CESA permit is subject to CEQA, the project EIR needs to include impacts, mitigation measures, and a mitigation monitoring and reporting program. The draft EIR, page 3.4-5, acknowledges CDFW's jurisdiction over species listed under the California Endangered Species Act. The draft EIR does identify impacts, mitigation measures, and a mitigation monitoring and reporting program as required.

Response to Comment A2-11

The commenter indicates that a LSAA may be required for the proposed project. The draft EIR, page 3.4-6 acknowledges DFW's jurisdiction over lakes and streams under the Fish and Game Code. Additionally, the draft EIR acknowledges that streams regulated by CDFW are present in the project area and the project may result in impacts which could require a LSAA. Furthermore, Impact BIO-3 on page 3.4-35 of the draft EIR explains that construction activities, particularly widening of access roads, associated with the proposed project may impact aquatic resources, including streams. Consequently, mitigation measures BIO-1d, BIO-1e, BIO-3a, BIO-3b, and BIO-3c provide avoidance, minimization, and mitigation to reduce this potential impact to a less-than-significant level.

Response to Comment A2-12

The commenter expresses support of renewable energy projects that avoid or minimize effects on native species and their habitats. This is not a comment on the adequacy of the EIR and no further response is necessary.

Responses to Organization Comments

The responses to organizations' comment letters are presented below. Numbering of responses corresponds to the numbering of letters and individual comments in Chapter 2, *Comments*.

Responses to Comment Letter O1—Scientific Review Committee

Response to Comment O1-1

The commenter requests that the EIR include a more substantive rationale for alternative selection, particularly Alternative 1, and that it describe the history of the avian study development and the sample size issues with the original 10-turbine study design. As indicated in Section 4.1, *Introduction*, of draft EIR Chapter 4, *Alternatives Analysis*, Section 15126.6 of the State CEQA Guidelines requires consideration of a reasonable range of feasible alternatives that could substantially reduce one or more of a project's significant environmental impacts while meeting most or all of its objectives. Please see pages 4-1 through 4-10 of the draft EIR for a lengthy explanation of the alternatives selection process.

Like the other alternatives, Alternative 1 was chosen because it represents a feasible option that could reduce one or more of the project's impacts while still meeting most of the project objectives. Pages 4-4 through 4-9 of the draft EIR describe the significant impacts of the proposed project considered in the alternatives selection process; these include impacts to aesthetics, air quality, biological resources, cultural resources, geology, hydrology, noise, and transportation. The smaller initial footprint and associated ground disturbance of Alternative 1 would, as shown in Table 4-1, *Comparison of Alternatives to the Proposed Project*, and discussed on pages 4-16 through 4-20 of the draft EIR, result in reduced impacts to several of these resources during the Initial Repower phase.

The Applicant initially considered Alternative 1 and explored it with the SRC and broader scientific community in 2011. After further evaluation by the SRC and the scientific community it was determined that a 10 turbine study was too small to produce sufficiently robust statistical data. Although the 10-turbine study (Alternative 1) would achieve some useful results and information, the applicant chose to expand the study to 40 turbines on the basis of resulting recommendations to

study a larger sample size. To accommodate the larger study the applicant purchased wind farm leases to use for the 40-turbine avian validation test and to fully repower.

Response to Comment O1-2

The commenter requests additional context be added to the methodology and assumptions to more clearly explain the process used to determine the environmentally superior alternative. Text has been added to the first paragraph of Section 4.4, *Environmentally Superior Alternative*, clarifying the methods used to determine the environmentally superior alternative. These clarifications do not affect any of the impact conclusions in the EIR.

Response to Comment O1-3

The commenter expresses confusion regarding information in Table 4-1 (page 4-33) of the draft EIR that indicates reduced biological impacts for Alternative 1 compared to the proposed project, indicates that the only significant biological impact due to the proposed project was BIO-11, and notes that the impact measured in terms of avian fatality rates are likely none to unknown, from a conservative assumption that the shrouded turbines would have fatality rates equivalent to current turbines. Table 4-1 is intended to provide a visual comparison all impacts (before mitigation, and whether or not they were mitigated to less than significant) of the proposed project to the various alternatives, not just the identified significant and unavoidable impacts. The table therefore summarizes the impacts of the proposed project in its entirety, not solely in the context of impacts to avian species. As the table is intended only to provide a visual summary, these impacts are described in greater detail within the text of draft EIR Chapter 4, *Alternatives Analysis*. Considering all impacts to biological resources, Alternative 1 was considered to result in less overall impacts to biological resources for the Initial Repower phase because it would involve the construction of fewer turbines during the Initial Repower and would therefore result in less ground disturbance and corresponding impacts to terrestrial wildlife and plant species. As shown in Chapter 4, *Draft EIR Errata*, of this final EIR, additional clarification has been added to Chapter 4, *Alternatives Analysis*, of the draft EIR. This clarification does not affect any of the impact conclusions in the EIR.

Response to Comment O1-4

The commenter requests clarification whether, under Alternative 1, the remaining 3 MW of existing turbines would be removed, replaced with repowered turbines, or continue operating as old generation turbines. As described in Chapter 2, *Project Description*, of the draft EIR, the current total generating capacity of the project site is approximately 25.4 MW and the proposed generating capacity at Full Repower would be 34 MW. Alternative 1 would consist of an Initial Repower representing 1MW, with the remaining 3 MW of existing turbines continuing to operate. The Full Repower under Alternative 1 would therefore result in an additional 33MW, for a total of 34MW under both phases. As shown in Chapter 4, *Draft EIR Errata*, of this final EIR, the text on page 4-16 of the draft EIR has been clarified. This clarification does not affect any of the impact conclusions in the EIR.

Response to Comment O1-5

The commenter requests definitions of dry weather (seasonal or daily), temporary (hours, days, weeks), the location of staging areas (as well as the level of staging), and the placement of new access roads. Dry weather and wet weather are defined in the second bullet under Mitigation Measure BIO-5 on page 3.4-39 of the draft EIR. In addition, the definition of temporary impacts on

page 3.4-28 of the draft EIR was expanded to clarify a one-year timeframe. This clarification does not affect any of the impact conclusions in the EIR. Bullet 6 under *Impact Assumptions,* page 3.4-27 of the draft EIR, states that staging would occur within one of the four designated staging areas, within the limits of construction for each turbine site, or on existing access roads. These staging areas are depicted as laydown areas on Figure 3.4-4a, b, and c. The third paragraph, *Temporary Laydown Areas*, on page 2-11 of the draft EIR, outlines the activities proposed for the laydown areas, including storage of turbine components, construction equipment, job trailers, and project construction materials. Please see *Access Roads*, on page 2-10 of draft EIR Chapter 2, *Project Description*, and bullets 7 and 8 of *Impact Assumptions* on page 3.4-27, both of which indicate that there would be no new access roads.

Response to Comment O1-6

The commenter indicates that the baseline avian fatality rates for the Full Repower, as described on page 3.4-27 of the draft EIR, are based on the existing fatality rates from the Monitoring Team (MT) but the baseline rates in the Smallwood report integrates Smallwood's data with the MT data to derive the baseline rates, and requests clarification of these seemingly contradictory assumptions. As described on page 3.4-27 of the draft EIR, the design of the Avian Validation Study requires the use of separate baseline fatality rates for the Initial Repower and for the Full Repower. The commenter is correct that Smallwood (2013) integrated his data and the MT data to derive baseline rates; however, the baseline rates provided in his report are for selected turbines with high fatality rates (i.e., those chosen as part of the Initial Repower). Rates for all turbines, at all risk levels, were not provided in Smallwood's report. Furthermore, limitations on the data did not allow Smallwood to estimate numbers or the rate for American kestrel, a focal species, or 19 other species of birds and bats. Based on these limitations, and considering that the Full Repower would span turbines at various risk levels, not just those with high fatality rates, the MT rates were used as the best available information to estimate potential impacts. Please see Chapter 4, *Draft EIR Errata*, of this final EIR for additional text that has been added to page 3.4-27 of the draft EIR to clarify these methods. Clarification of this information does not affect any of the impact conclusions in the EIR.

Responses to Comment Letter O2—Save Mount Diablo

Response to Comment O2-1

The commenter indicates support of local renewable energy sources and their associated reduction of air quality impacts and greenhouse gas emissions, and indicates general concern about the draft EIR. Please see responses to comments O2-2 through O2-27 below, which address the commenter's specific concerns.

Response to Comment O2-2

The commenter requests that the EIR include guarantees that preclude the Initial Repower and the Full Repower from being completed as proposed without meeting target avian fatality reduction rates, including a new target for golden eagle, reducing impacts on terrestrial wildlife and maximizing mitigations for the project. The draft EIR does include both Applicant Proposed Measures (APMs) and mitigation measures which include target fatality reduction rates. As the Initial Repower project is being proposed in part to test the turbine technology and evaluate its impacts on birds and bats, construction of the Initial Repower is necessary to evaluate the project's effects on birds and bats. The draft EIR also includes Mitigation Measure BIO-11d, applicable to the Full Repower, which allows the County to implement a variety of other measures, including

measures determined to be effective in the future, to ensure avian fatality rate targets are not exceeded. The mitigation measures in the draft EIR do therefore ensure that the proposed project will reduce impacts on wildlife species.

Response to Comment O2-3

The commenter expresses concern regarding the loss of golden eagles due to collisions with wind turbines in the Altamont Pass area and states that repowering provides an opportunity to reduce negative impacts to birds and other wildlife. The County agrees with the commenter that repowering projects offer an opportunity to reduce impacts to birds and other wildlife. The draft EIR includes the mitigation measures necessary to ensure that the proposed project will avoid, minimize, and mitigate impacts to wildlife species to the extent possible.

Response to Comment O2-4

The commenter requests assurances that no additional turbine construction associated with the Full repower would occur without substantial reductions in the baseline rate of mortality of the four focal species and that the County require implementation of winter seasonal shutdown on a long-term basis, if fatality rates after the Initial Repower are found to be similar or only marginally better than baseline fatality rates, with a 10% reduction suggested as a minimum threshold. This request in effect seeks to assure that reductions in avian mortality below existing baseline conditions are achieved, including by reducing the number of additional shrouded turbines to be built by 80%. However, CEQA and state and federal constitutional law require mitigation to be proportionate to the significant adverse impacts of a project over and above the environmental baseline, CEQA only allows mitigation of adverse changes to the baseline and does not authorize the County to require mitigation that improves baseline conditions. When an application for approval of a use permit for the Full Repower is submitted for review, it will be among the County's objectives to consider conditions of approval that could serve to ensure that substantially lower avian mortality rates are achieved. These conditions could include restrictions on the number of new shrouded turbines to be installed, additional micro-siting standards or selection of alternatives to the current project, such as using conventional repowering technologies. However, CEQA, the CEQA Guidelines and an extensive body of case law on this matter do not enable the County as the lead agency to impose mitigation measures through CEQA that would require the project proponent to achieve substantial reductions below a recognized baseline of existing environmental conditions.

The commenter further requests placement specifications using the best science available to reduce avian fatalities for the Full Repower. It should be noted that Applicant Proposed Measure 2 and Mitigation Measure 11(d) provide for mitigation such as micrositing and seasonal shutdown using the best science available, which largely consists of the results of the Avian Validation Study.

Response to Comment O2-5

The commenter expresses concern with the avian fatality reduction targets outlined in the Applicant Proposed Measures (APMs), specifically that for golden eagle, and requests that a target of 80% below baseline golden eagle fatality rates be adopted. The baseline fatality rate for golden eagle is 0.06 bird per MW per year. For the Initial Repower project, this rate equates to 0.24 eagle per year. Because it is impossible to impact only a portion of an eagle through a turbine collision, APM-2 further states that ANY eagle fatality in the third year term of the Avian Fatality Study, or in the event of continued study for one to two additional years under the APMs would trigger additional measures including pole retrofits as well as seasonal shutdowns. Therefore, the fatality reduction

target which triggers implementation of the actions in APM-2 (seasonal shutdown) is effectively anything above zero golden eagle fatalities (an effective 100% reduction target for the Initial Repower). The County believes this reduction target is protective of eagles and that the APMs and mitigation measures are appropriate to avoid, minimize, and mitigate impacts should they occur.

Response to Comment O2-6

The commenter requests that the EIR require a 3:1 mitigation ratio rather than the stated 1:1 ratio for several biological resources and indicates that all mitigation measures should include objective success criteria. The draft EIR identifies 1:1 compensation for waters of the United States, Swainson's hawk, and burrowing owl. This mitigation is consistent with the USACE no-net-loss policy for waters of the United States. The final compensation ratios for wetlands are driven by the need to obtain a permit for this impact. The compensation for Swainson's hawk is consistent with CDFW's *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California* (1994). Please see response to comment I5-11 regarding burrowing owl. The County also notes that compliance with the EACCS and other applicable regulatory regimes administered by CDFW, USFWS and USACOE concerning special status plants, alkali meadow habitat, and waters of the U.S., as identified in mitigation measures BIO-2, BIO-3c, BIO-9, and BIO-11b and as specified, along with success criteria and monitoring requirements, in the *Final Mitigation Monitoring and Reporting Program* (Appendix A of this final EIR), will ensure project compliance with success criteria and monitoring.

Response to Comment O2-7

The commenter requests additional information about the height and rotor-swept area of existing turbines on the project site. Figure 2-9, *Wind Turbine Comparison*, in the draft EIR identifies the height and rotor diameter of each type of existing turbine present in the project area, as well as those of the proposed shrouded turbines and a typical current-generation turbine. In addition, calculations of rotor-swept area for each type of turbine have been added to Figure 2-9 using the information noted above, as shown in Chapter 4, *Draft EIR Errata*, of this final EIR. Clarification of this information does not affect any of the impact conclusions in the EIR.

Response to Comment O2-8

The commenter requests information regarding the lease agreements between the project area landowners and the project applicant. The lease agreements are private contracts between the individual property owners and the wind turbine operators and are neither available for public review nor part of an environmental analysis under CEQA.

Response to Comment O2-9

The commenter indicates that his comments are focused primarily on the Full Repower rather than the Initial Repower. Please see responses to comments O2-2, O2-4, O2-11, O2-12, O2-13, O2-14, O2-15, O2-16, and O2-17, which address the commenter's specific concerns related to the Full Repower.

Response to Comment O2-10

The commenter summarizes the proposed project and indicates the reasons for Save Mount Diablo's interest in the project area. This is not a comment on the adequacy of the EIR and no additional response or change to the EIR is necessary.

Response to Comment O2-11

The commenter states that reductions in fatality rates below the baseline rates for each focal species does not ensure that fatality reduction targets, including the commenter's proposed 80% reduction target for golden eagle, have been met, and asserts that the EIR does not provide explicit assurance that no wind turbine construction would occur beyond Initial Repower if these targets are unmet. Please see responses to comments O2-4 and O2-5, which also address this concern. As discussed in those responses, obliging this request would represent an effort to require reductions in avian mortality below the existing baseline conditions. Because CEQA and state and federal constitutional law require mitigation to be proportionate to the significant adverse impacts of a project over and above the environmental baseline, CEQA only allows mitigation of adverse environmental changes over the baseline of existing conditions and does not authorize the County to impose mitigation measures that would reduce impacts to levels substantially lower than baseline conditions.

Response to Comment O2-12

The commenter requests that the EIR include assurances that, without substantial reductions in quantity of turbines and without using the best available turbine siting science to minimize avian impacts, no additional wind turbine construction would occur beyond Initial Repower if fatality reduction targets are found to be similar or marginally (less than 10%) better than the baseline rates. The commenter requests that special attention be paid to golden eagle fatality rates. Please see responses to comments O2-4, O2-5, and O2-11, which address these concerns. The County also notes that Applicant Proposed Measure 2 and Mitigation Measure 11(d) provide for mitigation such as micrositing and seasonal shutdowns based on the best science available, which largely consists of the results of the Avian Validation Study.

Response to Comment O2-13

The commenter requests that long-term incorporation of seasonal shutdown be considered in the event that the shrouded turbines do not achieve the avian fatality reduction targets. Please see responses to comments 02-4 and O2-11. Additionally, and as discussed previously, the County has assessed the Full Repower at a programmatic level and has included Mitigation Measure BIO-11d, which would allow the County the flexibility to implement additional measures to reduce the effects of the Full Repower on birds and bats.

Response to Comment O2-14

The commenter provides calculations of anticipated rotor-swept area and requests that the EIR include detailed calculations of projected changes in rotor-swept area in order to inform the Full Repower design. Please see responses to comments O2-4 and O2-11, which provide more detailed discussion of this concern. Please also see revised Figure 2-9 in Chapter 4, *Draft EIR Errata*, of this final EIR, for more explicit information regarding the rotor-swept area of the old turbines versus the new turbines. The total rotor-swept area of the turbines to be removed for the Initial Repower would be approximately 129,313 square feet and the total rotor-swept area of the Initial Repower shrouded turbines would be approximately 65,844 square feet. This represents a roughly 49% reduction in rotor-swept area. Additionally, similar to the Initial Repower, the Full Repower would result in a reduction in total rotor-swept area compared to baseline conditions. The total rotor-swept area of the turbines proposed for removal under the Full Repower is approximately 697,000 square feet, while the total rotor-swept area of the shrouded turbines to be installed would be approximately 479,000 square feet, a net reduction by over 31%. Furthermore, the total number of

turbines on the project site would decrease under the Full Repower from approximately 360 to approximately 300. Neither the Initial Repower nor the Full Repower should increase existing adverse effects on this criterion alone.

Response to Comment O2-15

The commenter summarizes other wind turbine repowering projects and requests an 80% or greater reduction in the number of turbines proposed for the Full Repower, as well as placement specifications using the best available science to reduce avian fatalities, in the event that the Initial Repower is not found to substantially reduce avian fatalities. Please see responses to comments O2-4, O2-5, O2-11, O2-13, and O2-14, which address these concerns. In addition, in response to this comment and comments from the SRC, we have added clarification to pages 3.4-26 and 3.4-51 of the draft EIR, including an additional discussion and comparison with the results of other repowering projects. These clarifications do not affect any of the impact conclusions in the EIR. Lastly, the County notes that an application for the Full Repower has not been submitted at this time, and the details of the Full Repower project therefore remain unknown. As the Full Repower is currently in a conceptual stage, and no application has been filed, a detailed analysis of design specifics such as additional access roads and micrositing would be speculative. The programmatic analysis in this EIR addresses the Full Repower to the fullest extent possible using currently available information.

Response to Comment O2-16

The commenter asserts that, in the event that avian fatality reduction targets are unmet, hazard-based micrositing should be mandatory rather than optional for the Full Repower, and that the number of turbines proposed for the Full Repower should be drastically reduced. Please see responses to comments O2-4, O2-5, O2-11, O2-13, and O2-14.

Response to Comment O2-17

The commenter recommends adoption of Alternative 3 if shrouded turbines do not meet fatality reduction targets, and asks that the EIR clarify the number of existing turbines, roads, and other infrastructure that would be necessary for Full Repower if new turbines are not placed in the same locations as old turbines, as well as their associated impacts. The commenter also notes that such micrositing would apply to subsequent CUPs rather than the Initial Repower CUP currently under consideration. The County agrees with the commenter that careful siting of turbines may be a good measure to avoid, minimize, and reduce effects of the Full Repower. Mitigation Measure BIO-11d, applicable to the Full Repower, requires the consideration of hazard-based micrositing. Please also see responses to comments O2-4, O2-5, O2-11, O2-13, and O2-14. The County notes, as in responses to the previous comments listed above, that the Full Repower project would be assessed in the future when and if an application is submitted to the County.

Response to Comment O2-18

The commenter indicates that Save Mount Diablo considers the fatality reduction targets outlined in Applicant Proposed Measures to be the stated fatality rate reduction targets of the project, and requests that they be described as the fatality rate reduction targets in both text and graphics through the EIR. The County is not establishing fatality rate reduction targets as part of this EIR. The applicant has indicated, and the County agrees with the supposition that the new turbines may reduce impacts to birds and bats. The applicant has proposed APMs which quantify several fatality reduction targets. It should be noted that these APMs are not mitigation measures imposed by the

EIR under the provisions of CEQA, but are voluntary measures that the Applicant anticipates will validate, together with the continuing Avian Validation Study, that the proposed shrouded turbines will reduce avian mortality compared to baseline levels

Response to Comment O2-19

The commenter states that the EIR does not include a reduction target for golden eagle and asserts that as retrofitting of electrical facilities occurs post-fatality it would not mitigate golden eagle impacts or influence Full Repower. The USFWS Draft Guidance recommends retrofitting hazardous electrical poles within the local area population as a method to offset eagle mortality. The County has investigated other mitigation options; however, as only the retrofitting option is quantifiable, it is currently the preferred mitigation method of the USFWS. Please also see responses to comments O2-4, O2-5, O2-11, O2-13, O2-13, and O2-18, as well as responses to comments PH-6, PH-7, and PH-8.

Response to Comment O2-20

The commenter states that the golden eagle should have the most ambitious fatality reduction target of the focal species and requests that a fatality reduction target of 80% below baseline be adopted for golden eagle. Please see response to comment 02-05, O2-19.

Response to Comment O2-21

The commenter expresses concern about the sustainability of the golden eagle population in the area and notes the difficulty in determining whether ongoing reductions in fatality rates are sufficient. The commenter requests that the EIR include a discussion of these difficulties, possible solutions, and the cumulative impact of all wind turbine operations in the region on golden eagle. The commenter suggests inclusion of mitigation measures such as hazard-based micrositing, long-term seasonal shutdowns, and reductions in the quantity of repowered wind turbines as part of the Full Repower. As indicated in Section 5.2, *Cumulative Impacts*, of the draft EIR, the assessment of cumulative impacts includes consideration of local and regional plans, proposed development projects, proposed non-wind energy projects, as well as existing and proposed wind turbine development in the APWRA. Cumulative impacts on biological resources, including golden eagle, are discussed on pages 5-7 through 5-9 of the draft EIR. Cumulative impacts on avian species are identified as significant and unavoidable on page 5-9. Please also see responses to comments O2-4, O2-5, O2-11, O2-13, O2-13, and O2-18. Applicant Proposed Measure 2 and Mitigation Measure 11(d) provide for mitigation such as micrositing and seasonal shutdown on the best science available, which largely consists of the results of the Avian Validation Study. The Avian Validation Study was carefully designed to facilitate comparisons that allow a n accurate determination of impact reductions.

Response to Comment O2-22

The commenter requests that the mitigation ratios in mitigation measures BIO-1c, BIO-2, and BIO-3c be increased to 3:1, and requests that mitigation measures include success criteria and an adequate monitoring period. Mitigation Measure BIO-1c on page 3.4-31 identifies a 2:1 ratio for special-status plants. The mitigation for alkali meadow (BIO-2) and waters of the United States (BIO-3c) is identified as a minimum 1:1 ratio, which would replace the lost habitat and is consistent with the USACE no-net-loss policy. Final ratios would be determined based on agency consultation. Please see page 3.4-34 and MM BIO 1(f) of the draft EIR for grassland restoration success criteria, and

Chapter 4, *Draft EIR Errata*, of this final EIR for clarifications to the wetland compensation performance standards and monitoring criteria of Mitigation Measure BIO-3c. These clarifications do not affect any of the impact conclusions in the EIR. Compliance with the EACCS and other applicable regulatory regimes administered by CDFW, USFWS and USACOE concerning special status plants, alkali meadow habitat, and waters of the U.S. will ensure adequate success criteria and monitoring.

Response to Comment O2-23

The commenter requests that mitigation measures include success criteria, such as survival rates for plantings, in order to ensure enforcement of mitigation. Success criteria for each mitigation measure are outlined in Appendix A, *Mitigation Monitoring and Reporting Program*, of this final EIR. Where applicable performance and success criteria have been identified for plantings (i.e., MM BIO-1f and BIO-3C [with additional text added]). Compensatory mitigation for wildlife is from the East Alameda County Conservation Strategy where success criteria are identified. For all other mitigation measures, avoidance and minimization strategies would be monitored through implementation of MM BIO-1e where a qualified biologist will ensure compliance of measures to protect sensitive resources near or within the construction area.

Response to Comment O2-24

The commenter requests clarification of the timing and extent of surveys for burrowing species, and questions whether preconstruction surveys for burrowing owl have already occurred and whether they followed CDFW protocol. For burrowing owl, Mitigation Measure BIO-8b related to surveys is consistent with CDFW's guidelines. Protocol surveys are not warranted. The text on pages 3.4-10 and 3.4-19 of the draft EIR, as well as in the additional clarifications to page 3.4-25 presented in Chapter 4, *Draft EIR Errata*, of this final EIR, indicates that burrowing owls have been detected on the project site and are widespread within this area, as documented by Shawn Smallwood. The purpose of the preconstruction surveys is to determine if active burrows are within the disturbance zone for work within a particular turbine site.

Response to Comment O2-25

The commenter asks why excavation of unoccupied burrows is necessary within the construction area, rather than temporary installation of exclusion devices to prevent reentry during construction. The commenter further requests that the EIR include mitigation monitoring criteria to determine successful implementation of mitigation for owls and other species. Measure BIO-8b requires establishment of a construction buffer for both breeding and non-breeding burrowing owls present at the site, and does not allow excavation of burrows during non-breeding season except for the purpose of maintaining an escape route for any animals that may be remaining inside the burrow following installation of one-way doors. Furthermore, and contrary to the commenter's assertion, the fourth, fifth, and sixth bullet points of Mitigation Measure BIO-8b include measures to minimize the chance of burrowing owl disturbance during the non-breeding season, including the installation of one-way doors at burrow entrances to prevent reentry. If the burrows are within the construction area they will likely be destroyed due to the movement of large equipment and construction of graveled laydown areas. Collapse of burrows prior to construction will ensure that owls are not able to gain access to closed burrows and be inadvertently killed. Where occupied burrowing owl habitat is affected by construction, Mitigation Measure. BIO-9, on page 3.4-47 of the draft EIR, states that this impact will be mitigated by providing mitigation land as described in CDFW's *Staff Report on Burrowing Owl Mitigation* (California Department of Fish and Game 2012:11–13). These guidelines

provide criteria for the lead agency to determine successful implementation. Please also see Appendix A of this final EIR, *Final Mitigation Monitoring and Reporting Program*, which outlines the mitigation monitoring and reporting process, including success criteria and monitoring actions for all mitigation measures presented in this EIR.

Response to Comment O2-26

The commenter requests additional information about the height and rotor-swept area of existing turbines to be replaced on the project site. Figure 2-9, Wind Turbine Comparison, identifies the height and rotor diameter of each type of existing turbine present in the project area, as well as those of the proposed shrouded turbines and a typical current-generation turbine. Figures 2-4 through 2-6 of the draft EIR indicate the specific turbines to be removed as part of the Initial Repower. Clarification of the number of each type of turbine proposed for removal has been added to Figure 2-9, as shown in Chapter 4, *Draft EIR Errata*, of this final EIR. As noted in responses to comments O2-7 and O2-13, calculations of rotor swept area for each type of turbine have been added to Figure 2-9 and to page 3.4-51 of the draft EIR, as shown in Chapter 4, *Draft EIR Errata*, of this final EIR. Clarification of this information does not affect any of the impact conclusions in the EIR.

Response to Comment O2-27

The commenter requests detailed information regarding the lease agreements between the project area landowners and the project applicant. As indicated above in response to comment O2-8, the lease agreements are private contracts between the individual property owners and the wind turbine operators and are not subject to environmental review under CEQA.

Response to Comment O2-28

The commenter summarizes previous comments about the proposed project and restates Save Mount Diablo's general statement regarding concerns about specific aspects of the proposed project. Please see the responses to specific comments O2-2 through O2-27 above.

Response to Comment O2-29

The commenter expresses support for wind energy and appreciation of the project's efforts to mitigate impacts. No response is necessary.

Response to Comment O2-30

The commenter makes a general request for additional detail related to existing use permits, technical descriptions of new turbines, mitigation ratios, mitigation measure success criteria, burrowing owl-specific mitigation measures, golden eagle fatality reduction target, and the relationship between fatality reductions and Full Repower. Please see responses to individual comments O2-2 through O2-27 above.

Response to Comment O2-31

The commenter reiterates a concern that the Initial Repower actually succeeds at reducing fatalities and emphasizes Save Mount Diablo's position that the Full Repower should not go forward without a high number of reduced fatalities. Please see responses to this commenter's individual comments listed above.

Responses to Comment Letter O3—Downey Brand LLP on behalf of New Dimension Energy Co., LLC (a subsidiary of Ogin, Inc. and parent company of Sand Hill Wind LLC, the project applicant)

Response to Comment O3-1

The commenter indicates that FloDesign Wind Turbine Corp., the company that designs and manufactures the shrouded turbines proposed for installation as part of the Sand Hill Wind Project, has changed its name to Ogin, Inc. during the draft EIR public comment period, and requests the final EIR reflect this change. All mentions of FloDesign in the draft EIR have been replaced with Ogin in the final EIR to reflect the company name change. Please see Chapter 4 of this final EIR, *Draft EIR Errata*, for these clarifications.

Response to Comment O3-2

The commenter requests that the following language be deleted from the project objectives on pages ES-5 and 2-5 of the draft EIR:

> Provide a comparison between the shrouded turbine design and current-generation, large-scale wind turbines, to determine if shrouded turbines would have a lower rate of avian mortality per MW of energy produced, as well as achieve greater energy efficiency and output.

The County acknowledges that this objective is not among the applicant's objectives. However, it is an informational objective of the County that would be enabled by the project. The text on pages ES-5, 2-5 and 2-6 has been deleted as shown in Chapter 4, *Draft EIR Errata*, of this final EIR. These revisions do not affect any of the impact conclusions in the EIR.

Response to Comment O3-3

The commenter requests specific clarifications to the language of APM-1 and APM-2 on pages 2-17and 3.4-52 of the draft EIR. The text on pages 2-17 and 3.4-52 of the draft EIR has been clarified as shown in Chapter 4, *Draft EIR Errata*, of this final EIR. These clarifications do not affect any of the impact conclusions in the EIR.

Response to Comment O3-4

The commenter requests clarifications to the description of the visual comparison between existing and shrouded turbines under Impact AESTH-4 on page 3.1-14. The first paragraph on page 3.1-14 has been clarified as shown in Chapter 4, *Draft EIR Errata*, of this final EIR. These clarifications do not affect any of the impact conclusions in the EIR, and the impact remains significant and unavoidable.

Response to Comment O3-5

The commenter states that Mitigation Measure BIO-1c over-mitigates the potential impact and requests that it instead require compensation for impacts to special-status plant species at a 1:1 ratio rather than a 2:1 ratio. The County disagrees and believes that the potential loss of a population of a special-status plant would not be offset solely through the preservation of another population of a special-status plant. In essence, a population would still be "lost." A compensation ratio of greater than 1:1 is therefore needed to mitigate the impact.

Response to Comment O3-6

The commenter requests that the first sentence of the first complete paragraph on page 3.4-52 of the draft EIR be replaced with specific text regarding the Applicant's objectives. The first paragraph on page 3.4-52 has been clarified as shown in Chapter 4, *Draft EIR Errata*, of this final EIR. This clarification does not affect any of the impact conclusions in the EIR.

Response to Comment O3-7

The commenter requests specific edits to page 3.4-54. The County appreciates the suggested edits to more clearly describe the potential impact and conclusions. Generally, the County believes the current description does describe the potential impacts and conclusions adequately; however we have modified portions of page 3.4-54, as shown in Chapter 4, *Draft EIR Errata*, of this final EIR, to increase its clarity.

Response to Comment O3-8

The commenter requests specific edits to Mitigation Measure BIO-11b. The County appreciates the suggested revision to Mitigation Measure BIO-11b and has made clarifications to the mitigation measure. Please see Chapter 4, *Draft EIR Errata*, of this final EIR. This clarification does not affect any of the impact conclusions in the EIR.

Response to Comment O3-9

The commenter requests specific clarifications to the third full paragraph of page 3.4-66. The County agrees and the third full paragraph of page 3.4-66 has been clarified as suggested. Please see Chapter 4, *Draft EIR Errata*, of this final EIR. This clarification does not affect any of the impact conclusions in the EIR.

Response to Comment O3-10

The commenter requests changes to the text of Mitigation Measure BIO-11d. The County appreciates the suggested revision to Mitigation Measure BIO-11b and has made clarifications to the mitigation measure. Please see Chapter 4, *Draft EIR Errata*, of this final EIR. This clarification does not affect any of the impact conclusions in the EIR.

Response to Comment O3-11

The commenter requests inclusion of text acknowledging compliance with state and local code requirements related to turbine siting within the text of Mitigation Measure GEO-1, and further clarification of design features within the paragraph titled "Design Requirements" on page 3.6-16. These clarifications have been incorporated as shown in Chapter 4, *Draft EIR Errata*, of this final EIR. These clarifications do not affect any of the impact conclusions in the EIR.

Response to Comment O3-12

The commenter asks the County to reconsider its conclusion that the construction impacts of the Initial Repower and Full Repower would be significant and unavoidable because they exceed BAAQMD's operational threshold of 1,100 MTCO2e. The County understands the merits of the construction GHG-analysis approach adopted by SCAQMD and suggested by Downey Brand LLP. However, the County has determined that there is validity to both the SCAQMD approach and the approach in the draft EIR. The County has decided that the existing approach in the draft EIR

represents the more conservative scenario, and, because of this, it is the preferred approach of the County. In addition, the need for best management practices (BMPs) is discussed to lessen GHG impacts associated with construction of the project, per Mitigation Measure GHG-1. It should also be noted that the BMPs would be required independent of the significance finding of the GHG impacts.

Response to Comment O3-13

The commenter disagrees with the County's conclusion that construction impacts of the Initial Repower and Full Repower on transportation and traffic would be significant and unavoidable, and requests that the County reconsider. Based on experience with other large construction projects and the types of effects incurred on local roads, the County Public Works Agency – Traffic/Safety division determined that implementation of a construction Traffic Control Plan (TCP) does not guarantee that construction-related transportation system and traffic safety concerns will be mitigated to a less-than-significant level. Therefore, although the mitigation measure will alleviate the potential traffic impact, due to the uncertainties surrounding construction-related traffic for both the Initial Repower and Full Repower, the County finds that the impact remains significant and unavoidable for the local routes, even with implementation of the mitigation measure.

In regard to the evaluation of the ECAP policies, the County determined that it was appropriate for the environmental document to evaluate the construction effects, providing a conservative evaluation. The analysis states that the potential impact would be reduced through implementation of the TCP mitigation measure, however, as noted above, in the County's experience, it cannot be guaranteed that a TCP would mitigate to the level of less than significant. Further, the analysis does indicate that once the project is operational, the long-term conditions would not be in conflict with the ECAP policies. The County does not find that a change in the level of impact for Impacts TRA-1 and TRA-1[F] is warranted.

Response to Comment O3-14

The commenter requests that the County change the significance of Impact TRA-2[F] from significant and unavoidable to less than significant. Although the estimated change in ADT is estimated at less than 5 percent, as stated in the analysis, the additional traffic on a CMP designated deficient roadway, even if temporary and short-term, is considered significant. Further, it is noted in the analysis that although Mitigation Measure TRA-1 would reduce the impacts, by scheduling truck trips to avoid peak travel periods, it is uncertain at this time whether all trips could be scheduled to avoid peak travel periods. The County finds that while implementation of the construction TCP would contribute to a reduction of the overall construction-related impacts on CMP designated roadways, the impact remains significant and unavoidable.

Response to Comment O3-15

The commenter states that Mitigation Measure TRA-1 would reduce impact TRA-4[F] (substantially increase hazards because of a design feature or incompatible uses) to a less-than-significant level and requests that the County changes its determination of significance for TRA-4[F]. The County agrees that implementation of Mitigation Measure TRA-1, the construction TCP, will serve to lessen the overall effect on transportation systems and traffic safety concerns. However, based on the County's experience with large construction projects, it cannot be guaranteed that the impact will be reduced to a less-than-significant level. The impact remains significant and unavoidable.

Response to Comment O3-16

The commenter asks the County to reconsider the determination that Impact TRA-6[F] is significant and unavoidable after implementation of Mitigation Measure TRA-1. The County agrees that implementation of Mitigation Measure TRA-1, the construction TCP, will serve to lessen the overall effect on transportation systems and traffic safety, including to bicyclists. However, based on the County's experience with large construction projects, it cannot be guaranteed that the impact will be reduced to a less-than-significant level and potential hazards to bicyclists would exist. The impact remains significant and unavoidable.

Responses to Individuals' Comment Letters

The responses to individuals' written comments are presented below. Numbering of responses corresponds to the numbering of letters and individual comments in Chapter 2, *Comments*.

Responses to Comment Letter I1—Adrian and Suzanne Dykzeul

Response to Comment I1-1

The commenter summarizes the noticing process and project description for another EIR as well as the Sand Hill Wind Project EIR, and indicates intent to comment on the Sand Hill Wind Project EIR. Please see responses to comments I1-2 and I1-3 below regarding the commenter's specific concerns about the Sand Hill Wind Project EIR.

Response to Comment I1-2

The commenter expresses concern about the potential for turbines to obstruct valley views from his residence near the project area. Draft EIR Figure 2-5, Castello-Arnaudo Parcels, indicates the proposed placement of Initial Repower turbines, which have been sited in designated high-risk locations as part of the Avian Validation Study. As indicated on pages 3.1-8 and 3.1-9 of the draft EIR, local residents with views of the proposed turbines are considered to have high visual sensitivity. As such, Impact AESTH-2 found that the Initial Repower would have a significant and unavoidable adverse impact on scenic vistas. While the County sympathizes with the commenter's situation, property values are not considered to be environmental issues under CEQA.

Because siting of turbines under the Full Repower program would rely on the results of the Avian Validation Study currently in progress, no specific locations have yet been determined for Full Repower turbines.

Response to Comment I1-3

The commenter asks whether additional turbines would be installed in the future. The commenter is correct. Please see Section 2.4.2, *Full Repower Overview*, and Section 2.5.3, *Full Repower Activities and Components*, of the draft EIR, which describe the type and extent of additional activities and facilities anticipated under the Full Repower.

Responses to Comment Letter I2—Joanna Burger, Scientific Review Committee

Response to Comment I2-1

The commenter makes a general request for additional clarification of the methodology and assumptions, and states that small samples sizes, lack of replication, variability in samples, contradictory statements, and lack of clarity in the use of terms makes it difficult to follow some of the methods. Additional text and clarifications have been added to the EIR as described in various responses to comments. Appendix B of the draft EIR, *Avian Study Design*, provides additional methodological detail. In addition, please see Chapter 4, *Draft EIR Errata*, of this final EIR.

Response to Comment I2-2

The commenter requests that the EIR's executive summary contain additional information regarding the objectives, assumptions, and results, particularly the relationship between existing and proposed turbine density, the methodology used to assess impacts, and the unavoidable effects on some species.

As indicated on page ES-1, Section 15123 of the State CEQA Guidelines outlines the required content of an EIR summary and indicates that the summary should be a "brief summary of the proposed actions and its consequences" (State CEQA Guidelines Section 15123[a]). The executive summary is therefore intended to provide a brief overview of the project and its impacts. For a detailed, resource-specific description of the methodology used to determine impacts, please refer to the *Methods for Analysis* subsection of each environmental resource chapter.

Please see Section ES.3, *Project Objectives*, for a complete list of the Sand Hill Wind Project's objectives. Section ES.4, *Project Impacts and Mitigation Measures*, and Table ES-1, *Summary of Impacts and Mitigation Measures*, provide summaries of the results of the environmental analysis of the project's impacts, including any significant and unavoidable impacts identified in the EIR, in both textual and tabular formats.

The commenter indicates that the executive summary does not provide information on the density of proposed repowering. Please see Section ES.1.2, *Initial Repower Overview*, which states that 70-80 of the existing turbines would be replaced by 40 shrouded turbines, and Section ES.2.2, *Full Repower Overview*, which states that the existing 330-340 turbines remaining after the Initial Repower would be replaced by up to 300 new shrouded turbines.

Response to Comment I2-3

The commenter expresses confusion in following the relationship between the timeline for new turbines versus old, and the associated effects on birds, and requests more justification that the fatality rates will be similar to existing fatality rates. Please see draft EIR Section 2.5.2, *Initial Repower Activities*, for a description of the proposed timeline for the Initial Repower. As the Full Repower is currently in a conceptual state, a detailed timeline has not been produced. However, page 3.3-18 of the draft EIR presents a clear explanation of *assumptions* related to the Full Repower timeline.

As noted on page 3.4-66 of the draft EIR, the County does not have information describing the fatality rates of the new turbines. Considering this, the County has made a conservative assumption in the EIR that the new turbines *could have the potential to be* greater than the existing turbines. We believe that, in the absence of specific data and information, this approach is the most protective of

the resources and allows the County to require additional avoidance, minimization, and mitigation measures, if the impacts of the Initial Repower are not as expected.

Response to Comment I2-4

The commenter asks that the Avian Validation Study observations be more clearly described, documented, and defended in the EIR, and requests that bat studies be implemented. The Avian Study Design is included as Appendix B of the draft EIR, and additional clarification regarding the Avian Validation Study's existing data has been incorporated into the discussion on page 3.4-24 of the draft EIR, as shown in Chapter 4, *Draft EIR Errata*, of this final EIR. Please see pages 3.4-25 and 3.4-26 of the draft EIR for background information on bats. The Avian Validation Study includes searches for bats, and clarifications regarding bats from the Avian Validation Study have also been added to page 3.4-26, as shown in Chapter 4, *Draft EIR Errata*, of this final EIR. These clarifications do not affect any of the impact conclusions in the EIR.

Response to Comment I2-5

The commenter states that the reptile studies need more attention and that the spatial and temporal pattern of turbine placement is unclear. It is true that the precise area of impacts around specific turbines was not identified in this EIR; however, it is assumed that the grassland habitat that occurs throughout the project area supports suitable habitat for special-status reptiles. The acreages of impact for these species is based on the total number of turbines, length of utility and road work, and number of staging/laydown areas proposed, assuming it is all considered habitat. Please see Table 3.4-2, *Special-Status Wildlife Species Known to Occur or that May Occur in the Project Area*, in the draft EIR for additional information on the likelihood of individual reptile species' occurrence in the project area.

Response to Comment I2-6

The commenter repeats the request for additional explanation of the repowering time sequence and states that the EIR lacks definitions of dry weather (seasonal or daily), temporary (hours, days, weeks), the location of the staging areas (as well as the level of staging), and the placement of new access roads, as well as short-term impacts. Please see Section 2.5.2, Initial Repower Activities, of the draft EIR for timing and sequencing of repowering activities. Restrictions on the seasonality of construction are specified in the mitigation measures for specific species. Please see response to comment O1-5 for definitions of dry weather, temporary impacts, location of staging areas, and new access roads. Short-term impact is defined on page 3.4-28 of the draft EIR for purposes of this project. The assumptions factor into the assessment of effects and do not in themselves have an effect.

Response to Comment I2-7

The commenter requests additional detail regarding temporary staging areas and decommissioning. Please see response to comment O1-5 regarding staging areas. Decommissioning is described in Chapter 2, *Project Description*.

Response to Comment I2-8

The commenter requests additional information regarding temporary stockpiling. Temporary stockpiling is accounted for in the area of temporary and permanent effects. Temporary effects on habitat are identified for each species, and habitat temporarily affected would be returned to pre-project conditions as specified under Mitigation Measure BIO-1f on page 3.47-33 of the draft EIR.

Response to Comment I2-9

The commenter states that the mitigation monitoring on page 3.4-33 of the draft EIR lacks enough detail to determine if the measure is responsive, and asks what will happen in the event of observed effects or specific problems. The County assumes that this comment refers to Mitigation Measure BIO-1f. This measure provides a summary description and guide for preparation of a site-specific restoration plan. Sufficient information regarding monitoring schedule, success criteria, and remedial measures is provided in order to determine if the mitigation is suitable to mitigate for temporary grassland impacts.

Response to Comment I2-10

The commenter requests species-specific mitigation measures for burrowing owl, and asks how the presence of construction materials would affect predation on burrowing owls. Mitigation Measure 8a and 8b are specific to burrowing owls. Measures referring to other sections are general avoidance and minimization measures that help protect all sensitive species and habitats (i.e., exclusion fencing, environmental training, construction monitoring, construction Best Management Practices, grassland restoration, etc.). These are also applicable to burrowing owl.

Construction materials storage will be limited to 5 laydown areas. There is a potential for stored construction materials to provide some refuge areas for wildlife or attract some interest from curious carnivores that could opportunistically prey on burrowing owls (i.e., coyote, skunk, badger). However, areas with a lot of human activity are generally not that hospitable to wildlife and the presence of materials stored for the 6-month construction period would not likely attract additional predators that are not already present in the project area. To address this potential impact, MM BIO-1d includes measures to prohibit trash dumping and discourage the use of pipes, culverts, and similar materials by wildlife.

Response to Comment I2-11

The commenter requests information on the final value of the Avian Validation Study and an assessment of impacts to the four focal species. An estimation of the potential impacts to the four focal species is provided on page 3.4-54 of the draft EIR. The purpose of the EIR is to assess the impacts of the proposed project, consistent with the requirements of CEQA, not to assess the final value of the Avian Validation Study.

The commenter also notes that a justification of 10 turbines needs to be made, with evidence and potential outcomes. Presumably, the commenter is referring to the description of Alternative 1 in Chapter 4 of the draft EIR. Please see response to comment O1-1.

Responses to Comment Letter I3—Jim Estep, Scientific Review Committee

Response to Comment I3-1

The commenter summarizes the proposed project. No further response is necessary.

Response to Comment I3-2

The commenter indicates support for using the results of the Avian Validation Study and the Monitoring Team data to establish baseline fatality estimates to compare pre- and post-project conditions, and asks for an additional comparison of the results of the Initial Repower with other repowered projects in the APWRA that use non-shrouded turbines. Please see Chapter 4, Draft EIR Errata, of this final EIR for clarifications regarding other repowering projects in the APWRA that have used non-shrouded turbines and the anticipated use of the Avian Validation Study to inform the Full Repower when and if an application is submitted by the Applicant for that phase.

As noted in Sections 1.1, *Purpose of This Environmental Impact Report*, and 1.2, *Type of Environmental Impact Report*, of the draft EIR, if and when the applicant requests a CUP for the Full Repower, it will require additional project-level CEQA review that would include consideration of the results of the Initial Repower and Avian Validation Study and would incorporate any additional project-specific avoidance, minimization, and mitigation measures.

Response to Comment I3-3

The commenter asks that the EIR provide details on the design development of the BACI Avian Validation Study. Appendix B, *Avian Study Design*, of the draft EIR provides information on the Avian Validation Study, and additional clarifications regarding the Avian Validation Study can be found in Chapter 4, *Draft EIR Errata*, of this final EIR. However, the purpose of the EIR is not to assess the methods or scientific rigor of the Avian Validation Study, but rather to assess the proposed project, the repowering actions that support the separate, but related, Avian Validation Study. As such, the project consists of the actions subject to the Applicant's requested CUP for the Initial Repower, as described in Chapter 1, *Introduction*, and Chapter 2, *Project Description*, of the draft EIR. Additionally, the County understands that the Avian Validation Study was reviewed by the SRC and was screened and reviewed during the PIER grant process, and thus has been assessed for adequacy from that perspective.

Response to Comment I3-4

The commenter requests that location, number and orientation of Full Repower turbines be considered in the programmatic analysis. As described in Sections 1.1, *Purpose of This Environmental Impact Report*, and 1.2, *Type of Environmental Impact Report*, of the draft EIR, if and when the applicant requests a CUP for the Full Repower, it will require additional project-level CEQA review. The EIR evaluates the proposed number of Full Repower turbines and their general locations within the project area and, as noted in Section 2.3, *Project Objectives*, the results of the Avian Validation Study help to develop predictive turbine siting tools for shrouded and open-blade turbines for the Full Repower. Specific locations and orientation of Full Repower turbines will require detailed consideration upon the Applicant's submittal of a CUP application for the Full Repower.

Response to Comment I3-5

The commenter requests that the EIR either include assumptions used in the development of the Avian Validation Study, including those related to selection of study turbines, search interval, detection probability, and others, or refer to the BACI study design for those assumptions. Please see response to comment I3-3.

Response to Comment I3-6

The commenter objects to the one year of post-construction monitoring proposed in APM 1, noting that it may be insufficient for making valid comparisons and conclusions. The County notes that APM 1 is an applicant proposed measure, in essence a measure proposed by the applicant to be implemented as part of the proposed project. It is not a mitigation measure. Consequently, the County's review under CEQA includes APM 1 as part of the proposed project, and we have no ability to change or modify the measure.

Response to Comment I3-7

The commenter suggests that APM 2 be referred to as winter shutdown since it falls within the APWRA-wide shutdown period, and notes that for this project, it might be more appropriate to rely on the results of the Avian Validation Study to determine the most appropriate shutdown period. Please see response to comment I3-6.

Response to Comment I3-8

The commenter notes that some of the avian-related on- and off-site mitigations are standard practice, and notes that retrofitting utility poles to avoid electrocution is taken from the USFWS' guidance for the development of an Eagle Conservation Plan and has been adopted and approved by the USFWS but that other types of compensatory mitigation, including acquisition of replacement lands or purchasing mitigation bank credits are no longer considered sufficient to mitigate avian mortality impacts from wind turbine operation. The commenter notes that the mitigation measures that address avian and bat mortality are standard practice. The County concurs with this statement. Please see Mitigation Measure BIO-11c, which requires mitigation for golden eagle fatalities consistent with current USFWS guidelines.

Responses to Comment Letter I4—Michael L. Morrison, Scientific Review Committee

Response to Comment I4-1

The commenter states that the purpose of the Sand Hill Wind Project is to determine if the shrouded turbines reduce avian fatalities in the APWRA in order to inform the Full Repower, and objects to Alternative 1 on the grounds that by offering a reduced number of Initial Repower turbines, it would invalidate the Avian Validation Study results. Although the applicant's purpose is certainly relevant to the proposed project and the EIR, the County is required to assess the actions that comprise the CUP application and, as outlined in State CEQA Guidelines Section 15126.6, to consider a reasonable range of alternatives to the proposed project that would reduce impacts of the project and achieve most or all of the project objectives rather than those of a related but independent study. As described in response to comment O1-1, the Applicant initially considered Alternative 1 and explored it with the SRC and broader scientific community in 2011. It was determined that, while a 10-turbine study could provide informative and useful results, a 40-turbine study would produce

more robust statistical data, increasing the scale of the study's validity. Further, as noted in Chapter 4, *Alternatives Analysis*, of the draft EIR and clarified in Chapter 4, *Draft EIR Errata*, of this final EIR, the difference – and therefore the comparison – between Alternative 1 and the proposed project lies in the scale of the Initial Repower rather than the Full Repower. The County believes Alternative 1 is a valid alternative under CEQA.

Response to Comment I4-2

The commenter summarizes the reasons for selecting a 40-turbine sample size for the Avian Validation Study and objects to any reduction in the number of turbines. Please see response to comment I4-1. As previously noted, the County is responding to the Applicant's CUP application for the proposed Initial Repower and our review therefore addresses the proposed repowering project rather than an assessment of the related Avian Validation Study.

Response to Comment I4-3

The commenter objects to Alternative 1 and states that no change should be made to the 40 turbine design. Please see responses to comments I3-3, I4-1 and I4-2.

Response to Comment I4-4

The commenter objects to Alternative 1 and expresses the opinion that the proposed project would have less overall impact than Alternative 1 if the shrouded turbines reduce avian fatalities and impacts to other resources would be generally similar for the proposed project and Alternative 1. Both Alternative 1 and the proposed project would use the shrouded turbines; however, Alternative 1 would use fewer shrouded turbines for the Initial Repower than would the proposed project. As indicated on page 4-18 of the draft EIR, assuming that each turbine has an impact on avian species, fewer turbines would equal less impact on avian species for the Initial Repower. Under this assumption, and considering impacts to all other resource areas, as required under CEQA, the Initial Repower phase of Alternative 1 does clearly have less impact compared to the Initial Repower phase of the proposed project.

In addition, the commenter requests clarification regarding the use of the phrase "near term" in the alternatives analysis. "Near term" is used in the alternatives analysis to distinguish between the Initial Repower and Full Repower phases. As indicated in Chapter 4, *Alternatives Analysis*, of the draft EIR, Alternative 1 primarily differs from the proposed project in the Initial Repower phase rather than the Full Repower.

Response to Comment I4-5

The commenter asserts that the draft EIR neglects to acknowledge the likelihood of project area repowering regardless of turbine type, and that Alternative 1, due to its reduced size, does not support the Avian Validation Study. Please see draft EIR Section 4.3.1, *No Project Alternative*, which notes that even without the proposed project, the area is likely to be repowered following expiration of the existing conditional use permits. Please see also responses to comments O1-1 and I4-1 regarding the background of Alternative 1 and the consideration and evaluation of alternatives to the proposed project, including impacts on other resource issues beyond avian fatalities.

Response to Comment I4-6

The commenter indicates that the draft EIR recommends the 10-turbine sample size considered under Alternative 1, and notes that it was found to be inadequate for purposes of the Avian Validation Study by the Scientific Review Committee. Please see responses to comments O1-1, I3-3, I4-1 and I4-2.

Response to Comment I4-7

The commenter objects to Alternative 1 and notes that the reduction to 10 turbines rather than 40 was likely based on considerations of disturbance to other, non-avian, resources. See responses to comments O1-1, I3-3, I4-1 and I4-2.

Response to Comment I4-8

The commenter quotes several sections of the draft EIR but does not make specific comments beyond summarizing the results of the analysis. No further response is necessary.

Response to Comment I4-9

The commenter states that the EIR concludes that minimal or no impact will occur to any resources under the proposed 40-turbine Initial Repower and objects to the selection of Alternative 1 for approval on the grounds that it would set a precedent that would require all repowering projects in the APWRA to reduce installed capacity by 75% to lessen resource impacts. The EIR identifies seven significant and unavoidable impacts and 30 significant (less-than-significant with mitigation) impacts associated with the proposed Initial Repower. Please see draft EIR Section ES.4, *Project Impacts and Mitigation Measures*, which lists impacts by resource area and level of significance, and Table ES-1, *Summary of Impacts and Mitigation Measures*, which indicate the level of significance for each impact before and after implementation of proposed mitigation. As discussed on page 4-1 of the draft EIR, the consideration of project alternatives in an EIR and the identification of an environmentally superior alternative are requirements of CEQA. It should be noted that identification of an environmentally superior alternative serves to inform the decision makers of the comparative merits of the alternative but does not require adoption of that alternative in place of a proposed project.

Responses to Comment Letter I5—Sue Orloff, Scientific Review Committee

Response to Comment I5-1

The commenter expresses general concern that the EIR methodology related to avian fatalities is not clear. Specific comments on the methods of analysis are addressed individually below.

Response to Comment I5-2

The commenter indicates that the increased density anticipated under the Full Repower may cause difficulty in applying the results of the Avian Validation Study and Initial Repower to the Full Repower. As noted in Chapter 1, *Introduction*, and Chapter 2, *Project Description*, of the draft EIR, the Full Repower is still in the conceptual stage and its design and implementation will depend on the outcome of the Avian Validation Study being prepared for the Initial Repower. The Full Repower is therefore analyzed to the extent possible at a programmatic level in the draft EIR. Additionally, clarification has been added to the EIR regarding the Avian Validation Study and how it may be used to inform the Full Repower when and if the Applicant submits a CUP application for that phase.

Lastly, the County notes that the total rotor-swept area of the turbines to be removed for the Full Repower is approximately 16 acres, while the total rotor swept area of the shrouded turbines to be installed would be approximately 11 acres, a net reduction. Also, the total number of turbines on the project site would also decrease under the Full Repower from approximately 360 to approximately 300. These reductions in rotor swept area and, in turn, the overall density of turbines could contribute to fewer collisions overall, in the context of baseline conditions. Please see response to comment O2-14, which also addresses the change in rotor-swept area.

As noted in Sections 1.1, *Purpose of This Environmental Impact Report*, and 1.2, *Type of Environmental Impact Report*, of the draft EIR, if and when the applicant requests a CUP for the Full Repower, it will require additional project-level CEQA review that would include consideration of the results of the Initial Repower and Avian Validation Study and would incorporate any additional project-specific avoidance, minimization, and mitigation measures.

Response to Comment I5-3

The commenter inquires whether, on page 3.4-24 of the draft EIR, the fatality rates for both control and impact groups are combined, and asks to see a comparison of the two fatality rates. As indicated in the footnotes for table 3.4-3 of the draft EIR, the fatality rates presented were obtained from two sources, Monitoring Team data as presented in ICF International (2013) and Smallwood (2013). The Smallwood 2013 rates are inclusive of "high-risk" turbines only as indicated in footnote "b" of the table. A comparison of the control group to the impact group is not reported in Smallwood 2013 and is beyond the scope of the draft EIR analysis. The County believes the information available is complete and sufficient to assess the potential impacts of the proposed project.

Response to Comment I5-4

The commenter notes that on page 3.4-24 of the draft EIR, comparisons are made between ICF data and Smallwood's high risk turbine data, and asks, in the absence of maps showing locations of experimental/control clusters and how they overlap with the ICF samples, what percentage of the full repowered area ICF is surveying annually and what is the proportion of high risk turbines in the ICF data set. The intent of table 3.4-3 is not to compare MT data and Smallwood (2013) data, instead the intent is to present the information available in both these reports in the context of the baseline determination described on pages 3.4-26 and 3.4-27 of the draft EIR. Additional analysis of these two data sets is not readily available and is beyond the scope of the draft EIR analysis. The County believes the information available is complete and sufficient to assess the potential impacts of the proposed project.

Response to Comment I5-5

The commenter cites page 3.4-26 of the draft EIR and requests a comparison of shrouded turbines to new generation repowered turbines rather than to the old generation turbines. Page 3.4-26 of the draft EIR describes the rationale for evaluating the project against existing conditions. CEQA (Section 21100[b][1]) and Sections 15126(a) and 15143 of the State CEQA Guidelines require the County to focus on the "significant environmental effects" of the proposed project, specifically the physical conditions "existing within the area which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise, objects of historic or aesthetic significance" (CEQA Section 21060.5). No new-generation turbines exist within the area that would be affected by the proposed project. However, it should be noted that Alternative 2 assumes the use of modern conventional turbines for the Full Repower phase. Further description has been added to the

discussion of Alternative 2 regarding the results of other repowering projects in the APWRA that have used non-shrouded turbines. Please see Chapter 4, *Alternatives Analysis*, of the draft EIR, and Chapter 4, Draft EIR Errata, of this final EIR, for discussion of new generation turbines. It should also be noted that although a comparison with conventional new generation turbines is not a specific objective of the Applicant, it is an informational objective of the County that would be enabled by the project.

Response to Comment I5-6

The commenter notes that page 3.4-27 of the draft EIR indicates that baseline avian fatality rates for the Full Repower are based on existing Monitoring Team fatality rates while the Smallwood report integrates the Avian Validation Study data with the Monitoring Team data to derive baseline rates. Please see the response to comment O1-6, which is identical to this comment.

Response to Comment I5-7

The commenter asks whether the Full Repower area will be surveyed for fatalities after construction and how Full Repower fatality estimates will be used and compared in the absence of post-construction surveys of the Full Repower area. It should be noted that, as described in draft EIR Sections 2.2, *Regional Setting and Project Area*, and 2.4.2, *Full Repower Overview*, the Full Repower would occur within the same project area as the Initial Repower, with the exception of one additional parcel (the 67.9-acre Johnston parcel, APN 99B-6325-1-4) that has no existing turbine facilities. Mitigation Measure BIO-11d requires the implementation of measures to reduce the impacts of the Full Repower if they exceed certain thresholds, and the post-construction monitoring requirements of Mitigation Measure BIO-11d have been clarified as shown in Chapter 4, *Draft EIR Errata*, of this final EIR.

Response to Comment I5-8

The commenter requests that the EIR use annual data as well as averaged data over all years for determining trends related to the biological resources analysis on page 3.4-27 of the draft EIR. An analysis of trends in the MT data is beyond the scope of the analysis in the EIR. The County believes the analysis presented represents the best readily available information to assess the impacts of the proposed project.

Response to Comment I5-9

The commenter asks for a comparison of the pre-construction control group to the post-construction control group as part of APM-1 on page 3.4-52 of the draft EIR. The measures on page 3.4-52 of the draft EIR are applicant proposed measures (APMs) and as such, the specifics of the APMs are not set or determined by the County. Additionally, the County considers the APMs to be a part of the proposed project, and assesses the impacts of the proposed project on that basis.

Response to Comment I5-10

The commenter suggests that the threshold percentages used on page 3.4-53 of the draft EIR seem arbitrary and high, especially for red-tailed hawk, and notes that implementing seasonal shutdown to reduce burrowing owl fatalities may be risky, as MT data indicate that seasonal shutdown may actually increase burrowing owl fatality rates. The measures on page 3.4-53 of the draft EIR are applicant proposed measures (APMs) and as such, any thresholds used are not set or determined by the County. Additionally, the County considers the APMs to be a part of the proposed project, and

assesses the impacts of the proposed project on that basis. However, the County is aware that there are outstanding questions with regard to background mortality of burrowing owls during seasonal shutdown. Additional discussion regarding issues of background mortality of burrowing owls has been added to page 3.4-24 of the draft EIR, as shown in Chapter 4, *Draft EIR Errata*, of this final EIR. This discussion does not affect any of the impact conclusions in the EIR.

Response to Comment I5-11

With regards to Mitigation Measure BIO-11b on page 3.4-55, the commenter asks if using RSA has become the standard for compensation, and notes that it seems low. To the County's knowledge, there is no standard for this type of compensation. However, we are aware that this type of mitigation has been used to partially mitigate the impacts of other wind project impacts in California. The ratio was set for this specific project by the County recognizing that there is some underlying uncertainty regarding causes of background mortality of burrowing owls. Therefore, we believe the measure is reasonable in light of the existing data and situation.

Response to Comment I5-12

The commenter asks for a definition of "performance standards" as presented on page 3.4-67 of the draft EIR. The referenced sentence has been revised to refer to the standards cited in APM 2. The County notes that CEQA requires the County to assess the effects of the Full Repower, including the APMs, and to ascribe performance standards to measures that necessarily have to defer analysis until the results of the Avian Validation Study are obtained. As described in responses to comments O3-8 and O3-10, that standard must be a prescribed level of exceedance of baseline conditions, in this case existing baseline fatality rates.

Response to Comment I5-13

The commenter notes that several fatality rates are described in the Avian Validation Study and the EIR, and asks which rates will be used for comparisons to controls and post construction. The Avian Baseline Study (Appendix E to the draft EIR) is included as supporting background information to the EIR. The fatality rates used for the EIR analysis are described on pages 3.4-27 and 3.4-54 of the draft EIR.

Response to Comment I5-14

The commenter cites page 7 of the Avian Baseline Study (draft EIR Appendix E), which indicates a higher burrowing owl fatality estimate than expected, and notes that the high fatality rates may be due to many turbines being nonfunctional and thereby providing perching opportunities for predators that could increase the fatality rates for burrowing owls. Please see response to comment I5-10. Additional discussion regarding issues of background mortality of burrowing owls has been added to page 3.4-24 of the draft EIR, as shown in Chapter 4, *Draft EIR Errata*, of this final EIR. This discussion does not affect any of the impact conclusions in the EIR.

Response to Comment I5-15

The commenter appears to cite page 10, Table 2, of draft EIR Appendix E (Avian Baseline Study). The commenter notes the large difference between the mean fatality rates presented in the Avian Validation Study and those of the Monitoring Team at high risk turbines and expresses concern that, when estimating project-wide impacts, the multipliers used to derive baseline fatality rates can adjust for such differences. The Avian Baseline study (presumably the commenter is referencing

Appendix E to the draft EIR) is included as supporting background information to the EIR. The County is using the Avian Validation Study (aka PIER study) rates for the Initial Repower, as discussed on draft EIR page 3.4-27, because we believe they are the best available rates for most species, excluding golden eagle, as also noted on draft EIR page 3.4-27.

Responses to Comment Letter I6—Julie Yee, Scientific Review Committee

Response to Comment I6-1

The commenter summarizes the focus of her review, Impact BIO-11. No response is necessary.

Response to Comment I6-2

The commenter indicates that the methodology presented in Section 3.4, *Biological Resources*, is ultimately understandable, but could be edited for clarity. In response to this and other comments, we have added additional text and descriptions to clarify the methodology. Please see Chapter 4, *Draft EIR Errata*, of this final EIR.

Response to Comment I6-3

The commenter objects to the conservative nature of the avian fatality baseline presented in Section 3.4, *Biological Resources*, of the draft EIR. Please see Chapter 4, *Draft EIR Errata*, of this final EIR. The County has clarified that, due to the relatively untested nature of the shrouded turbines, although the anticipated impact on avian species may be reduced from existing baseline conditions the proposed project *could* result in impacts greater than the existing baseline fatality rates.

Response to Comment I6-4

The commenter objects to the conservative nature of the avian fatality baseline presented in Section 3.4, *Biological Resources*, of the draft EIR, and requests clarification of the role of the APMs. The APMs are independent of the EIR's County-proposed mitigation measures, and are voluntary measures offered by the Applicant to address the possibility that the shrouded turbines have levels of avian mortality that are similar to the existing baseline, or only slightly better. As noted throughout the EIR, the shrouded turbines are a new technology and therefore their exact effects on avian species in the APWRA will not be known until their operations have been studied. The County has therefore chosen to use a conservative approach to the analysis presented in the EIR. Please also see response to comment I6-3.

Response to Comment I6-5

The commenter notes that, as the draft EIR indicated that the proposed project would have significant and avoidable impacts on special status avian species (Impact BIO-11), the determination of increased impacts for the No Project Alternative, as presented in Table 4-1, page 4-33 of the draft EIR, is confusing. The commenter asks whether, if the proposed project's impacts are significant, the No Project Alternative should instead have reduced impacts compared to the proposed project. Please note that Table 4-1 incorrectly presented the results of this specific analysis and has been corrected, as shown in Chapter 4, *Draft EIR Errata*, of this final EIR. The analysis presented on page 4-13 of the draft EIR indicates that overall biological impacts would be similar, rather than increased, based on the assumption that the wider roads necessary to accommodate conventional repowering would offset the substantially greater foundation disturbance required for the shrouded turbines.

Response to Comment I6-6

The commenter expresses confusion regarding the difference between the biological resource impacts of the No Project Alternative as presented in the text on page 4-13 and Table 4-1 of the draft EIR. Please see response to comment I6-5.

Response to Comment I6-7

The commenter disagrees with the Alternative 1 conclusions presented in Table 4-1 and asks for additional detail regarding the total number of turbines or MW assumed to operate under Alternative 1 as well as determination of the alternatives' impacts against the established baseline. Please refer to page 4-18 of the draft EIR for a discussion of Alternative 1's impacts on biological resources, and note that Alternative 1 does not emphasize ongoing activities of the existing turbines, but considers the difference in ground disturbance compared to the proposed project, thereby leading to a conclusion of reduced impacts. Furthermore, as indicated on page 4-1 of the draft EIR, the alternatives analysis is not required to present the alternatives analysis at the same level of detail as the project analysis but is intended to foster informed decision making through comparison of the respective merits of the alternatives.

Response to Comment I6-8

The commenter correctly states that CEQA requires the selection of an environmentally superior alternative independent of the proposed project, as opposed to NEPA, which considers the proposed project and alternatives as one set, and asks for clarification in the EIR. It should be noted that before identifying the environmentally superior alternative, the alternatives analysis does consider the proposed project, first providing a comparison of each alternative's impacts to those of the proposed project. Please see Chapter 4, *Draft EIR Errata*, of this final EIR, which includes additional clarification of this process.

Response to Comment I6-9

The commenter disagrees with the assumption, stated on page 3.4-24 of the draft EIR, that avian fatalities are directly proportional to the operational period of wind turbines, calculated as the cumulative installed generation capacity. The commenter indicates that temporal variation has been noted in many APWRA monitoring reports but that the assumption continues to be used due to the lack of a feasible adjustment and is therefore considered reasonable for use in the EIR as well. No further response is necessary.

Response to Comment I6-10

The commenter notes that the assumption, stated on page 3.4-54 of the draft EIR, that fatality rates associated with shrouded turbines are estimated using a conservative assumption that the new turbines will be similar to the existing fatality rate, is indeed conservative as it assumes no changes. The commenter further requests that the EIR present a sensitivity analysis, considering impacts under other equally feasible assumptions, to determine the conclusions' sensitivity to the underlying assumptions.

As described in the draft EIR, the impacts of the proposed project are unknown pending the results of the Avian Validation Study. While CEQA allows, in some instances, consideration of alternate and/or multiple baselines, it does not allow consideration of multiple impact outcomes. Ultimately, a determination of significance is required for each environmental impact. Considering this

requirement, the County has chosen to use the most conservative approach to the impact assessment because the impact is unknown, and this approach is most protective of the resource.

Response to Comment I6-11

The commenter asks whether 1 MW or 4 MW of existing turbines would be removed under Alternative 1. Please see response to comment O1-4.

Response to Comment I6-12

The commenter indicates that the proposed mitigations sound reasonable, but that she has no comment regarding the appropriateness of their intensity, and requests additional supporting information. The commenter further notes that the mitigation benefit of the research and BACI testing of the new wind technology would be seriously reduced under Alternative 1 as compared to the proposed project. In evaluating Alternatives, the County is required to assess alternatives to the proposed project (i.e., the project as described in the Use Permit application), somewhat independent of whether a specific alternative would meet the objectives of the BACI study, which is a related but independent study. Consequently, we believe Alternative 1 is a valid alternative under CEQA.

Response to Comment I6-13

The commenter questions whether the area indicated in Mitigation Measure BIO-11b, a 1:1 ratio based on rotor-swept area, is enough to effectively mitigate the potential loss of burrowing owl, and provides calculations of rotor-swept area. Please see response to comment I5-11 regarding Mitigation Measure BIO-11b. In addition, please note that clarification has been added to Chapter 4, *Draft EIR Errata*, of the final EIR regarding the rotor-swept area of the individual turbines and of the total Initial and Full Repower phases. This clarification does not affect any of the impact conclusions in the EIR.

Responses to Public Hearing Comments

The responses to comments made at the December 19, 2013 public hearing on the draft EIR are presented below. Numbering of responses corresponds to the numbering of public hearing comments in Chapter 2, *Comments*.

Response to Comment PH-1

The commenter requests additional background information regarding the design of the Avian Validation Study. Please see response to comment O1-1, which presents additional background information on the Avian Validation Study to clarify the design process the study has undergone.

Response to Comment PH-2

The commenter asks what the acronym “BACI” stands for. BACI is an abbreviation of “before-after control impact” study design. The term refers to a methodology for comparing conditions before and after.

Response to Comment PH-3

The commenter asks if there will be a separate EIR for the Full Repower project later. The County currently anticipates preparation of either a supplemental EIR or an addendum depending on the results of the validation study, on the final mitigation measures, and how closely the description of Full Repower in this EIR matches that of the action for which the Applicant will submit an additional CUP application.

Response to Comment PH-4

The commenter asks whether the addendum process offers an opportunity for public scoping comments or EIR comments. The County notes that within the addendum process scoping is limited, but a supplemental EIR presents more opportunity to shape the scope of the analysis.

Response to Comment PH-5

The commenter asks for confirmation that the project would include one year minimum of avian mortality study, with the potential for extending the avian mortality study to two years if the first year does not produce conclusive data. The commenter has correctly described components of the Applicant Proposed Mitigation.

Response to Comment PH-6

The commenter asks whether a nexus exists between PG&E power poles offsite and this project for purposes of mitigating the proposed project's observed golden eagle mortality. The commenter is describing Mitigation Measure BIO-11c, retrofitting of hazardous electrical poles, which is a USFWS-recommended compensational mitigation. The USFWS considers this to be a nexus.

Response to Comment PH-7

The commenter requests clarification that, from a planning perspective and an environmental review perspective, the PG&E power poles constitute a separate project. The commenter is correct; however, there is a nexus in that the species being affected is the same one that would benefit from the retrofits.

Response to Comment PH-8

The commenter notes that, if the wind industry is expected to compensate for or provide mitigation for project impacts, it could be argued that PG&E should be the one bearing the burden for the impact of their project, from a planning perspective. This would be the case if PG&E were installing additional, new transmission lines. However, the PG&E lines have been in place for many years and are not presently being expanded.

Response to Comment PH-9

The commenter reiterates concerns about aesthetics expressed in his comment letter dated November 21, 2013, and indicates opposition to the placement of six turbines on the Arnaudo property due to their potential to negatively affect views from his residence and property values. Please see responses to comments I1-2 and I1-3.

Response to Comment PH-10

The commenter requests that no turbines be placed within the location currently occupied by a string of six turbines near the northeast corner of the Arnaudo property. This comment refers to an area under consideration for the Full Repower rather than the Initial Repower. Please see responses to comments I1-2 and I1-3.

Response to Comment PH-11

The commenter indicates that aesthetics are her primary concern, with noise being an additional, but lesser, concern. Please see responses to comments I1-2 and I1-3 for further discussion of aesthetic issues related to the commenter's property, and Section 3.10, Noise, of the draft EIR, for a detailed discussion of the proposed project's anticipated noise impacts.

Response to Comment PH-12

The commenter expresses opposition to repowering at a one to one ratio in the project area if avian fatality reduction targets are not met during the Initial Repower and general concern over perceived inadequacies of the draft EIR. The commenter's concerns about repowering ratios will be forwarded to the decision makers for consideration. Please see responses to comments O2-1 through O2-31 regarding the commenter's specific concerns about the draft EIR.

Response to Comment PH-13

The commenter expresses concern with the proposed Full Repower if fatality targets, specifically those for golden eagle, are not met during Initial Repower. This comment reiterates the concerns expressed in Save Mount Diablo's letter dated December 20, 2013. Please see individual responses to the written comments submitted by this organization, comments O2-2 through O2-27.

Response to Comment PH-14

The commenter states that the golden eagle should have the most ambitious target fatality reduction rate of the focal species, and requests that the EIR include a target of 80% below baseline golden eagle fatality rates, as well as a discussion of related potential statistical difficulties and solutions related to the requested 80% reduction rate. Please see individual responses to similar written comments submitted by this organization, particularly responses to comments O2-4, O2-5, and O2-11, which address these concerns.

Response to Comment PH-15

The commenter opposes the 1:1 mitigation ratio presented in the EIR for several biological resources, including alkali seasonal meadow and special-status plant species, and indicates that resource agencies typically require a 3:1 ratio for these resources. As indicated on page 3.4-31 of the draft EIR, special-status plants have a 2:1 mitigation ratio, with the exception of alkali meadow, which has a minimum 1:1 ratio that is consistent with the USACE no-net-loss policy. In addition, please see response to comment O2-6 submitted by this organization.

Response to Comment PH-16

The commenter requests that all mitigation measures include success criteria and peer review of monitoring, and asks that the EIR include calculations of changes to the amount of rotor-swept area under Initial and Full Repower. Please see responses to comments O2-6 and O2-7 submitted by this organization, which address these requests.

Response to Comment PH-17

The commenter asks whether the environmentally superior alternative would remain as determined in the EIR if consideration were given only to impacts on focal species rather than all of the resource issues. The commenter is correct that other issue areas affected the determination of environmentally superior alternative, primarily because the Initial Repower phase of Alternative 1 would have less ground disturbance than the Initial Repower phase of the proposed project. Looking at the environmentally superior alternative purely from an avian impact perspective, Alternative 1 would still have reduced impacts because avian impacts are directly correlated with the number of turbines. Please see Table 4-2, as shown in Chapter 4, *Draft EIR Errata*, of this final EIR, for additional clarification of the relative impacts of each alternative on avian and bat species. It's important to note that the County has adopted a conservative analysis of the proposed project's impacts on avian and bat species in the draft EIR, in essence a conclusion that impacts could be similar to the existing baseline conditions. As discussed in the draft EIR, several other outcomes, including a significant reduction in impacts, are equally feasible, with the results pending the as yet uncompleted Avian Validation Study. Consequently, a comparison of the alternatives must be considered in this context. It is possible that impacts described as "reduced" in table 4-2 could actually be similar to the proposed project once the results of the Avian Validation Study are known. The County has chosen to adopt this conservative approach at this time because it is the most protective of the resource.

Response to Comment PH-18

The commenter requested a layman's description of the shrouded turbine, including any background information regarding why it was chosen. The Applicant stated that the shrouded wind turbine has higher conversion of wind energy to electrical energy as a result of the shrouds, which create a mixture from smooth air to turbulent air behind the turbine, allowing for less resistance at the rotor plane. The Applicant further stated that they chose to install shrouded turbines in the APWRA in order to test the avian-friendliness of the turbine in one of the most heavily studied areas for wind turbine-related avian impacts.

Response to Comment PH-19

The commenter asks for confirmation that very few shrouded turbines have been installed anywhere. The Applicant responded that one wind turbine is currently located in Boston Harbor near Logan International Airport and another is located near Rosamond in Kern County. The Applicant indicated that he anticipates more being installed in Kern County later this year.

Response to Comment PH-20

The commenter asks whether the shrouded turbine includes a guard or screen to prevent birds for entering. The Applicant responded that in theory, shrouded turbines should have fewer bird strikes because they have fewer angles of entry into the rotor plane.

Response to Comment PH-21

The commenter asks if there are any mitigations proposed to prevent birds from perching or living on the shrouded turbines. The Applicant responded that the turbine is not designed to allow for ease of building a nest, or access, and that birds have not perched on the turbine located in Boston Harbor despite the presence of many seagulls and pigeons in the area. The Applicant also noted that the machine itself rotates.

Response to Comment PH-22

The commenter notes that the EIR offers a limited number of mitigation measures and asks that the final EIR contain a discussion of the full range of mitigation possibilities suggested by County staff and the consultants, with a range of processes that the EBZA could engage in to evaluate the scope of mitigation. Please see Mitigation Measure BIO-11d, which presents a range of additional avian fatality mitigation options. Additional, but currently experimental technologies, such as active radar systems, may become available and feasible for use in the future. Please see MM BIO-11d, which has been written to allow the County to implement "other measures" as required, if the impacts of the Full Repower are not as expected. It is important to note that the County shares the responsibility to protect birds with other state and federal agencies that have regulatory responsibilities, and that they are also working on strategies for this difficult issue.

Chapter 4
Draft EIR Errata

Section 15088(d) of the State CEQA Guidelines indicates that responses to comments that make important changes in the draft EIR text may take the form of revisions to the text in the body of the EIR or a separate section of the final EIR indicating that the text is revised. This chapter follows the latter route and provides changes to the EIR text as a separate chapter, with the text changes clearly distinguished. These changes constitute the revisions to the draft EIR required by State CEQA Guidelines Section 15132(a).

The following revisions to the draft EIR have been made since it was made available for public review on November 8, 2013. These revisions include correction of minor errors, clarifications, and changes made in response to comments received during the public review period. None of the corrections or additions constitutes significant new information or substantial project changes requiring recirculation as defined by Section 15088.5 of the CEQA Guidelines.

Changes to the Draft EIR

The following changes to the draft EIR text are incorporated into the final EIR as presented below. Added text is indicated by underlined text (<u>underlined</u>) and deleted text is indicated by strikeout text (~~strikeout~~).

Executive Summary

Page ES-5, in section ES.3 Project Objectives the name Flo Design has been changed to Ogin.

Page ES-5, last bulleted item has been deleted.

Page ES-6, has been revised as follows.

<u>In addition, although not a stated objective of the Applicant, Alameda County has the following informational objective related to the proposed project.</u>

- <u>Provide a comparison between the shrouded turbine design and current-generation, large-scale wind turbines, to determine if shrouded turbines would have a lower rate of avian mortality per MW of energy produced, as well as achieve greater energy efficiency and output.</u>

Page ES-22 in section ES.5 Project Alternatives the name Flo Design has been changed to Ogin.

Page ES-32 of Table ES-1, Mitigation Measure BIO-11 has been revised as follows.

Compensate for the loss of burrowing owl <u>and other focal species</u>

Page ES-36 of Table ES-1, Mitigation Measure BIO-11[F] has been revised as follows.

Compensate for the loss of burrowing owl and other focal species

Chapter 2, Project Description

Page 2-3, in the last paragraph the name Flo Design has been changed to Ogin.

Page 2-5, in the second and third bullets the name Flo Design has been changed to Ogin.

Page 2-5, sixth bullet has been revised as follows.

The following are secondary objectives of the Sand Hill Wind Project.

- ~~Provide a comparison between the shrouded turbine design and current-generation, large-scale wind turbines, to determine if shrouded turbines would have a lower rate of avian mortality per MW of energy produced, as well as achieve greater energy efficiency and output.~~
- Minimize environmental impacts by using existing power transmission, access infrastructure and other existing ancillary facilities to the maximum extent feasible.
- Develop a viable source of clean energy to help California achieve its Renewables Portfolio Standard (RPS) with a low MW-to-acre disturbance ratio and without the need for large amounts of water.

Page 2-6, bulleted items at the top of the page have been revised as follows.

- Offset the need for additional electricity generated from fossil fuels, and thereby assist the state in meeting its air quality goals and reducing greenhouse gas emissions.
- Contribute positively to economic activity during construction and operation.
- Increase local short-term and long-term employment opportunities.

In addition, although not a stated objective of the Applicant, Alameda County has the following informational objective related to the proposed project.

- Provide a comparison between the shrouded turbine design and current-generation, large-scale wind turbines, to determine if shrouded turbines would have a lower rate of avian mortality per MW of energy produced, as well as achieve greater energy efficiency and output.

Page 2-6 under section 2.4 Project Overview, the following has been added to the end of the first paragraph.

The total rotor-swept area of the turbines to be removed for the Initial Repower is equivalent to approximately 129,313 square feet (3 acres) and the total rotor-swept area of the Initial Repower turbines would be approximately 65,844 square feet (1.5 acres).

Figure 2-9 identifies the quantity, as well as the individual rotor-swept area, of each type of existing wind turbine proposed for replacement under the Initial Repower. The specific high-risk turbines proposed for removal, and their respective rotor-swept areas, would be as follows: 43 Enertech

turbines with a total rotor-swept area of 66,251 sf (1.52 acres); 21 Micon turbines with a total rotor-swept area of 45,448 sf (1.04 acres); 8 Windmatic turbines with a total rotor-swept area of 14,814 sf (0.34 acre); and 1 Polenko turbine with a rotor-swept area of 2,800 sf (0.06 acre). The total existing rotor-swept area proposed for removal under the Initial Repower would therefore be 129,313 sf (2.96 acres). As shown on Figure2-9, the rotor-swept area of an individual shrouded turbine would be 147.4114 m2 (1,586.7 sf). The 40 shrouded turbines proposed for installation under the Initial Repower would have a total rotor-swept area of approximately 63,468.9 sf (1.46 acre). Replacement of the 73 high-risk turbines with 40 new shrouded turbines would result in a net decrease of 65,844 square feet (1.5 acres) of rotor-swept area.

Page 2-7 under section 2.4.1 the name Flo Design has been changed to Ogin in the first two bullets.

Following page 2-8, Figure 2-9 Wind Turbine Comparisons has been revised (see revised figure at the end of this chapter).

Page 2-18, Avian Fatality Monitoring and Reduction Program the following has been added.

APM 1 and 2, which are set forth below in full, would operate as follows:

- APM 1: No Full Repower with Ogin, Inc. turbines unless, after one year of post construction fatality monitoring, the avian fatality rates for the Initial Repower are less than 0.562 (birds/MW/yr) for American kestrel, 3.126 (birds/MW/yr) for burrowing owl, 0.190 (birds/MW/yr) for red-tailed hawk or 0.06 (birds/MW/yr) for golden eagle.
  - If fatality rates for all four species are not reduced below existing baseline rates within the first year of fatality monitoring, ~~NDEC~~the Applicant may either implement APM 2 or continue monitoring for up to an additional two years.
  - If fatality rates for all four species are reduced below existing baseline rates within the additional two years of fatality monitoring, ~~NDEC~~the Applicant may proceed with the Full Repower.
  - If fatality rates still are not reduced below existing baseline rates after an additional two years of fatality monitoring, ~~NDEC~~the Applicant must implement APM 2 and may not proceed with the Full Repower until fatality rates for the four species are reduced below existing baseline rates.
- APM 2: In addition, both the Initial Repower and the Full Repower (if it proceeds under APM1) will be subject to seasonal shutdown until operational fatality rates for the shrouded turbines are:
  - At least 30 percent lower than existing baseline fatality rates for American kestrel (i.e., less than 0.3934 birds/MW/yr);
  - At least 50 percent lower than existing baseline fatality rates for red-tailed hawk (i.e., less than 0.95 birds/MW/yr);
  - At least 25 percent lower than existing baseline fatality rates for burrowing owl (i.e., less than 2.445 birds/MW/yr); and

- Less than 0.06 fatalities per MW per year for golden eagle (i.e., zero fatalities). Any fatality in excess of this rate would require immediate implementation of the APM 2 seasonal shutdown as well as other potential mitigation such as electric pole retrofits.

~~NDEC~~the Applicant may postpone seasonal shutdowns for up to an additional two years of post-construction fatality monitoring. In no event shall post-construction monitoring exceed 3 years under APM 1 and APM 2.

Chapter 3, Impact Analysis

3.1, Aesthetics

Page 3.1-15, second paragraph of Impact AESTH-4 has been revised as follows.

As discussed in the *Vicinity Character* section, the project area is mostly characterized by grass-covered, rounded hills and smooth contours, and strings of turbines and associated infrastructure are the most visually distinct artificial features throughout most the project area. However, as shown in Figures 3.1-2 through 3.1-5, the new, shrouded turbine design would detract from the natural landscape more than the existing open-blade design. As described under Impact AESTH-2, their taller height and larger surface area would make the shrouded turbines more visually prominent against the rolling, grassy terrain. The eye is drawn to the large, shrouded turbines, which have a space-age feel and are less compatible with the existing rural landscape than the open-blade turbine design. Under existing conditions, the visual experience is dominated by existing turbine towers, which may be less visually distracting than the large, shrouded turbines. See Figure 3.1-1 for the designated scenic routes and recreation areas from which the Initial Repower would be visible. The area also has several high-tension power lines and towers and telecommunications facilities that have been in place for several decades, which have effectively "fractured" the integrity of the Altamont Hills as an area of exceptional beauty. While the addition of the shrouded turbines to an area with little existing human-built infrastructure ~~c~~would be ~~so~~ substantially adverse ~~as to make them entirely unacceptable~~ and visually incompatible to a substantial degree, in the context of the existing visual character of the eastern Altamont Hills, the shrouded turbines may not represent ~~less~~ such a strong contrast ~~be considered acceptable~~ as new elements of ~~the~~ a human-altered landscape that presently includes wind turbines of several designs and other power- and water-related infrastructure, such as the power lines and aqueducts.

3.4, Biological Resources

Following page 3.4-8, Figure 3.4-1 Biological Communities has been revised. Perennial wetlands were inadvertently omitted (see revised figure at the end of this chapter).

Page 3.4-9, Section 3.4.1 *Existing Conditions* under *Wetlands and Other Waters Survey* has been revised as follows.

ICF International botanists/wetland ecologists delineated waters of the United States, including wetlands, over the entire study area on September 4 and 5, 2013. The delineation was conducted in accordance with the guidance provided in the 1987 U.S. Army Corps of Engineers Wetlands

Delineation Manual (Environmental Laboratory 1987:53–69), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual for the Arid West Region (U.S. Army Corps of Engineers 2008), and 33 Code of Federal Regulations [CFR] 328.3(e) and 329.11(a)(1). The ordinary high water mark (OHWM) was identified according to U.S. Army Corps of Engineers' Regulatory Guidance Letter No. 05-05 and the arid west field guide (U.S. Army Corps of Engineers 2005; Lichvar and McColley 2008).

A Trimble GeoXT global positioning system (GPS) unit, typically accurate to less than 1 horizontal meter, was used to record the locations of jurisdictional boundaries, data points, and other pertinent features, such as culverts.

~~Concurrent with the vegetation surveys, ICF biologists conducted a reconnaissance-level wetland survey to document potentially jurisdictional features in accordance with the *Corps of Engineers Wetlands Delineation Manual* (1987 Manual) (Environmental Laboratory 1987) and, where applicable, the *Interim Regional Supplement to the Corps of Engineers Manual: Arid West Region* (2008 Supplement) (U.S. Army Corps of Engineers 2008). Other waters of the United States were mapped in accordance with the guidelines in USACE Regulatory Guidance Letter No. 05-05, dated December 7, 2005.~~

~~These surveys differed from a formal delineation in that hydric soils were not examined, and the presence and boundaries of each wetland feature were determined on the basis of the presence or inference of positive indicators of hydrophytic vegetation and wetland hydrology. Information on vegetation and hydrology was collected in and adjacent to the features. A resource-grade global positioning system (GPS) unit, typically accurate to less than 1 horizontal meter, was used to record the location of representative wetland boundaries and other pertinent features.~~

Page 3.4-11 under *Alkali Grassland* in Section 3.4.1 *Existing Conditions* the following has been revised to reflect a more recent wetland delineation survey.

~~Alkali Grassland~~Alkali Wetland/Drainage

Alkali wetlands are relatively common in the study area, occurring as closed basins and as parts of linear drainages that, unlike the ephemeral drainages, support wetland vegetation. At several locations, an alkali wetland occurs on the terrace that lies slightly above an ephemeral drainage. Alkali wetlands/drainages are dominated by saltgrass (*Distichlis spicata*), associated with species such as Baltic rush (*Juncus balticus*), alkali heath (*Frankenia salina*), alkali weed, rabbitsfoot grass, sea barley (*Hordeum marinum*), and Italian ryegrass. The vegetation that occupies this habitat is typically short, growing less than 1 meter high. No water was present in the alkali wetlands/drainages at the time of the September 2013 delineation survey.

~~Alkali grassland is relatively common in the study area, occurring in low-lying areas and valleys, often associated with drainages. Portions of this habitat type are intermittently flooded and saturated by alkaline water and are dominated almost entirely by saltgrass (*Distichlis spicata*) with Baltic rush (*Juncus balticus*) and alkali heath (*Frankenia salina*). Nonnative annual grasses, such as sea barley (*Hordeum marinum*) and soft chess brome, are also common associates within this community type. The grasses that occupy this habitat are typically short, growing less than 1 meter high.~~ CDFW considers alkali ~~grassland~~ wetland a sensitive natural community because of its rarity and the pressing threats to the remnant communities from overgrazing and land use conversion (California Department of Fish and Wildlife 2013a), and it is listed in the ~~EACCS~~ Conservation Strategy as a conservation priority. In addition to its status as a sensitive natural community, alkali

~~grassland~~ wetland provides potential habitat for special-status plants, and all or portions of this habitat in the study area may qualify as waters of the United States (wetlands) under Section 404 of the CWA.

A section, *Vernal Pool,* has been added below *Alkali Grassland* in Section 3.4.1, *Existing Conditions,* on page 3.4-11.

Vernal Pool

One vernal pool occurs in the study area in a shallow depression at the top of a hill in Area 1. This pool was dry at the time of the September 2013 delineation survey. Dried vegetation that remained in September was predominantly popcorn flower (*Plagiobothrys* sp.) associated with woolly marbles (*Psilocarphus brevissimus*). CDFW considers vernal pools a sensitive natural community because of its rarity (California Department of Fish and Wildlife 2013a), and it is listed in the Conservation Strategy as a conservation priority. In addition to its status as a sensitive natural community, vernal pools provide potential habitat for special-status plants and wildlife and may qualify as waters of the United States (wetlands) under Section 404 of the CWA.

Page 3.4-11, *Stock Ponds,* in Section 3.4.1, *Existing Conditions,* has been revised as follows.

~~Stock~~ Ponds

Several stock ponds were mapped throughout the study area within low-lying drainages and valley bottoms. These stock ponds are small permanent or semi-permanent bodies of water constructed for retaining runoff water for livestock use. The surface area of these features varies widely depending on the time of year and annual rainfall. Stock ponds in the study area are predominantly unvegetated, but where vegetation is present it generally occurs around the perimeter of the pond and is typically dominated by the alkali grassland species described above under alkali wetland. There are no other naturally-occurring ponds in the study area, other than the vernal pool and alkali wetland described above, which are uniquely different from pond communities.

Page 3.4-12, *Ephemeral Drainages* in Section 3.4.1 *Existing Conditions* has been revised as follows and a section, *Perennial Wetland Drainages,* added.

Ephemeral Drainages

Ephemeral d~~D~~rainages, though uncommon in the study area, occur in low-lying areas and valley bottoms~~. Two named drainages flow through the study area: Mountain House Creek and Patterson Run~~ (Figure 3.4-1). ~~Drainages in the study area are ephemeral.~~ Some ephemeral drainages are unvegetated, other are dominated by nonnative annual grassland species, as described above. During the summer and fall months when these drainages are dry, wildlife habitat use is similar to that described above for annual grasslands. When water is present, ephemeral drainages in the project area often contain deeper areas of ponded water that can provide foraging and ~~breeding~~ dispersal habitat for California red-legged frog, California tiger salamander, and northern Pacific pond turtle. Ephemeral drainages may qualify as waters of the United States (wetlands) under Section 404 of the CWA.

Perennial Wetland Drainages

Perennial wetland drainages in the study area support emergent wetland vegetation dominated by rabbitsfoot grass (*Polypogon monspeliensis*), watercress (*Nasturtium officinale* [*Rorippa nasturtium-aquaticum*]), and saltgrass. Because they contain year-round or nearly-year round water, perennial wetland drainages in the study area provide potential foraging and breeding habitat for California red-legged frog, California tiger salamander, and northern Pacific pond turtle and may qualify as waters of the United States (wetlands) under Section 404 of the CWA.

Page 3.4-21, Section 3.4.1 *Existing Conditions* under *Swainson's Hawk*, the last sentence in the second paragraph the following has been added.

However, within the overall APWRA, including Contra Costa County, one Swainson's hawk fatality was reported in the 2005-06 survey season, and individuals of this species have been killed elsewhere in California from collisions with turbines.

Page 3.4-24, Section 3.4.1 *Existing Conditions*, *Existing Avian Interactions with Turbines* second paragraph under *Wind Turbine Effects on Avian Species* has been revised as follows.

The recent MT report (ICF International 2013) and CEC/PIER study (Smallwood 2013) provide recent avian study information. The MT report covers bird years 2005–2011 and includes adjusted fatalities (birds/MW/year) for each BLOB, for the four focal species, individually and as a group. Additionally, the report provides adjusted fatality rates for individual species, and summaries for all raptors and all birds for the entire APWRA. It is worth noting that the report does provide some ~~[seemingly instead of]~~potentially contradictory findings for burrowing owl related to the seasonal shutdown season. Burrowing owl fatalities exhibit an increase over time in the proportion of annual fatalities that occur during the seasonal shutdown period. The report authors indicate that this may be a potential adverse effect of the seasonal shutdown on burrowing owls because the fatalities may be a result of predation. To the County's knowledge, a definitive analysis of this issue has not been completed. The report also provides estimated bird use rates by BLOB for the four focal species. The Initial Repower is located within all or portions of five BLOBs (9, 16, 17, 18, 22). The existing turbines within BLOB 18 were not monitored in the fatality study because they were not part of the sampling design (ICF International 2013).

The Avian Validation Study uses a before-after-control-impact (BACI) design to evaluate the effects of the shrouded turbine design on avian turbine collisions. The Avian Validation Study focuses on mortality monitoring and behavioral surveys solely at 60 "clusters" of high risk turbines within the project area (i.e., turbines identified as having disproportional levels of avian fatalities when compared to other APWRA turbines). As described in Smallwood (2013), endemic bird fatality rates per wind turbine, based on MT data from 2005-2009, were calculated to characterize the numbers of bird carcasses actually found (i.e., unadjusted fatalities) and to select turbine clusters with the highest fatality rates. From these clusters, Smallwood randomly selected clusters to be replaced by shrouded turbines following the "before" phase of the BACI study. For each randomly selected cluster in the replacement treatment, he assigned the nearest, similar-sized cluster to the control treatment. Fatality monitoring for the before phase of the BACI study began on April 1, 2012. Fatality searches were conducted by experienced personnel walking parallel transects separated by 6-7 meters and out to 50 meters from turbine pads. Each turbine was searched an average of 4.8 days. After one full year of the before phase, 406 unique fatalities were found by searchers. Ultimately, 254 fatality finds were determined to have been possibly or probably caused by wind turbine collisions.

Because the Avian Validation Study conducts more frequent mortality surveys only on high-risk turbines in the project area, the resulting fatality rates are representative of existing conditions for the Initial Repower (which would install 40 FloDesign turbines within high-risk clusters only), but are not representative of existing conditions for the Full Repower, which includes both low- and high-risk turbines across the entire project area.

Table 3.4-3 summarizes the avian data available from these two studies.

Table 3.4-3. Adjusted Fatality Rates and Estimated Bird Use at the APWRA and at the Sand Hill Facility

	Adjusted Rate of Fatalities (fatalities/MW/year)			Estimated Bird Use (observations/minute/km^3)	
Species or Group	Sand Hill BLOBs[a]	Smallwood (2013)[b]	APWRA-Wide[c,e]	Sand Hill BLOBs[d]	APRWA-Wide[c]
American kestrel	0.55	0.56	0.54	0.33	–
Burrowing owl	1.88	3.13	0.72	1.14	–
Golden eagle	0.06	0.00	0.08	0.03	–
Red-tailed hawk	0.63	0.19	0.41	0.25	–
Total focal species	3.12	3.88	1.74	1.75	–
Turkey vulture	–	–	0.01	–	–
White-tailed kite	–	–	0.01	–	–
Northern harrier	–	–	0.01	–	–
Red-shouldered hawk	–	–	0.00	–	–
Swainson's hawk	–	–	0.00	–	–
Ferruginous hawk	–	0.18	0.00	–	–
Unidentified buteo	–	–	0.01	–	–
Peregrine falcon	–	–	0.00	–	–
Prairie falcon	–	–	0.02	–	–
Barn owl	–	0.27	0.21	–	–
Great-horned owl	–	0.11	0.05	–	–
Total all raptors	–	4.44	2.07	–	–
Total all birds	–	–	11.17	–	–

[a] Average rates from ICF International (2013b) for BLOBs 9, 16, 17, and 22 for 2005–2011 bird years.

[b] Includes *high-risk* turbines only (Smallwood 2013).

[c] Average rates from ICF International (2013b) for 2005–2011 bird years.

[d] Average rates from ICF International (2013b) for BLOBs 9, 16, 17,18, and 22 for 2005–2011 bird years.

[e] Rates are rounded and summarized out to two decimal places. In some instances, there may be some fatalities of some species (~~i.~~e.g., Swainson's hawk) which are infrequent and therefore don't appear in rates rounded to two decimal places.

Hyphens in table 3.4-3 indicate that data on fatalities/observations of these species was not available or no fatalities/observations were recorded in the studies.

Page 3.4-26, Section 3.4.2, *Environmental Impacts*, subsection *Analysis Methods,* has been revised as follows.

The baseline fatality rates for avian and bat species for the Initial Repower were primarily determined using the Avian Validation Study (Smallwood 2013). The Avian Validation Study integrates site specific data collected by Smallwood, and MT data, to derive baseline fatality rates. Although the

study program currently provides only one year of data (from bird year 2011-12), it is the best available information specific to the project area and best serves to evaluate achievement of the goals of the Initial Repower (i.e., to demonstrate reductions in avian fatalities). The Avian Validation Study fatality surveys focus solely on 60 high-risk turbine clusters, including those in which the 40 Initial Repower turbines would be located. Because the 40 turbines would be placed only in high-risk locations, a baseline of comparison using the Avian Validation Study fatality rates would provide the most effective means of identifying how the new FloDesign shrouded turbine technology will affect fatality rates. Some species, including golden eagle, had no reported fatalities during the 1st year of the Avian Validation Study, but are known to be at risk from the existing turbines, and fatalities have been reported for this species in the past. Thus, the existing fatality rates from the MT must be included for golden eagle, because considering only the Avian Validation Study rate (zero) would not accurately represent the true risk to this species. Therefore, the baseline for avian and bat impacts for the Initial Repower is based on the Avian Validation Study (itself a combination of MT and Smallwood fatality rates), with the addition of golden eagle fatality rates from just the MT.

The baseline fatality rates for the Full Repower are based on the existing fatality rates from the MT. The Full Repower would replace turbines in both high and lower risk areas. Therefore, the Avian Validation Study fatality rates, which are based solely on high-risk turbines, would not be entirely representative of the baseline rates expected for the Full Repower turbines. Additionally, limitations in the data did not allow Smallwood to estimate numbers or the rate for American kestrel, or 19 other species of birds and bats. Considering these limitations and subsequent applicability of the Avian Validation Study to the Full Repower, tThe Full Repower avian baseline is therefore based only on the MT survey results from all of the project area BLOBs (9, 16, 17, 18, and 22) as an averaged value for 2005 through 2011 (bird years) to ensure an accurate frame of comparison against all existing turbines.

Page 3.4-27~~8~~, Section 3.4.2 Environmental Impacts, first bullet in subsection *Impact Mechanisms* has been revised as follows.

- A *temporary* impact would occur only during decommissioning or subsequent restoration and would generally last less than one year.

Page 3.4-31, Mitigation Measure BIO-1c has been revised as follows.

Mitigation Measure BIO-1c: Compensate for impacts on special-status plant species

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 shall be compensated for through the acquisition, protection, and subsequent management in perpetuity of other existing occurrences at a 2:1 ratio (i.e., preserving two existing similar occurrences per individual similar occurrence impacts). Prior to implementing compensation measures, the Applicant shall provide detailed information to the lead agency and CDFW on the location of the preserved occurrences, quality of the preserved habitat, provisions for protecting and managing the areas in-perpetuity, responsible parties, and other pertinent information that demonstrates the feasibility of the compensation. ~~The lead agency shall reserve the right to disallow the use of compensation when the Applicant has not clearly shown that compensation and management in perpetuity will be feasible. If compensation cannot be shown to be feasible, the Applicant will be required to avoid the impact by relocating the project activity.~~

Page 3.4-35, the first sentence of Impact BIO-3 has been revised as follows.

Aquatic resources, including stock ponds, alkali wetlands, ~~and~~ ephemeral drainages, and perennial wetland drainages occur within the project area.

Page 3.4-36 first paragraph of Mitigation Measure BIO-3c has been revised as follows.

If wetlands are filled or disturbed as part of the project, including situations where avoidance or minimization is infeasible, the Applicant shall compensate for the loss of wetland habitat to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies (e.g., CDFW, USFWS, and USACE). The compensation shall 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, off-site restoration, or mitigation credits. If onsite or off-site restoration is~~are~~ chosen, a~~A~~ restoration and monitoring plan shall be developed and implemented. The plan shall describe how wetlands shall be created and monitored over a minimum period of time and will be developed in consultation with the responsible agencies (e.g., CDFW, USFWS, ,and USACE). The plan will include restoration success criteria based on the actual impacts of the project to ensure that functions and values of the wetlands are replaced. At a minimum, the plan will include requirements to monitor restoration areas annually in years 1-3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the wetlands meet the restoration goals outlined in the plan. Additionally, the plan will include remedial measures to ensure the mitigation is completed, including but not limited to, supplemental seeding, planting, weed control, etc. as determined to be necessary to achieve the success criteria, as well as additional monitoring as necessary to verify the success of the remedial measures.

Page 3.4-38 first three bullets of Mitigation Measure BIO-3c have been revised as follows.

- Ground disturbance within 250 feet of suitable vernal pool branchiopod habitat (i.e., ~~alkali wetlands,~~ ponds, vernal pools~~/pools, and ephemeral drainages~~) will be avoided from the first day of the first significant rain (1 inch or greater) until June 1, or until pools remain dry for 72 hours and no significant rain is forecast on the day of such ground disturbance.
- Locate staging areas at least 250 feet from suitable vernal pool branchiopod habitat (i.e., ~~alkali grassland/wetland,~~ ponds, vernal pool~~/pools, and ephemeral drainages~~).
- If ~~alkali grassland/wetland, ponds/pools, and ephemeral drainages~~suitable vernal pool brachiopod habitat is ~~are~~ present within the work area or within 250 feet of the work area, a qualified biologist will stake and flag an exclusion zone prior to construction activities. The exclusion zone will be fenced with orange construction zone and erosion control fencing (to be installed by construction crew). The exclusion zone will encompass the maximum practicable distance from the worksite and at least 250 feet from the aquatic feature wet or dry.

Page 3.4-38, first sentence of Impact BIO-5 has been revised as follows.

Construction activities within the project area could result in direct effects on California tiger salamander and California red-legged frog or their habitats (ponds, ~~ephemeral~~ drainages, and surrounding upland areas).

Page 3.4-41, first sentence of Mitigation Measure BIO-5 has been revised as follows.

Where suitable aquatic (ponds, perennial wetland drainages) or upland (grassland) habitat for California tiger salamander and California red-legged frog occurs within proposed work areas, the following AMMs will be implemented to ensure that repowering activities do not have an adverse impact on these species.

Page 3.4-38, first sentence of Impact BIO-6 has been revised as follows.

Construction activities within the project area could result in direct effects on Pacific pond turtle or its habitats (ponds, ~~ephemeral~~ drainages).

Page 3.4-41, first sentence of Mitigation Measure BIO-6 has been revised as follows.

Where suitable upland habitat (grasslands within 1,300 feet of ponds~~. or ephemeral~~ drainages, or perennial wetland drainages) for Pacific pond turtle occurs within proposed work areas, the following AMMs will be implemented to ensure that the repowering activities do not have an adverse impact on Pacific pond turtle.

Page 3.4-42, first sentence of the first bullet of Mitigation Measure BIO-6 has been revised as follows.

- One week before and within 24 hours of beginning work in or adjacent to suitable aquatic habitat (ponds, ~~ephemeral~~ drainages), a qualified biologist (one who is familiar with different species of turtles) will conduct surveys for Pacific pond turtle.

Page 3.4-51, under Impact BIO-11 the following has been added after the first paragraph.

Additionally, as described in Chapter 2, *Project Description*, the Initial Repower would involve the removal of approximately 73 existing wind turbines (comprised of several different models) with rated capacities between 40kw and 100kw, and the replacement of these turbines with 40, 100kw shrouded turbines. As indicated in the Project Description (as clarified in this final EIR), the total rotor-swept area of the turbines to be removed is approximately 129,313 square feet (3 acres) and the total rotor-swept area of the Initial Repower turbines is approximately 65,844 square feet (1.5 acres). Because the rotor-swept area and density of turbines are known to be contributing factors in avian mortality, these project metrics may also contribute to fewer collisions overall, in the context of baseline conditions.

Page 3.4-52, under Impact BIO-11 the following was added after the last paragraph.

APM 1 and 2, which are set forth below in full, would operate as follows:

- APM 1: No Full Repower with Ogin, Inc. turbines unless, after one year of post construction fatality monitoring, the avian fatality rates for the Initial Repower are less than 0.562 (birds/MW/yr) for American kestrel, 3.126 (birds/MW/yr) for burrowing owl, 0.190 (birds/MW/yr) for red-tailed hawk or 0.06 (birds/MW/yr) for golden eagle.

- If fatality rates for all four species are not reduced below existing baseline rates within the first year of fatality monitoring, ~~NDEC~~the Applicant may either implement APM 2 or continue monitoring for up to an additional two years.
- If fatality rates for all four species are reduced below existing baseline rates within the additional two years of fatality monitoring, ~~NDEC~~the Applicant may proceed with the Full Repower.
- If fatality rates still are not reduced below existing baseline rates after an additional two years of fatality monitoring, ~~NDEC~~the Applicant must implement APM 2 and may not proceed with the Full Repower until fatality rates for the four species are reduced below existing baseline rates.

- APM 2: In addition, both the Initial Repower and the Full Repower (if it proceeds under APM1) will be subject to seasonal shutdown until operational fatality rates for the shrouded turbines are:
  - At least 30 percent lower than existing baseline fatality rates for American kestrel (i.e., less than 0.3934 birds/MW/yr);
  - At least 50 percent lower than existing baseline fatality rates for red-tailed hawk (i.e., less than 0.95 birds/MW/yr);
  - At least 25 percent lower than existing baseline fatality rates for burrowing owl (i.e., less than 2.445 birds/MW/yr); and
  - Less than 0.06 fatalities per MW per year for golden eagle (i.e., zero fatalities). Any fatality in excess of this rate would require immediate implementation of the APM 2 seasonal shutdown as well as other potential mitigation such as electric pole retrofits.

~~NDEC~~ The applicant may postpone seasonal shutdowns for up to an additional two years of post-construction fatality monitoring. In no event shall post-construction monitoring exceed 3 years under APM 1 and APM 2.

Page 3.4-54, under *Applicant Proposed Measure 2: Implement seasonal shutdowns*, the first and second paragraphs under the bullet point at the top of the page have been revised as follows.

Although the body of evidence points to a potential reduction in avian impacts from the Initial Repower, the amount of the potential reduction is currently unknown. It cannot be ascertained whether fatality rates would be above or below the existing fatality rates for the focal species because the avian impacts of the new technology will remain unknown until after installation and monitoring of the Initial Repower turbines. Therefore, the County has assumed that i~~I~~mpacts on avian species, including the focal species, could ~~be similar~~be greater than ~~to~~ the existing fatality rates of 3.88 focal species/MW/year (0.562 American kestrel, 3.126 burrowing owl, 0.190 red-tailed hawk, or 0.06 golden eagle fatalities/MW/ year). Using ~~a~~ this conservative assumption that fatality rates associated with the new turbines ~~will~~ could be similar to or greater than the existing fatality rate, the Initial Repower may result in 15.5 total focal species fatalities each year. This equates to 2.2 American kestrels, 12.5 burrowing owls, 0.2 golden eagle, and 0.8 red-tailed hawk fatalities each year for the entire 4 MW Initial Repower.

As discussed in the impact analysis methods, the County has determined a baseline fatality rate for the purposes of CEQA. Although~~,~~ the County has determined that fatality rates may not increase

under the Initial Repower, there is some uncertainty as to whether or not the impacts could be greater than the baseline fatality rates. Because monitoring has not yet occurred, the County has determined this uncertainty is substantial enough to warrant a finding of significance in this specific instance. Although these numbers represent relatively low numbers of fatalities in the context of the number of fatalities in the overall Altamont Pass Wind Resource Area, the project would reduce the numbers of these special-status species and thus the impact is considered a substantial effect. It is equally feasible that the Initial Repower would result in a significant reduction in these fatality rates.

Additionally, some special-status avian species, such as Swainson's hawk, have had reported fatalities in the overall APWRA, however they are limited to only one occurrences during many years of monitoring, making the fatality rate effectively zero. Considering this context, these species are generally not thought to be susceptible to collisions with wind turbines in the APWRA, either because of their ecology or because they simply do not occur with enough frequency in the APWRA to generate substantial risk. Impacts on these species, should they occur, would be considered a significant impact, however considering the low potential for impact and the expected reduction in risk from the Initial Repower, impacts on Swainson's hawk from the Initial Repower are not expected to be significant.

As discussed above, the Applicant has proposed measures to monitor the impacts of the Initial Repower and to implement seasonal shutdowns if pre-determined thresholds are exceeded for the focal species. Implementation of these APM's would reduce, but would not eliminate the potentially significant impact from the proposed project. In addition to the APM's which would be implemented as part of the Initial Repower, the County must also adopt other feasible mitigation measures which may further reduce the potential impacts. Therefore, the Applicant would also be required to implement Mitigation Measures BIO-11a, BIO-11b, and BIO-11c. Implementation of these mitigation measures would further reduce, but ~~would~~ still may not eliminate, this potentially significant impact, resulting in a significant and unavoidable impact.

Page 3.4-55, Mitigation Measure BIO-11b: Compensate for the loss of burrowing owl has been revised as follows.

Mitigation Measure BIO-11b: Compensate for the loss of burrowing owl and other focal species

If avian impacts cannot be reduced to below baseline fatality rates ~~the applicable species thresholds~~ through the implementation of APM's 1 and 2, the Applicant will be required to compensate for the unavoidable loss of avian species through the purchase and preservation of conservation lands, on an in perpetuity basis, from a local mitigation and/or conservation bank. One metric of describing potential impacts to avian species from wind project operations is the amount of risk area, often considered to be synonymous with the rotor-swept area. Thus, the amount of rotor-swept area can be used as a metric for mitigating potential impacts to avian species. The County has determined that this is the best currently available metric for mitigating impacts to burrowing owl and other focal species from operations in this specific instance.

Consequently, ~~T~~the Applicant ~~wi~~shall preserve lands which provide habitat for burrowing owl (but which may also provide habitat for American kestrel and red-tailed hawk), the primary focal species potentially impacted by the proposed project, as well as other avian species. Lands will be preserved on a 1:1 rotor swept area basis, with the amount of land preserved in a ratio based on ~~equal to~~ the total rotor swept area of the proposed turbines and the rate of estimated fatalities. Lands will be preserved on a 1:1 rotor-swept area basis (approximately 1.5 acres) if

the rate of estimated fatalities (after monitoring is complete) is more than the baseline fatality rate, as determined by the lead agency. Conserved lands shall provide breeding opportunities for one or more of the primary focal species listed above in an effort to offset fatalities associated with operation of the Initial Repower. If necessary, enhancement measures will be implemented to ensure that the conserved lands provide breeding opportunities for one or more of the primary focal species. Types of habitat enhancement measures on the conserved lands will be weighted according to the relative abundance of focal species impacted by the project, the species-specific needs of those species, and the type and quality of habitat that may already exist on the conserved land. The Applicant will consult with and obtain approval on the mitigation site from the County, including providing an assessment of the number of acres necessary to mitigate the annual impacts to burrowing owl and the other primary focal species (red-tailed hawk and American kestrel). ~~Prior to relying on compensation, the Applicant shall provide detailed information to the lead agency and CDFW on the location of the preserved occurrences, quality of the preserved habitat, provisions for protecting and managing the areas in-perpetuity, responsible parties, and other pertinent information that demonstrates the feasibility of the compensation. The lead agency reserves the right to disallow the use of compensation when the Applicant has not clearly shown that compensation and management in perpetuity will be feasible. The Applicant will consult with and obtain approval on the mitigation site from the County.~~

The following text has been added on Page 3.4-65, under Impact BIO-11[F] after the second paragraph.

Additionally, similar to the Initial Repower, the Full Repower would result in a reduction in total rotor-swept area compared to baseline conditions. The total rotor-swept area of the turbines to be removed is approximately 16 acres, while the total rotor swept area of the shrouded turbines to be installed would be approximately 11 acres, a net reduction. Also, the total number of turbines on the project site would decrease under the Full Repower from approximately 356 to approximately 300. These reductions in rotor-swept area and density of turbines could contribute to fewer collisions overall, in the context of baseline conditions.

Page 3.4-66, fourth paragraph under Impact BIO-11[F] has been revised as follows.

As discussed throughout this EIR, the Applicant is proposing the project, in part, to determine if the new turbine technology would reduce impacts on avian and bat species. The Applicant has committed to ~~several~~ two APMs as part of the proposed project (Initial Repower and Full Repower) to quantify impacts and results of the Avian Validation Study, and to avoid, minimize, and mitigate effects on avian species. Consequently, these APM's must be considered in the context of determining the significance of the potential impacts on avian and bat species. APM 1 applies to the Initial Repower only and APM 2 applies to both the Initial Repower and the Full Repower.

Page 3.4-67 Mitigation Measure BIO-11d has been revised as follows.

If the results of the Avian Validation Study demonstrate that the Full Repower will likely cause avian fatality rates in excess of existing baseline rates for the four focal species, ~~the Initial Repower performance standards,~~ the results of the Avian Validation Study will be analyzed to formulate avian impact reduction measures to reduce the effects of the Full Repower to or below the specified ~~performance standards~~ existing baseline fatality rates (birds/MW/year) of

0.562 (American kestrel, 3.126 (burrowing owl), 0.190 (red-tailed hawk), or 0.06 (golden eagle). The specific form such ~~mitigation~~ reduction measures may take will depend on the results of the Avian Validation Study and engagement with the County, USFWS and CDFW on the basis of such results. Examples of potential measures may include the following.

- Technology modifications
- Hazard-based micrositing
- Hazard-based capacity limitations
- Hazard-based cut-in-speed or real-time curtailment
- Compensatory research funding, habitat protection, ground squirrel control restrictions, or electric pole retro-fits to APLIC standards
- Partial or full siting of conventional turbines instead of shrouded turbines
- Such other measures as may be required by the County, USFWS or CDFW under their respective ~~applicable~~ regulatory regimes applicable to avian species (e.g., County planning and zoning regulations, BGEPA, MBTA, California Fish & Game Code)

If any of the reduction measures listed above are deemed necessary to reduce the potential impacts of the Full Repower on avian species, the Applicant will implement a fatality monitoring program to measure the results of the measures. The fatality monitoring program will be described by the Applicant in the project description for the Full Repower and at a minimum will include the following:

- Fatality monitoring for birds and bats for a period of 3 years using a statistically valid sampling approach.
- Yearly reports (submitted to the County for review and approval) which describe the monitoring methods and results, and which describe the potential effects of the reduction measures implemented on the project.
- Methods for implementing adaptive management during the monitoring period to ensure appropriate measures are being implemented to reduce impacts on birds and bats.
- ~~Additional avian fatality monitoring to increase sample size needed for any of the above components of BIO-11d~~.

3.6, Geology, Soils, and Paleontological Resources

Page 3.6-15 the first bullet of Mitigation Measure GEO-1 has been revised as follows.

- Potential for surface fault rupture at turbine site location: The geotechnical report will investigate the Midway fault and determine whether it poses a risk of surface rupture. Turbine foundations will be sited according to recommendations made pursuant to state and local code requirements in this geotechnical report.

Page 3.6-16 the last paragraph of Mitigation Measure GEO-1 has been revised as follows.

Design requirements: Site-specific design to address the issues of surface fault rupture, strong ground motion, slope failure, and expansive soils will include final design parameters for

earthwork, foundations, site preparation, structure, and infrastructure. The project structural engineer will review the site-specific design, provide additional ~~mitigation~~ design features, if necessary, to meet building code requirements, and incorporate all applicable ~~mitigation~~ design features from the investigation into the structural design plans to ensure that the final plans meet current building code requirements. Geologic hazards, including the potential for grading to create unstable cut or fill slopes, are addressed through the County's adopted building codes. The County enforces compliance with geotechnical report recommendations via the building permit process. Design and engineering recommendations in the geotechnical report will be implemented by the project proponent during construction. The County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report will review the geotechnical investigation, approve the final report, and require compliance with all geotechnical ~~mitigation~~ design features described in the report in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits. The County building department personnel will review project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable geotechnical investigation and other applicable building code requirements.

3.10, Noise

On pages 3.10-19, Mitigation Measure NOI-4 has been revised as follows.

Mitigation Measure NOI-4: Employ noise-reducing practices during ~~decommissioning~~construction

On pages 3.10-22, Mitigation Measure NOI-4 has been revised as follows.

Mitigation Measure NOI-4: Employ noise-reducing practices during decommissioning and construction

Chapter 4, Alternatives Analysis

On pages 4-2 and 4-3, under section 4.2.1 *Adherence to Project Objectives*, the name Flo Design has been changed to Ogin as follows.

- By March 2015, complete a Before-After-Control-Impact (BACI) Avian Validation Study primarily funded by a PIER grant from the CEC. The study would test whether 40 ~~FloDesign~~ Ogin shrouded wind turbines on the project parcels are safer to birds than existing open-blade turbines on the same parcels, and would help to develop predictive turbine siting tools for shrouded and open-blade turbines, with the following study objectives.
    - Compare avian wind turbine interactions between ~~FloDesign~~ Ogin shrouded turbines and multiple types of existing 1980s–'90s-era conventional wind turbines at sites with known high avian fatality rates during day and night and various wind and terrain conditions.
    - Compare avian fatality rates between ~~FloDesign~~ Ogin shrouded turbines and existing turbines at known high fatality sites, using a short search interval and a BACI design.
    - Explain variation in fatality rates by turbine design, flight patterns, and avian interactions with wind turbines (e.g., avoidance behaviors).

- Develop field-tested behavior survey methods and data that inform avoidance rates for use in collision risk models and map-based collision hazard models, with the eventual goal of using model results to assist with wind turbine siting.

- Use information derived from the Avian Validation Study to evaluate potential refinements to the ~~FloDesign~~Ogin shrouded turbine design and to inform ~~FloDesign~~Ogin's repowering plans for the entire project area.

On page 4-3, under section 4.2.1 *Adherence to Project Objectives*, the text has been revised as follows.

The following are secondary objectives of the proposed project. An alternative need not include all of these objectives in order to qualify for analysis in the EIR.

- ~~Provide a comparison between the shrouded turbine design and current-generation, large-scale wind turbines, to determine if shrouded turbines would have a lower rate of avian mortality per MW of energy produced, as well as achieve greater energy efficiency and output.~~

- Minimize environmental impacts by using existing power transmission, access infrastructure and other existing ancillary facilities to the maximum extent feasible.

- Develop a viable source of clean energy to help California achieve its Renewables Portfolio Standard (RPS) with a low MW-to-acre disturbance ratio and without the need for large amounts of water.

- Offset the need for additional electricity generated from fossil fuels, and thereby assist the state in meeting its air quality goals and reducing greenhouse gas emissions.

- Contribute positively to economic activity during construction and operation.

- Increase local short-term and long-term employment opportunities.

In addition, although not a stated objective of the Applicant, Alameda County has the following informational objective related to the proposed project.

- Provide a comparison between the shrouded turbine design and current-generation, large-scale wind turbines, to determine if shrouded turbines would have a lower rate of avian mortality per MW of energy produced, as well as achieve greater energy efficiency and output.

Page 4-10, under section 4.2.2 *Alternatives Considered but Dismissed*, the name Flo Design has been changed to Ogin as follows.

Single Phase, Full Repower with Shrouded ~~FloDesign~~Ogin Turbines

The alternative would consist of a single, 34 MW repowering phase that would replace all existing turbines with 340 shrouded ~~FloDesign~~Ogin turbines. Installing this number of turbines would preclude comparison to existing turbines and would therefore not allow ~~FloDesign~~Ogin to conduct the Avian Validation Study. The County has rejected this alternative because it would not meet the fundamental objectives of the proposed project. In addition, repowering the entire site in a single phase rather than in two or more phases would not reduce any significant environmental impacts of the proposed Initial and Full Repower.

Single Phase, Full Repower with Open Blade, Utility-Scale Turbines

A full 34 MW repower could also be developed in a single phase using conventional open-blade, utility-scale wind turbines (such as commercially available 1.5 MW General Electric (GE) turbines or 2.3 MW Siemens turbines or other utility-scale open-blade turbines within this range). Under this alternative ~~FloDesign~~Ogin would not be able to test and demonstrate the shrouded turbine it manufactures or conduct the Avian Validation Study, both of which are fundamental objectives of the proposed Initial and Full Repower phases. For these reasons, the County decided not to give the alternative further consideration.

Off-Site Alternatives

~~FloDesign~~Ogin considered but dismissed the following off-site alternatives for the reasons discussed below.

Page 4-16 under section 4.3.2 Alternative 1 – Reduced Avian Validation Study the following has been revised.

Under this alternative, the Initial Repower would consist of only 10 shrouded turbines instead of 40 (representing 1 MW total capacity). ~~, rather than~~ The Full Repower would repower to the full proposed 34 MW of capacity at the project site with shrouded ~~FloDesign~~Ogin turbines through subsequent development phases, thus Alternative 1 would consist of a 1MW Initial Repower phase and a 33MW Full Repower phase for a total capacity of 34MW, equal to that of the proposed project. Alternative 1 would meet the fundamental project objective of conducting the Avian Validation Study, but to a lesser degree than the Initial Repower because, while the smaller sample size of 10 shrouded turbines would serve to indicate the avian effects of the shrouded turbines, it would not ~~be large enough to~~ provide the ideal level of robust, conclusive statistical results sought by the applicant, the Study researchers and the CEC in its Study grant, to provide better evidence on which to base a decision to approve the Full Repower.

Page 4-16, second paragraph under Hydrology and Water Quality, the name Flo Design has been changed to Ogin.

Page 4-21 under section 4.3.3 in the first and second paragraphs, the name Flo Design has been changed to Ogin.

Page 4-22, under section 4.3.3 Biological Resources, the 8th sentence in the first paragraph has been revised as follows.

As described below, c~~C~~urrent evidence from monitoring activities at other recently repowered projects, such as the Buena Vista project and the Diablo Winds project, indicates that repowered projects using larger, modern turbines may result in a reduction in fatality rates for most species when compared to the existing turbine models; however, additional monitoring is necessary to confirm the effects.

Page 4-22, under section 4.3.3 Biological Resources, the following text and table have been added after the first paragraph.

In addition to the MT report and the results of the first year of the Avian Validation Study, several projects in the APWRA, but outside of the project area, have been repowered using modern conventional turbines. Although there is considerable range in turbine sizes among these projects, they are all considered new-generation turbines relative to the rest of the turbines in the APWRA including those that currently existing on the Sand Hill project site. To date, three projects have been repowered and have monitoring information available: Diablo Winds, Buena Vista, and Vasco Winds. Diablo Winds comprises thirty-one 660 kW turbines, Buena Vista thirty-eight 1 MW turbines, and Vasco Winds thirty-four 2.3 MW turbines (Insignia Environmental 2012; Brown et al. 2013; ICF International 2013). The annual fatality rates (expressed as fatalities per MW per year) for these three repowering projects are presented in Table 4-1 (with 95% confidence intervals where available), along with the average of the annual fatality rates at nonrepowered turbines for comparison.

Table 4-1. Annual Adjusted Fatality Rates for Nonrepowered and Repowered APWRA Turbines

		Repowered		
Species/Group	Nonrepowered[a]	Diablo Winds[b]	Buena Vista[c]	Vasco Winds[d]
American kestrel	0.59	0.09	0.15	0.297
Barn owl	0.24	0.02	NA	0.033
Burrowing owl	0.78	0.84	0	0.050
Golden eagle	0.08	0.01	0.04	0.016
Loggerhead shrike	0.19	0.00	0	0.000
Prairie falcon	0.02	0.00	0.000	0.000
Red-tailed hawk	0.44	0.20	0.1	0.246
Swainson's hawk	0.00	0.00	0	0.000
All raptors	2.43	1.21	0.31	0.642
All native non-raptors	4.50	2.51	1.01	2.094

Note: fatality rates reflect annual fatalities per MW.

[a] Average of 2005–2011 bird years.

[b] Average of 2005–2009 bird years.

[c] Average of 3 years (2007–2009).

[d] Values from first year of monitoring (2013).

Several factors confound the comparison of avian fatality rates between old- and new-generation turbines. The fatality rates from nonrepowered turbines were obtained while management actions were being implemented to reduce avian fatalities. These actions included the shutdown of turbines during the winter period, a time when winds are lowest but avian use of the area is highest for three of the four focal species. In addition, hazardous turbines were being removed during the period of data collection. These actions in combination resulted in a reduction of avian fatality rates, tending to underestimate the differences between old-generation turbines and newer turbines because the newer turbines are not shut down during the winter period and none were deemed hazardous enough to warrant removal.

The fatality rates from two of the three repowered projects are associated with turbines considerably smaller than those likely to be used in all future repowering projects. Evidence collected to date suggests that avian fatality rates decrease as turbine size increases (Smallwood and Karas 2009). Consequently, these rates may be biased high relative to the turbines likely to be used in the Sand Hill Wind Project and future projects implemented in the rest of the APWRA. In addition, there is considerable variation in collision risk across the various topographies and geographies of the APWRA, presumably due in part to variations in abundance and use of these areas by different species. For example, burrowing owls were known to be abundant in the area around the Diablo Winds turbines when they were installed, and thus there is a relatively high rate (for new-generation turbines) of fatalities at these turbines. Conversely, no burrowing owl fatalities were detected in the Buena Vista project area in the 3 years of fatality monitoring after repowering. Thus, the fatality rates at the three repowered project sites may not be representative of the fatality rates likely to occur at other repowering project sites, including the Sand Hill Wind Project area.

While there are limitations to utilizing the repowering data to predict the effects of repowering, each of the studies and the information available point to a reduction in avian fatality rates from repowering.

Page 4-23 under section 4.3.3 in the first and second paragraphs, the name Flo Design has been changed to Ogin.

Page 4-24 under section 4.3.3 the first sentence under Hydrology and Water Quality, the name Flo Design has been changed to Ogin.

Page 4-25, under section 4.3.4 in the first sentence the name Flo Design has been changed to Ogin.

Page 4-29, under section 4.3.5 in the first sentence the name Flo Design has been changed to Ogin.

Page 4-31, under section 4.3.5, Hydrology and Water Quality in the first sentence, the name Flo Design has been changed to Ogin.

Page 4-32, under section 4.4, Environmentally Superior Alternative, the first and second paragraphs have been revised as follows.

CEQA requires an EIR to examine a range of feasible alternatives to a proposed project. State CEQA Guidelines Section 15126.6(e)(2) requires that an EIR identify which of those alternatives is the environmentally superior alternative. The environmentally superior alternative is typically considered to be the alternative found to have the least environmental impact. If, in the course of identifying the environmentally superior alternative, the No Project Alternative is found to be the environmentally superior alternative, then Section 15126.6(e)(2) of the State CEQA Guidelines further requires that an EIR identify which among the other alternatives is the environmentally superior alternative. Consequently, although the No Project Alternative is evaluated and presented for comparison purposes, determination of the environmentally superior alternative in this chapter primarily reflects the differences in impacts among the remaining alternatives. Determination of the

environmentally superior alternative uses the impact evaluations of the proposed project and of each alternative in a comparative process. The impacts of each alternative are identified and compared, as shown in draft EIR Section 4.3, Alternatives Analysis, to those of the proposed project. The relative severity and quantity of each alternative's impacts are evaluated, and the alternative found to have the least impact, as compared to the others, is determined to be the environmentally superior alternative.

In the case of the proposed project and alternatives, the No Project Alternative was not determined to be environmentally superior. Alternative 1 was found to be the environmentally superior alternative. Alternative 1 differs from the proposed project and other alternatives primarily because the Initial Repower phase of this alternative would consist of only 10 shrouded turbines instead of 40. The reduced scale and duration of construction activities associated with Alternative 1 compared to the proposed project and other alternatives, all of which would entail installation of 40 turbines in the Initial Repower, lessens the potential for significant effects on a number of resources (Table 4-~~21~~). It is important to note that the primary difference between Alternative 1 and the proposed project occurs during the Initial Repower phase, and that the Full Repower phase of Alternative 1 results in the same total generating capacity and number of shrouded turbines as the Full Repower phase of the proposed project. Identification of Alternative 1 as the environmentally superior alternative therefore focuses primarily on the reduced impacts of the Initial Repower as compared to the proposed project and other alternatives.

Pages 4-32 and 4-33, references to Table 4-1 have been changed to Table 4-2.

Page 4-34 Table 4-1 has been changed to Table 4-2 and revised as follows.

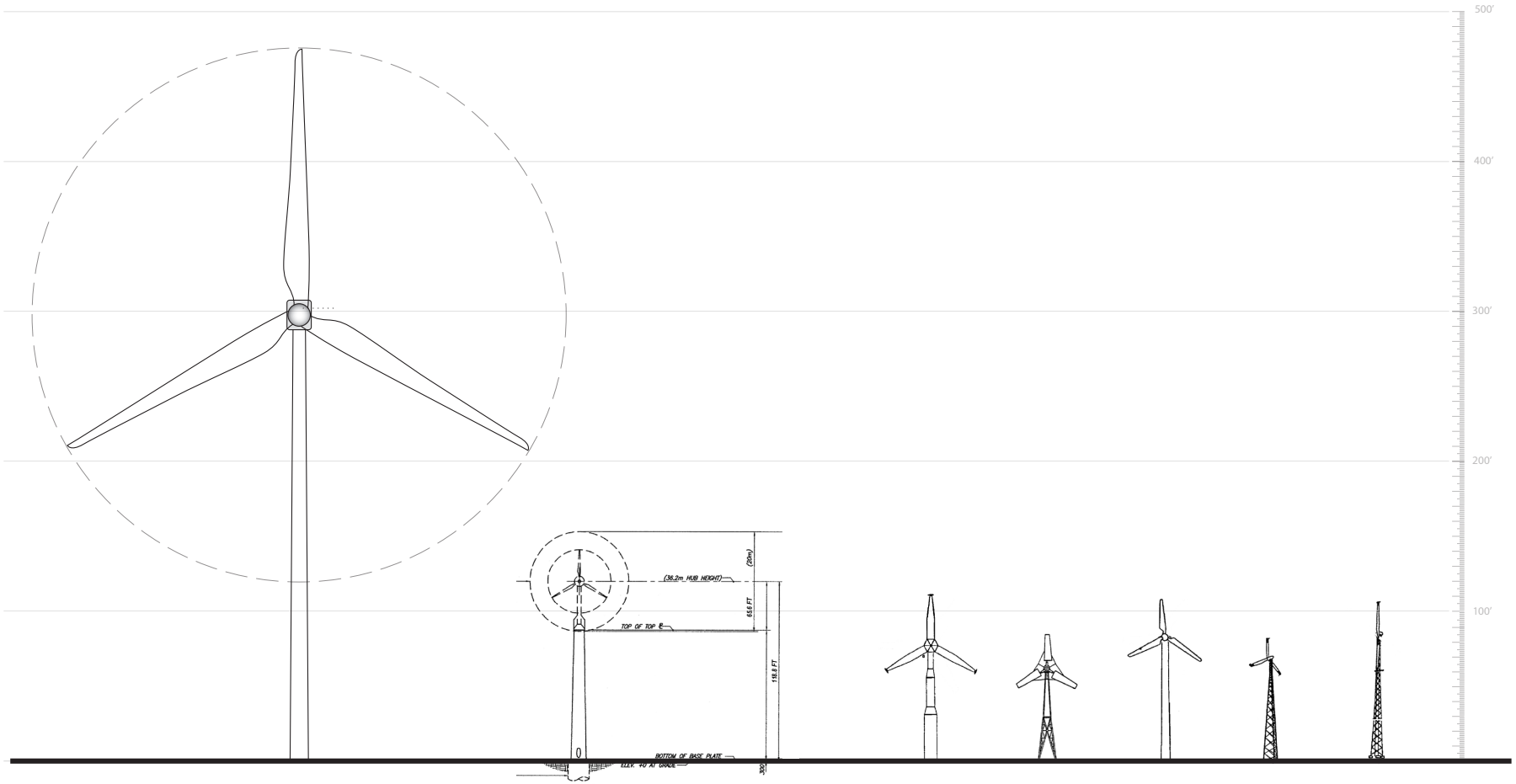
	No Project Impacts Would Be	Scenarios	Alternative 1 Impacts Would Be	Alternative 2 Impacts Would Be	Alternative 3 Impacts Would Be	Alternative 4 Impacts Would Be
Aesthetics	Similar	Initial Repower	**Reduced**	*Same*	*Same*	*Same*
		Full Repower	Similar	Similar **Increased** *for lighting*	Similar	*Same*
Agricultural and Forestry Resources	Similar	Initial Repower	Similar	*Same*	*Same*	*Same*
		Full Repower	Similar	Similar	Similar	*Same*
Air Quality	Similar	Initial Repower	**Reduced**	*Same*	*Same*	*Same*
		Full Repower	Similar	Similar	Similar	*Same*
Biological Resources	Similar~~Increased~~	Initial Repower	**Reduced**	*Same*	*Same*	**Reduced**
		Full Repower	Similar	*Same*	**Reduced**	**Reduced**
Cultural Resources	Similar	Initial Repower	**Reduced**	*Same*	*Same*	*Same*
		Full Repower	Similar	**Reduced**	Similar	*Same*

	No Project Impacts Would Be	Scenarios	Alternative 1 Impacts Would Be	Alternative 2 Impacts Would Be	Alternative 3 Impacts Would Be	Alternative 4 Impacts Would Be
Geology, Soils, Paleontological Resources	Similar	Initial Repower	**Reduced**	*Same*	*Same*	*Same*
		Full Repower	Similar	Similar (geology and soils) **Reduced** (paleontological resources)	Similar	*Same*
Greenhouse Gas	Similar	Initial Repower	**Reduced**	*Same*	*Same*	*Same*
		Full Repower	Similar	**Reduced**	Similar	**Increased** by way of *less benefit*
Hazards and Hazardous Materials	Similar	Initial Repower	Similar, *slightly less*	*Same*	*Same*	*Same*
		Full Repower	Similar	Similar **Increased** (blade-throw)	Similar	**Reduced** (wildland fire hazard)
Hydrology and Water Quality	Similar	Initial Repower	**Reduced**	*Same*	*Same*	Similar
		Full Repower	Similar	**Reduced**	Similar	Similar
Noise	Similar	Initial Repower	**Reduced**	*Same*	*Same*	**Reduced** (operational noise)
		Full Repower	Similar	Similar	Similar	**Reduced** (operational noise)
Transportation/ Traffic	Similar	Initial Repower	**Reduced**	*Same*	*Same*	Similar
		Full Repower	Similar	Similar	Similar	Similar
Utilities and Service Systems	Similar	Initial Repower	Similar	*Same*	*Same*	*Same*
		Full Repower	Similar	Similar	Similar	*Same*
Summary						
Increased	~~1 resource area~~None	Initial Repower	None	None	None	None
		Full Repower	None	2 resource areas	None	1 resource area
Reduced	None	Initial Repower	9 resource areas	None	None	2 resource areas
		Full Repower	None	4 resource areas	1 resource area	3 resource areas

Page 4-34, Table 4-3 has been added to clarify impacts between alternatives to focal species and bats.

Table 4-3. Comparison of Avian and Bat Impacts under the Alternatives to the Proposed Project

	No Project Impacts Would Be	Scenarios	Alternative 1 Impacts Would Be	Alternative 2 Impacts Would Be	Alternative 3 Impacts Would Be	Alternative 4 Impacts Would Be
Focal Species	Same	Initial Repower	**Reduced**	Same	Same	**Reduced**
		Full Repower	Increased	**Reduced**	**Reduced**	**Reduced**
Bats	Same	Initial Repower	**Reduced**	Same	Same	**Reduced**
		Full Repower	Increased	Increased	**Reduced**	**Reduced**



Name	Size (kW)	Hub Height (m)	Rotor Diameter (m)	Total Height (m)		Rotor Swept Area (m²)	Turbines to be Removed Count
~~FloDesign~~ Ogin	100	36.2	13.7	46.9	153.9 ft	147.4114	N/A
Energy Sciences, Inc.	80	24	16.5	32.3	106 ft		
Holec/Windmatic	65	18.5	14.8	25.9	85 ft	172.0336	8
Holec/Polenko	100	24.6	18.2	33.7	110.6 ft	260.1553	1
Enertech	40	18.5	13.5	25.3	83 ft	143.1388	43
Micon	65	24.6	16.0	32.6	107 ft	201.0619	21
Fourth-generation turbine	1-3 MW	80	125	143	469.2 ft		

Note: Fourth generation is shown only for height comparison purposes.

Source: Smallwood, K. S.. 2004. Developing Methods to Reduce *Bird Mortality in the Altamont Pass Wind Resource Area, California*. California Energy Commission 500-01-019.

Graphics/00151.13 003 Sand Hill EIR/Turbine Comparisons (09-13) SS

ICF INTERNATIONAL

Revised Figure 2-9
Wind Turbine Comparison

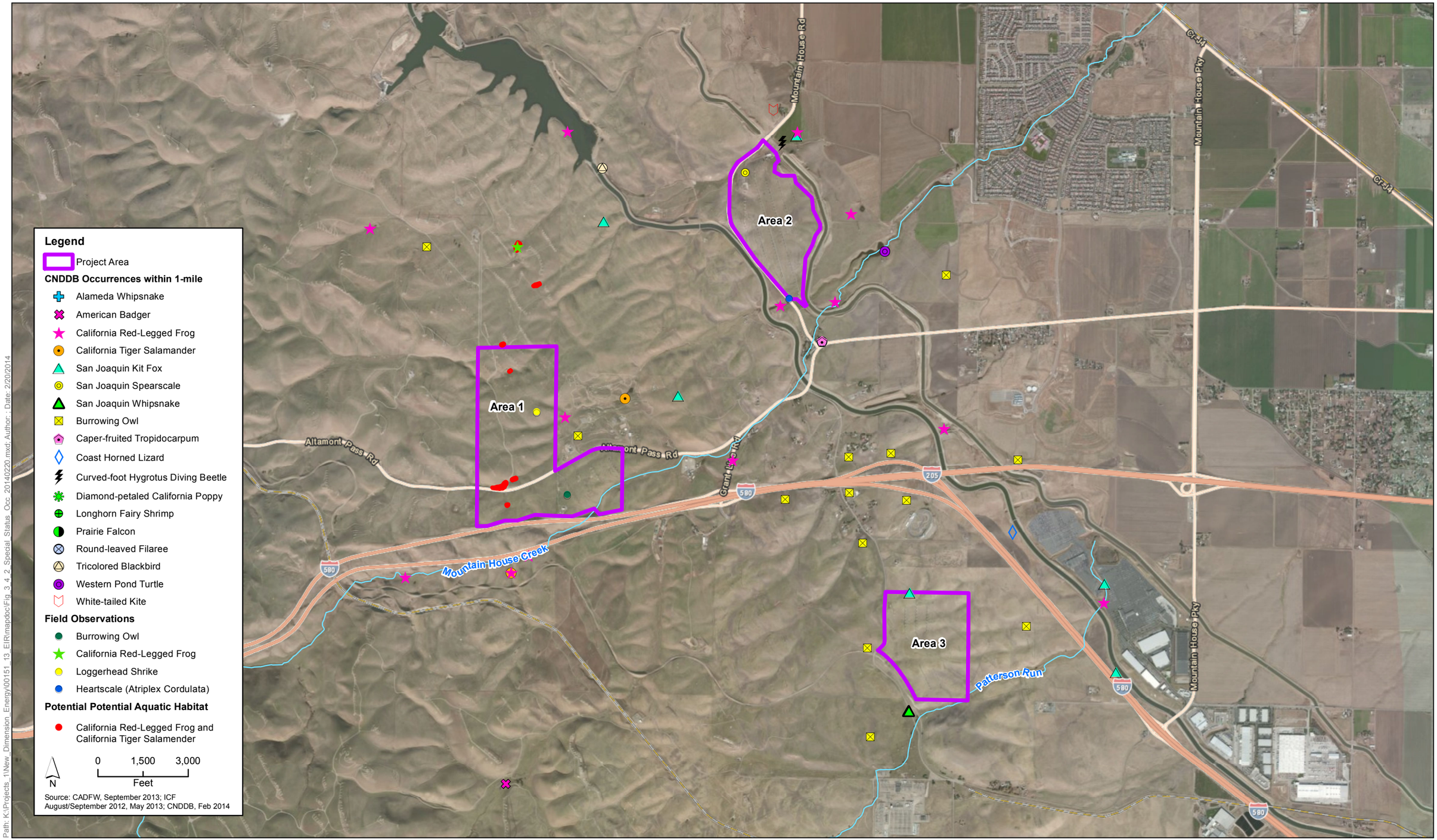


Figure 3.4-2
Special-Status Species Occurrences and Suitable Breeding Habitat for California Red-Legged Frog and California Tiger Salamander

Appendix A

Final Mitigation Monitoring and Reporting Program

Final Mitigation Monitoring and Reporting Program

Introduction

Section 21081.6 of the California Environmental Quality Act (CEQA) and Section 15097 of the State CEQA Guidelines require a lead agency that adopts an environmental impact report (EIR) to establish a program to monitor and report on the adopted mitigation measures in order to ensure that approved mitigation measures are implemented subsequent to project approval. Specifically, the lead agency must adopt a reporting or monitoring program for mitigation measures incorporated into a project or imposed as conditions of approval. The program must be designed to ensure compliance during project implementation. As stated in California Public Resources Code Section 21081.6(a)(1):

> The public agency 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. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead agency or a responsible agency, prepare and submit a proposed reporting or monitoring program.

This mitigation monitoring and reporting program (MMRP) is designed to meet that requirement. As lead agency for this project, Alameda County will use this MMRP to ensure compliance with mitigation measures associated with implementation of the proposed conditional use permit modifications. Under each identified resource, the MMRP provides the adverse impact(s), its corresponding mitigation measure(s), and the implementation and monitoring requirements, defined as follows.

- **Impact:** Identifies the impact number and statement as shown in the final EIR.
- **Proposed Mitigation Measure(s):** Provides full text of the mitigation measure as shown in the final EIR.
- **Timing:** Defines the phase of the project when a specific mitigation action will be taken.
- **Implementing Party(s):** Designates the party or parties responsible for implementing the mitigation measure.
- **Monitoring:** Identifies the party responsible for review of the mitigation measure's implementation, and the action and criteria necessary for ensuring implementation.

Mitigation is required to address significant or potentially significant impact(s) on the following resources.

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources

- Geology, Soils, and Paleontological Resources
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Noise
- Transportation/Traffic

A sample mitigation monitoring compliance form is provided at the end of this document. For detailed information regarding environmental resource impact methodology and analysis, please see the draft EIR and final EIR.

Final Mitigation Monitoring and Reporting Program

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Aesthetics – Initial Repower				
Impact AESTH-1: Temporary visual impacts caused by construction activities	**Mitigation Measure AESTH-1: Limit construction to daylight hours** Construction activities will not continue past daylight hours (which varies according to season) or on weekends. This would reduce the amount of construction activities experienced by viewer groups because most construction activities would occur during business hours (when most viewer groups are likely at work) and would eliminate the need to introduce high-wattage lighting sources to operate in the dark.	During Initial Repower construction	Project Applicant/ Contractor	**Reviewing Party** County of Alameda **Criteria** • Check to ensure that construction is not occurring past daylight hours • Check to ensure that high-wattage lighting is not used during periods of low daylight. **Monitoring Action** • Periodically check construction site to verify construction is not occurring past daylight hours and that high-wattage lighting is not used during dusk and dawn during construction.
Aesthetics – Full Repower				
Impact AESTH-1[F]: Temporary visual impacts caused by construction activities	**Mitigation Measure AESTH-1: Limit construction to daylight hours** Construction activities will not continue past daylight hours (which varies according to season) or on weekends. This would reduce the amount of construction activities experienced by viewer groups because most construction activities would occur during business hours (when most viewer groups are likely at work) and would eliminate the need to introduce high-wattage lighting sources to operate in the dark.	During Full Repower construction	Project Applicant/ Contractor	**Reviewing Party** County of Alameda **Criteria** • Check to ensure that construction is not occurring past daylight hours • Check to ensure that high-wattage lighting is not used during periods of low daylight. **Monitoring Action** • Periodically check construction site to verify construction is not occurring past daylight hours and that high-wattage lighting is not used during dusk and dawn during construction.
Impact AESTH-5[F]: Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area	**Mitigation Measure AESTH-5[F]: Minimize exterior and interior lighting fixtures to those needed to ensure safety and security** The exterior and interior lighting for the O&M building will be limited and designed to meet appropriate safety and security requirements. These conditions will be in compliance with International Dark-Sky Association approved fixtures. Specific conditions applied to the exterior and interior lighting may involve, but not be limited to, one or more of the following. • Lights will be shielded and directed downward or toward the specific area requiring illumination. • Continuous lighting will be avoided, unless necessary for worker safety. • Light fixtures will be activated by motion sensors. • Lights used will be the most energy-efficient type appropriate for the specific use. • The design will involve the minimum number of lights and minimum brightness level needed to ensure worker safety. • Interior lighting will use low-intensity fixtures and the use of interior lights will be minimized to those	During Full Repower construction and operation	Project Applicant/ Contractor Project Operator	**Reviewing Party** County of Alameda **Criteria** • Check to ensure that exterior and interior lighting fixtures are in compliance with International Dark-Sky Association approved fixtures. • Check to ensure that lights are shielded and directed downward and toward the specific area requiring illumination. • Check to ensure that lighting motion sensors are engaged and working properly. • Check to ensure that the lighting design utilizes

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	necessary to ensure safety and security. • Use of harsh mercury vapor or low-pressure sodium bulbs will be prohibited.			lights that are the most energy-efficient type appropriate for the specific use. • Check to ensure that the lighting design utilizes the minimum number of lights and minimum brightness level needed to ensure worker safety. • Check to ensure that the lighting design utilizes low-intensity fixtures and the use of interior lights are minimized to those necessary to ensure safety and security. • Check to ensure that the lighting design does not utilize harsh mercury vapor and low-pressure sodium bulbs. **Monitoring Action** • Review lighting design during plan check and verify onsite lighting periodically during operations to ensure compliance with measure.
Air Quality – Initial Repower				
Impact AQ-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation	**Mitigation Measure AQ-2: Implement basic BAAQMD construction mitigation measures** The following basic construction mitigation measures, as put forth in BAAQMD's CEQA Guidelines, shall be included in the project design and implemented during construction. 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material offsite shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall 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 CCR). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator. 8. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.	During Initial Repower design and construction	Contractor	**Reviewing Party** Project Applicant, then County of Alameda **Criteria** • Minimal visible dust on-site • Minimal or zero dust complaints **Monitoring Action** The following monitoring actions correspond to the numbered sub-measures in the mitigation measure. 1. Create watering schedule/log for exposed surfaces. 2. Assign a spotter at entrance to construction site to monitor incoming truck traffic for covered loads. 3. Create mud removal schedule/log for adjacent public roads. 4. Observe posted signs informing of vehicle speed limits. Create record of violations observed by spotter or foreman. 5. Observe paved roadways, driveways, and sidewalks. Create record of outstanding unpaved pathways that should be paved. 6. Observe posted signs informing of idling restrictions. Create record of violations observed by spotter or foreman.

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
				7. Maintain record/log of construction equipment maintenance schedules. 8. Observe publicly posted signs. Maintain record/log of dust complaints.
Impact AQ-3: 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)	**Mitigation Measure AQ-2: Implement basic BAAQMD construction mitigation measures** The following basic construction mitigation measures, as put forth in BAAQMD's CEQA Guidelines, shall be included in the project design and implemented during construction. 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material offsite shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall 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 CCR). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator. 8. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.	During Initial Repower design and construction	Contractor	**Reviewing Party** Project Applicant, then County of Alameda **Criteria** • Minimal visible dust on-site • Minimal or zero dust complaints **Monitoring Action** The following monitoring actions correspond to the numbered sub-measures in the mitigation measure. 1. Create watering schedule/log for exposed surfaces. 2. Assign a spotter at entrance to construction site to monitor incoming truck traffic for covered loads. 3. Create mud removal schedule/log for adjacent public roads. 4. Observe posted signs informing of vehicle speed limits. Create record of violations observed by spotter or foreman. 5. Observe paved roadways, driveways, and sidewalks. Create record of outstanding unpaved pathways that should be paved. 6. Observe posted signs informing of idling restrictions. Create record of violations observed by spotter or foreman. 7. Maintain record/log of construction equipment maintenance schedules. 8. Observe publicly posted signs. Maintain record/log of dust complaints.
	Mitigation Measure AQ-3a: Ensure off-road equipment emission standards certification The developer shall ensure that all off-road equipment used by construction contractors during demolition and grading phases is certified to Tier 3 or higher emission standards. The developer shall provide a record of the equipment used during these phases indicating make, model, year, horsepower, and certification level to the County as verification of compliance.	During Initial Repower construction	Contractor	**Reviewing Party** Project Applicant, then County of Alameda **Criteria** • Meet Tier 3 or higher emission standards for all off-road equipment **Monitoring Action** • Review and verify record that off-road equipment has achieved Tier 3 or higher emission standards, to be provided by Project Applicant.

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	Mitigation Measure AQ-3b: Implement BAAQMD's additional construction mitigation measures The following additional construction mitigation measures, as put forth in BAAQMD's CEQA Guidelines, shall be included in the project design and implemented during construction. 1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe. 2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph. 3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity. 4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established. 5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time. 6. All trucks and equipment, including their tires, shall be washed off prior to leaving the site. 7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel. 8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent. 9. Minimizing the idling time of diesel powered construction equipment to two minutes. 10. The project shall develop a plan demonstrating that the off-road 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 percent NOX reduction and 45 percent 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. 11. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings). 12. Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOX and PM. 13. Requiring all contractors use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.	During Initial Repower construction	Contractor	**Reviewing Party** Project Applicant, then County of Alameda **Criteria** • Minimal visible dust on-site • Minimal or zero dust complaints **Monitoring Action** The following monitoring actions correspond to the numbered sub-measures in the mitigation measure 1. Use moisture probe or lab samples to verify soil moisture. 2. Assign a spotter to monitor wind speed and notify foreman if speeds exceed 20 mph. 3. Applicant to verify that wind breaks have been installed. 4. Applicant to verify that vegetation has been planted and continues to grow. 5. Create a detailed daily schedule that prevents the simultaneous operation of excavation, grading, and ground-disturbing activities. 6. Create a truck washing record/log to ensure that all trucks have been washed at the end of each day. 7. Applicant to verify that wood chips, mulch, or gravel has been placed at the appropriate sites. 8. Applicant to verify that sandbags and other erosion control measures are in place. 9. Post signs or inform construction team of two minute idling restriction. Create record of violations. 10. Applicant to verify through equipment inventory and manifests that the appropriate emissions requirements are met. 11. Applicant to verify through contractor that low VOC coatings have been utilized. 12. Applicant to verify that the inventory of construction equipment verifies the Best Available Control Technology. 13. Applicant to verify that the inventory of construction equipment only includes CARB's most recent certification standard for off-road heavy duty diesel engines.

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Air Quality – Full Repower				
Impact AQ-2[F]: Violate any air quality standard or contribute substantially to an existing or projected air quality violation	**Mitigation Measure AQ-2: Implement basic BAAQMD construction mitigation measures** The following basic construction mitigation measures, as put forth in BAAQMD's CEQA Guidelines, shall be included in the project design and implemented during construction. 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material offsite shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall 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 CCR). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator. 8. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.	During Full Repower design and construction	Contractor	**Reviewing Party** Project Applicant, then County of Alameda **Criteria** • Minimal visible dust on-site • Minimal or zero dust complaints **Monitoring Action** The following monitoring actions correspond to the numbered sub-measures in the mitigation measure. 1. Create watering schedule/log for exposed surfaces. 2. Assign a spotter at entrance to construction site to monitor incoming truck traffic for covered loads. 3. Create mud removal schedule/log for adjacent public roads. 4. Observe posted signs informing of vehicle speed limits. Create record of violations observed by spotter or foreman. 5. Observe paved roadways, driveways, and sidewalks. Create record of outstanding unpaved pathways that should be paved. 6. Observe posted signs informing of idling restrictions. Create record of violations observed by spotter or foreman. 7. Maintain record/log of construction equipment maintenance schedules. 8. Observe publicly posted signs. Maintain record/log of dust complaints.
Impact AQ-3[F]: 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)	**Mitigation Measure AQ-2: Implement basic BAAQMD construction mitigation measures** The following basic construction mitigation measures, as put forth in BAAQMD's CEQA Guidelines, shall be included in the project design and implemented during construction. 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material offsite shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 mph. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the	During Full Repower design and construction	Contractor	**Reviewing Party** Project Applicant, then County of Alameda **Criteria** • Minimal visible dust on-site • Minimal or zero dust complaints **Monitoring Action** • The following monitoring actions correspond to the numbered sub-measures in the mitigation measure. 1. Create watering schedule/log for exposed surfaces. 2. Assign a spotter at entrance to construction

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of CCR). Clear signage shall be provided for construction workers at all access points. 7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator. 8. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.			site to monitor incoming truck traffic for covered loads. 3. Create mud removal schedule/log for adjacent public roads. 4. Observe posted signs informing of vehicle speed limits. Create record of violations observed by spotter or foreman. 5. Observe paved roadways, driveways, and sidewalks. Create record of outstanding unpaved pathways that should be paved. 6. Observe posted signs informing of idling restrictions. Create record of violations observed by spotter or foreman. 7. Maintain record/log of construction equipment maintenance schedules. 8. Observe publicly posted signs. Maintain record/log of dust complaints.
	Mitigation Measure AQ-3a: Ensure off-road equipment emission standards certification The developer shall ensure that all off-road equipment used by construction contractors during demolition and grading phases is certified to Tier 3 or higher emission standards. The developer shall provide a record of the equipment used during these phases indicating make, model, year, horsepower, and certification level to the County as verification of compliance.	During Full Repower construction	Contractor	**Reviewing Party** Project Applicant, then County of Alameda **Criteria** • Meet Tier 3 or higher emission standards for all off-road equipment **Monitoring Action** • Review and verify record that off-road equipment has achieved Tier 3 or higher emission standards, to be provided by Project Applicant.
	Mitigation Measure AQ-3b: Implement BAAQMD's additional construction mitigation measures The following additional construction mitigation measures, as put forth in BAAQMD's CEQA Guidelines, shall be included in the project design and implemented during construction. 1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe. 2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph. 3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity. 4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established. 5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time. 6. All trucks and equipment, including their tires, shall be washed off prior to leaving the site. 7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch	During Full Repower construction	Contractor	**Reviewing Party** Project Applicant, then County of Alameda **Criteria** • Minimal visible dust on-site • Minimal or zero dust complaints **Monitoring Action** The following monitoring actions correspond to the numbered sub-measures in the mitigation measure 1. Use moisture probe or lab samples to verify soil moisture. 2. Assign a spotter to monitor wind speed and notify foreman if speeds exceed 20 mph. 3. Applicant to verify that wind breaks have been installed.

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	compacted layer of wood chips, mulch, or gravel. 8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent. 9. Minimizing the idling time of diesel powered construction equipment to two minutes. 10. The project shall develop a plan demonstrating that the off-road 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 percent NOX reduction and 45 percent 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. 11. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings). 12. Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOX and PM. 13. Requiring all contractors use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.			4. Applicant to verify that vegetation has been planted and continues to grow. 5. Create a detailed daily schedule that prevents the simultaneous operation of excavation, grading, and ground-disturbing activities. 6. Create a truck washing record/log to ensure that all trucks have been washed at the end of each day. 7. Applicant to verify that wood chips, mulch, or gravel has been placed at the appropriate sites. 8. Applicant to verify that sandbags and other erosion control measures are in place. 9. Post signs or inform construction team of two minute idling restriction. Create record of violations. 10. Applicant to verify through equipment inventory and manifests that the appropriate emissions requirements are met. 11. Applicant to verify through contractor that low VOC coatings have been utilized. 12. Applicant to verify that the inventory of construction equipment verifies the Best Available Control Technology. 13. Applicant to verify that the inventory of construction equipment only includes CARB's most recent certification standard for off-road heavy duty diesel engines.
Biological Resources – Initial Repower				
Impact BIO-1: Project construction could have direct or indirect impacts on special-status plants	**Mitigation Measure BIO-1a: Conduct surveys to determine the presence or absence of special-status plant species** The Applicant shall conduct spring surveys for the special-status plant species within and adjacent (i.e., within 250 feet) to all areas of proposed temporary or permanent disturbance prior to construction-related activities. All surveys shall be conducted by qualified biologists using the 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. Mitigation Measure BIO-1b will apply when the spring surveys determine that any special-status plant species is present.	Prior to Initial Repower construction-related activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Qualified biologist conducts surveys during appropriate season and prepares report of findings • Locations of special-status plants near proposed disturbance areas are mapped **Monitoring Action** • Verify surveys are complete prior to issuing grading or building permits

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	Mitigation Measure BIO-1b: Avoid and minimize impacts on special-status plant species by establishing activity exclusion zones, where feasible Where surveys determine that a special-status plant species is present in or adjacent to a project parcel, direct and indirect impacts of the project on the species (e.g., heartscale and/or other species detected as a result of surveys conducted in compliance with Mitigation Measure BIO-1a) shall be avoided where feasible through the establishment of activity exclusion zones, within which no ground-disturbing activities shall take place, including construction of new facilities, construction staging, or other temporary work areas. Activity exclusion zones for special-status plant species shall be established prior to construction activities around each occupied habitat site, the boundaries of which shall be clearly marked with standard orange plastic construction exclusion fencing or its equivalent. The establishment of activity exclusion zones shall not be required if no construction-related disturbances would occur within 250 feet of the occupied habitat site. 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. Mitigation Measure BIO-1c will apply when activity exclusion zones are not feasible (i.e., footprint of new turbine foundations cannot be moved or adjusted).	Prior to and during Initial Repower construction-related activities if required pursuant to MM BIO-1a	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Based on results of MM BIO-1a surveys, confirm if MM BIO-1b implementation necessary • Exclusion zones are established around special-status plant populations that occur within 250 feet of ground disturbance • Fencing of exclusion zone is maintained intact during project construction **Monitoring Action** • Where exclusion zones are established, verify that fencing or other demarcation is intact and resources are being avoided
	Mitigation Measure BIO-1c: Compensate for impacts on special-status plant species 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 shall be compensated for through the acquisition, protection, and subsequent management in perpetuity of other existing occurrences at a 2:1 ratio (i.e., preserving two existing similar occurrences per individual similar occurrence impacts). Prior to implementing compensation measures, the Applicant shall provide detailed information to the lead agency and CDFW on the location of the preserved occurrences, quality of the preserved habitat, provisions for protecting and managing the areas in-perpetuity, responsible parties, and other pertinent information that demonstrates the feasibility of the compensation.	Prior to and during Initial Repower construction-related activities if required pursuant to MM BIO-1a	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda and CDFW **Criteria** • Details on preservation site provided to County and CDFW for review and are approved prior to issuance of grading/building permits • Project activity is relocated to avoid plant populations that cannot be adequately compensated **Monitoring Action** • After approval of preservation site, responsible parties identified by Alameda County and CDFW will monitor site in perpetuity
	Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and 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, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines.	Prior to and during Initial Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities 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 parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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, 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. • 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			• Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions **Monitoring Action** • Verify periodically during and after initial repowering activities that AMMs are properly implemented
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). The biologist will assist the crew, as needed, to comply with all project implementation restrictions and guidelines. In addition, the	During Initial Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	biologist will be responsible for ensuring that the Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.			provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary
	Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).	Within 30 days prior to any ground disturbance – Plan prepared and approved During Initial Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • County will verify that CDFW has approved the grassland restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration • Project Applicant will provide annual monitoring reports to the County
Impact BIO-2: Construction of the proposed project has the potential to directly or indirectly affect sensitive natural communities	**Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy** The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and will include a brief review of the biology of the covered species and guidelines that	Prior to and during Initial Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	must be followed by all personnel to reduce or avoid negative effects on these species during decommissioning, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. 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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities 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 parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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, 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. • 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw • Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions **Monitoring Action** • Verify periodically during and after initial repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). 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 Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	During Initial Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary
	Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).	Within 30 days prior to any ground disturbance – Plan prepared and approved During Initial Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • Verify that CDFW has approved the grassland restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration • Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	Mitigation Measure BIO-2: Compensate for the loss of alkali meadow habitat If alkali meadow habitat is filled or disturbed as part of the project, the Applicant shall compensate for the loss of this habitat to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies (e.g., CDFW, USFWS, and USACE). The compensation shall 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, off-site restoration, or mitigation credits. The Applicant shall provide the lead agency with proof of the pertinent state and federal agencies' approvals of the compensation and any related permits.	Prior to and during Initial Repower construction-related activities	Project Applicant	**Reviewing Party** County of Alameda and Corps **Criteria** • A compensatory mitigation plan is prepared and implemented • Replacement habitat is provided at a minimum 1:1 ratio **Monitoring Action** • Alameda County verifies that compensation plan has been approved by the Corps and all other responsible agencies prior to issuance of a grading/building permit
Impact BIO-3: Construction of the proposed project has the potential to affect wetlands and other waters of the United States	**Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy** The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and 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, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. 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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own	Prior to and during Initial Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw • Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions **Monitoring Action** • Verify periodically during and after initial repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities 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 parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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, 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. • 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). 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 Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	During Initial Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary
	Mitigation Measure BIO-3a: Identify and delineate waters of the United States and waters of the State (including wetlands) Prior to construction activities and final siting of individual work areas, the Applicant will retain a qualified wetland ecologist (i.e., a wetland ecologist with previous experience conducting wetland delineations in the region) to identify areas that could qualify as waters of the United States and waters of the State, including wetlands, assuming such features exist within or adjacent to work areas identified for each project element. Wetlands will be identified using both the USACE and USFWS/CDFW definitions of wetlands. USACE jurisdictional wetlands will be delineated using the methods outlined in the 1987 Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and where appropriate, using the updated methods in the Arid West Supplement (U.S. Army Corps of Engineers 2008) to the 1987 manual. The jurisdictional boundary of other waters of the United States will be identified based on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed	Prior to Initial Repower ground-disturbing activities and following final designation of work areas	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda and Corps **Criteria** • Wetland delineation is completed prior to ground disturbance and report with map is prepared • Delineation report is verified by the Corps. **Monitoring Action** • Verify that delineation has been completed and is verified by the Corps

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area (33 CFR 328.3[e]). This information will be mapped and documented in a wetland delineation report and submitted to USACE with a copy provided to the lead agency.			
	Mitigation Measure BIO-3b: Avoid and minimize disturbance of waters of the United States, including wetland communities The Applicant will avoid and minimize impacts on delineated wetlands and other waters of the United States (creeks and streams) by implementing the following measures. • Redesign or modify the location of work areas to avoid direct and indirect impacts on wetland habitats. • Protect wetland habitats that occur near the project area by installing fencing around the environmentally sensitive area at least 20 feet from the edge of the wetland. Depending on site-specific conditions and permit requirements, this buffer may be wider than 20 feet (e.g., 250 feet for seasonal wetlands considered special-status wildlife habitat). The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits decommissioning- and reclamation-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area. • Stabilize exposed slopes and streambanks immediately upon completion of decommissioning and reclamation activities. Other waters of the United States will be restored in a manner that encourages vegetation to reestablish to its pre-program condition and that reduces the effects of erosion on the drainage system. • In highly erodible stream systems, stabilize banks using a nonvegetative material that will bind the soil initially and break down within a few years. If the project engineers determine that more aggressive erosion control treatments are needed, use geotextile mats, excelsior blankets, or other soil stabilization products. • During decommissioning and reclamation, remove trees, shrubs, debris, or soils that are inadvertently deposited below the ordinary high water mark (OHWM) of drainages in a manner that minimizes disturbance of the drainage bed and bank.	Prior to, during, and following Initial Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Work areas have been re-designed to avoid wetlands where feasible • Exclusion areas established and fencing is installed no less than 20 feet from all wetlands within 250 feet of ground disturbance • Exposed slopes are stabilized • Temporary fill will be removed following construction **Monitoring Action** • Verify periodically during and after initial repowering activities that avoidance and minimization measures are properly implemented
	Mitigation Measure BIO-3c: Compensate for unavoidable impacts on waters of the United States If wetlands are filled or disturbed as part of the project, including situations where avoidance or minimization is infeasible, the Applicant shall compensate for the loss of wetland habitat to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies (e.g., CDFW, USFWS, and USACE). The compensation shall 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, off-site restoration, or mitigation credits. If onsite or off-site restoration is chosen, a restoration and monitoring plan shall be developed and implemented. The plan shall describe how wetlands shall be created and monitored over a minimum period of time and will be developed in consultation with the responsible agencies (e.g., CDFW, USFWS, and USACE). The plan will include restoration success criteria based on the actual impacts of the project to ensure that functions and values of the wetlands are replaced. At a minimum, the plan will include requirements to monitor restoration areas annually in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the wetlands meet the restoration goals outlined in the plan. Additionally, the plan will include remedial measures to ensure the mitigation is completed, including but not limited to, supplemental seeding, planting, weed control, etc. as determined to be necessary to achieve the success criteria, as well as additional monitoring as necessary to verify the success of the remedial measures. The Applicant shall provide the lead agency with proof of the pertinent state and federal agencies' approval of the compensation and any related permits prior to commencement of project construction.	Prior to and during Initial Repower construction-related activities	Project Applicant	**Reviewing Party** County of Alameda, Corps, CDFW, USFWS **Criteria** • A compensatory mitigation plan is prepared and implemented • Replacement habitat is provided at a minimum 1:1 ratio **Monitoring Action** • Verify compensation plan has been approved by the Corps and all other responsible agencies prior to issuance of a grading/building permit • Qualified biologist will monitor annually in years 1–3 following the year of restoration/ construction • Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact BIO-4: Potential disturbance of vernal pool fairy shrimp, longhorn fairy shrimp, and vernal pool tadpole shrimp and their habitat	**Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy** The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and 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, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. 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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities 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 parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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, 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.	Prior to and during Initial Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw • Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions **Monitoring Action** • Verify periodically during and after initial repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). 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 Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	During Initial Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary
	Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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	Within 30 days prior to any ground disturbance – Plan prepared and approved During Initial Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • Verify that CDFW has approved the grassland restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration • Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	the plan. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).			
	Mitigation Measure BIO-3b: Avoid and minimize disturbance of waters of the United States, including wetland communities The Applicant will avoid and minimize impacts on delineated wetlands and other waters of the United States (creeks and streams) by implementing the following measures. • Redesign or modify the location of work areas to avoid direct and indirect impacts on wetland habitats. • Protect wetland habitats that occur near the project area by installing fencing around the environmentally sensitive area at least 20 feet from the edge of the wetland. Depending on site-specific conditions and permit requirements, this buffer may be wider than 20 feet (e.g., 250 feet for seasonal wetlands considered special-status wildlife habitat). The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits decommissioning- and reclamation-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area. • Stabilize exposed slopes and streambanks immediately upon completion of decommissioning and reclamation activities. Other waters of the United States will be restored in a manner that encourages vegetation to reestablish to its pre-program condition and that reduces the effects of erosion on the drainage system. • In highly erodible stream systems, stabilize banks using a nonvegetative material that will bind the soil initially and break down within a few years. If the project engineers determine that more aggressive erosion control treatments are needed, use geotextile mats, excelsior blankets, or other soil stabilization products. • During decommissioning and reclamation, remove trees, shrubs, debris, or soils that are inadvertently deposited below the ordinary high water mark (OHWM) of drainages in a manner that minimizes disturbance of the drainage bed and bank.	Prior to, during, and following Initial Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Work areas have been re-designed to avid wetlands where feasible • Exclusion areas established and fencing is installed no less than 20 feet from all wetlands within 250 feet of ground disturbance • Exposed slopes are stabilized • Temporary fill will be removed following construction **Monitoring Action** • Verify periodically during and after initial repowering activities that avoidance and minimization measures are properly implemented
	Mitigation Measure BIO-4: Implement measures to avoid, minimize, and mitigate for potential impacts on longhorn fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp The following AMMs will be implemented during construction to ensure that repowering activities do not have an adverse impact on listed vernal pool branchiopods. These measures are based on measures from the Conservation Strategy, with some modifications and additions. Additional conservation measures or conditions of approval may be required by applicable project permits (e.g., ESA incidental take permit). • Ground disturbance within 250 feet of suitable vernal pool branchiopod habitat (i.e., ponds, vernal pools) will be avoided from the first day of the first significant rain (1 inch or greater) until June 1, or until pools remain dry for 72 hours and no significant rain is forecast on the day of such ground disturbance. • Locate staging areas at least 250 feet from suitable vernal pool branchiopod habitat (i.e., ponds, vernal pool). • If suitable vernal pool brachiopod habitat is present within the work area or within 250 feet of the work area, a qualified biologist will stake and flag an exclusion zone prior to construction activities. The exclusion zone will be fenced with orange construction zone and erosion control fencing (to be installed by construction crew). The exclusion zone will encompass the maximum practicable distance from the worksite and at least 250 feet from the aquatic feature wet or dry. • No herbicide will be applied within 100 feet of aquatic habitat, except when applied to cut stumps or frilled stems or injected into stems. No broadcast applications will be applied.	Prior to and during, Initial Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Ground disturbance does not occur within 250 feet of vernal pool branchiopod habitat during wet season (starting first day of 1-inch or greater rain event until June 1 or until habitat is dry for at least 72 hours) • Staging areas are more than 250 feet from vernal pool branchiopod habitat • Exclusion areas established and fencing is installed no less than 250 feet of ground disturbance • Herbicide use is restricted to area more than 100 feet from aquatic habitats • Hydrology around aquatic resources is maintained

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• Avoid modifying or changing the hydrology of aquatic habitats. • Install utility collection and communication lines across ephemeral drainages by directional boring or overheading and/or rerouting lines around or over wetlands and ponds, where feasible. If all potential indirect effects cannot be avoided, the Applicant will consult with USFWS before construction occurs. Additional conservation measures or conditions of approval, in addition to the measures listed above, may be required in applicable project permits (e.g., ESA incidental take permit). These measures may include, increased exclusion zones and additional erosion control measures.			• Directional boring or rerouting techniques are used during installation of utility and communication lines to avoid effecting drainages **Monitoring Action** • Verify periodically during and after initial repowering activities that avoidance and minimization measures are properly implemented
Impact BIO-5: Potential disturbance or mortality of and loss of suitable habitat for California tiger salamander and California red-legged frog	**Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy** The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and 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, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. 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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities to reduce sedimentation in nearby aquatic habitat when activities are the source of potential	Prior to and during Initial Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw • Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions **Monitoring Action** • Verify periodically during and after initial repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	erosion. Plastic monofilament netting (erosion control matting) or similar material containing netting will not be used at the project parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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, 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. • 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). 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 Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	During Initial Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary
	Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered	Within 30 days prior to any ground disturbance – Plan prepared and approved During Initial Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • Verify that CDFW has approved the grassland

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).			restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration • Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies
	Mitigation Measure BIO-3b: Avoid and minimize disturbance of waters of the United States, including wetland communities The Applicant will avoid and minimize impacts on delineated wetlands and other waters of the United States (creeks and streams) by implementing the following measures. • Redesign or modify the location of work areas to avoid direct and indirect impacts on wetland habitats. • Protect wetland habitats that occur near the project area by installing fencing around the environmentally sensitive area at least 20 feet from the edge of the wetland. Depending on site-specific conditions and permit requirements, this buffer may be wider than 20 feet (e.g., 250 feet for seasonal wetlands considered special-status wildlife habitat). The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits decommissioning- and reclamation-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area. • Stabilize exposed slopes and streambanks immediately upon completion of decommissioning and reclamation activities. Other waters of the United States will be restored in a manner that encourages vegetation to reestablish to its pre-program condition and that reduces the effects of erosion on the drainage system. • In highly erodible stream systems, stabilize banks using a nonvegetative material that will bind the soil initially and break down within a few years. If the project engineers determine that more aggressive erosion control treatments are needed, use geotextile mats, excelsior blankets, or other soil stabilization products. • During decommissioning and reclamation, remove trees, shrubs, debris, or soils that are inadvertently deposited below the ordinary high water mark (OHWM) of drainages in a manner that minimizes disturbance of the drainage bed and bank.	Prior to, during, and following Initial Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Work areas have been re-designed to avid wetlands where feasible • Exclusion areas established and fencing is installed no less than 20 feet from all wetlands within 250 feet of ground disturbance • Exposed slopes are stabilized • Temporary fill will be removed following construction **Monitoring Action** • Verify periodically during and after initial repowering activities that avoidance and minimization measures are properly implemented
	Mitigation Measure BIO-5: Implement measures to avoid, minimize, and mitigate for potential impacts on California tiger salamander and California red-legged frog Where suitable aquatic (ponds, perennial wetland drainages) or upland (grassland) habitat for California tiger salamander and California red-legged frog occurs within proposed work areas, the following AMMs will be implemented to ensure that repowering activities do not have an adverse impact on these species. These measures are based on measures from the Conservation Strategy, with some modifications and additions. Implementation of some of these measures (i.e., relocation of listed species, excavation to install exclusion fencing) could result in take and will require that the Applicant consult with USFWS (California red-legged frog and California tiger salamander) and CDFW (California tiger salamander only) before construction begins. Additional conservation measures or conditions of approval, in addition to the	Prior to and during Initial Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Potential breeding ponds are avoided • Ground disturbing activities occur during dry weather • Barrier fencing is properly installed around work area • Preconstruction surveys are conducted and

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	measures listed below, may be required in applicable project permits (e.g., ESA incidental take permit). • Direct impacts on potential breeding ponds will be avoided. • Ground-disturbing activities within upland 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 percent 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. If construction would need to continue past October 31, the Applicant will request an authorization from USFWS and CDFW to extend the work period. • 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 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 habitat 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). • No monofilament plastic mesh or line will be used for erosion control. • All construction 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. • To prevent inadvertent entrapment of special-status amphibians during construction, all excavated, steep-walled holes or trenches 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. • Work crews or 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 USFWS and/or CDFW-approved biologist, will trap and move special-status amphibians in accordance with the relocation plan. If all potential direct and indirect impacts on California tiger salamander and California red-legged frog cannot be avoided, the Applicant will consult with USFWS and CDFW under the ESA and CESA before construction can occur. Loss of habitat for California tiger salamander and California red-legged frog will be compensated for in accordance with the standardized mitigation ratios developed for the Conservation Strategy (Tables 3-7 and 3-8 of the Conservation Strategy). Based on the location of the impact site (proposed project area), which does not occur within designated critical habitat for either species and is within the California tiger salamander north mitigation area, the mitigation ratio would vary between 2.5:1 and 4:1 (2.5 to 4:1 acres of mitigation lands for every 1 acre affected). Because proposed habitat compensation would be mitigated consistent with the Conservation Strategy, which was developed in coordination with USFWS and CDFW, the proposed compensation is expected to fully mitigate for direct impacts associated with repowering.			results provided in a report with maps of any detections • Relocation of special-status amphibians is conducted under discretion of USFWS and CDFW • Night time work does not occur between November 1 and June 15 • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Escape ramps are provided in any trench or pit more than 6 inches deep • Open trenches, pits, and underside of vehicles left onsite are inspected prior at the beginning and end of work day to look for special-status amphibians • Special-status amphibians are allowed to move out of work area on their own **Monitoring Action** • Verify that relocation plan has been approved by CDFW and USFWS prior to issuance of a grading/building permit • Verify periodically during and after initial repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact BIO-6: Potential disturbance or mortality of and loss of suitable habitat for Pacific pond turtle	**Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy** The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and 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, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. 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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities 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 parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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, 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.	Prior to and during Initial Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw • Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions **Monitoring Action** • Verify periodically during and after initial repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). 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 Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	During Initial Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary
	Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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	Within 30 days prior to any ground disturbance – Plan prepared and approved During Initial Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • Verify that CDFW has approved the grassland restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration • Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	the plan. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).			
	Mitigation Measure BIO-3b: Avoid and minimize disturbance of waters of the United States, including wetland communities The Applicant will avoid and minimize impacts on delineated wetlands and other waters of the United States (creeks and streams) by implementing the following measures. • Redesign or modify the location of work areas to avoid direct and indirect impacts on wetland habitats. • Protect wetland habitats that occur near the project area by installing fencing around the environmentally sensitive area at least 20 feet from the edge of the wetland. Depending on site-specific conditions and permit requirements, this buffer may be wider than 20 feet (e.g., 250 feet for seasonal wetlands considered special-status wildlife habitat). The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits decommissioning- and reclamation-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area. • Stabilize exposed slopes and streambanks immediately upon completion of decommissioning and reclamation activities. Other waters of the United States will be restored in a manner that encourages vegetation to reestablish to its pre-program condition and that reduces the effects of erosion on the drainage system. • In highly erodible stream systems, stabilize banks using a nonvegetative material that will bind the soil initially and break down within a few years. If the project engineers determine that more aggressive erosion control treatments are needed, use geotextile mats, excelsior blankets, or other soil stabilization products. • During decommissioning and reclamation, remove trees, shrubs, debris, or soils that are inadvertently deposited below the ordinary high water mark (OHWM) of drainages in a manner that minimizes disturbance of the drainage bed and bank.	Prior to, during, and following Initial Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Work areas have been re-designed to avid wetlands where feasible • Exclusion areas established and fencing is installed no less than 20 feet from all wetlands within 250 feet of ground disturbance • Exposed slopes are stabilized • Temporary fill will be removed following construction **Monitoring Action** • Verify periodically during and after initial repowering activities that avoidance and minimization measures are properly implemented
	Mitigation Measure BIO-6: Conduct preconstruction surveys for Pacific pond turtle and monitor construction activities if turtles are observed Where suitable upland habitat (grasslands within 1,300 feet of ponds, drainages, or perennial wetland drainages) for Pacific pond turtle occurs within proposed work areas, the following AMMs will be implemented to ensure that the repowering activities do not have an adverse impact on Pacific pond turtle. • One week before and within 24 hours of beginning work in or adjacent to suitable aquatic habitat (ponds, drainages), a qualified biologist (one who is familiar with different species of turtles) will conduct surveys for Pacific 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 time per 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 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	One week prior to and within 24 hours of Initial Repower ground disturbing activities within 1,300 feet of ponds and drainages-preconstruction survey During Initial Repower ground disturbing activities within 1,300 feet of ponds and drainages-Repower	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW **Criteria** • Preconstruction surveys are conducted when ground disturbing activities occur within 1,300 feet of aquatic habitat of Pacific pond turtle • Construction within or adjacent to occupied aquatic habitat is monitored by a qualified biologist • Pond turtles within the work area are allowed to passively move offsite or are relocated under discretion of CDFW **Monitoring Action** • Verify preconstruction surveys were conducted and that areas are monitored as required

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	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.			
Impact BIO-7: Potential disturbance or mortality of and loss of suitable habitat for Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip	**Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy** The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and 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, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. 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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities 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 parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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 and during Initial Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw • Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions **Monitoring Action** • Verify periodically during and after initial repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• Prior to ground disturbing activities in sensitive habitats, 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. • 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). 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 Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	During Initial Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary
	Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to	Within 30 days prior to any ground disturbance – Plan prepared and approved During Initial Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • Verify that CDFW has approved the grassland restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).			• Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies
	Mitigation Measure BIO-7: Implement measures to avoid, minimize, and mitigate for potential impacts on Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip Where suitable habitat (annual grassland) for Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip is identified within proposed work areas, the following AMMs will be implemented to ensure that the repowering activities do not have an adverse impact on these species. These measures are based on measures from the EACCS, with some modifications and additions. Implementation of some of these measures for the Alameda whipsnake would only apply if required by USFWS or CDFW after consultation under ESA or CESA. 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 (including equipment staging, vegetation removal, grading) associated with repowering. If Blainville's horned lizard, Alameda whipsnake, or San Joaquin coachwhip 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 mesh or line will be used for erosion control. • Where applicable, barrier fencing (sediment control material or similar) material 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 on-site biological monitor will inspect open trenches, pits, and under construction equipment and materials left onsite for special-status reptiles each morning and evening during construction. • Vegetation within the proposed work area will be removed prior to grading. Vegetation outside the work area will not be removed. 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 USFWS- and/or CDFW-approved biologist will trap and move special-status reptiles to a USFWS- and/or CDFW-approved relocation area. If all potential direct impacts on Alameda whipsnake cannot be avoided consultation with USFWS and CDFW under the ESA and CESA will be required before construction can occur. Loss of habitat for Alameda whipsnake will be compensated for in accordance with the standardized mitigation ratios developed for the Conservation Strategy (Table 3-9 of the Conservation Strategy). The Applicant could acquire parcels, through fee title purchase and/or conservation easements, where known populations occur. Similarly, acquisition or protection of parcels that include parts of important linkages as described in the Draft Recovery Plan for Chaparral and Scrub Community Species East of San Francisco Bay, California (U.S. Fish and Wildlife Service 2002b), may be approved as mitigation for this species. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW and USFWS have reviewed and approved the proposed compensation plan. Because proposed habitat compensation would be mitigated consistent with the Conservation Strategy, which was developed in coordination with USFWS and CDFW, the proposed compensation would fully mitigate for direct impacts associated with repowering.	Immediately prior to Initial Repower ground disturbing activities – preconstruction survey During, and following Initial Repower construction-related activities - avoidance and minimization	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Preconstruction surveys are conducted and results provided in a report with maps of any detections • Special-status reptiles are allowed to move out of work area on their own or relocated at the discretion of CDFW and/or USFWS as applicable -status • Erosion control measures are properly implemented without use of monofilament netting • Barrier fencing is properly installed around work area where species could occur • Open trenches, pits, and underside of vehicles left onsite are inspected prior at the beginning and end of work day to look for special-status reptiles • Vegetation outside work area is avoided • Vegetation removal is monitored by a qualified biologist to look for special-status reptiles **Monitoring Action** • Verify that preconstruction surveys were conducted • Verify periodically during and after initial repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact BIO-8: Potential construction-related disturbance or mortality of special-status and non-special-status migratory birds	**Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy** The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and 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, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. 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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities 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 parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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, 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.	Prior to and during Initial Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw • Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions **Monitoring Action** • Verify periodically during and after initial repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). 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 Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	During Initial Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary
	Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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	Within 30 days prior to any ground disturbance – Plan prepared and approved During Initial Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • Verify that CDFW has approved the grassland restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration • Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	the plan. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).			
	Mitigation Measure BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non-special-status nesting birds Where suitable habitat (grassland, shrubs, trees) is present for tree/shrub- and ground-nesting migratory birds in and within 0.5 mile of proposed work areas, the following AMMs will be implemented to ensure that repowering activities do not have an adverse impact on nesting special-status and non-special-status birds. • Remove suitable nesting habitat (grassland or other ground vegetation) during the non-breeding season (September 1 through January 31) for nesting birds. • 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 0.5-mile buffer area will be surveyed for Swainson's hawk nests. The construction area and a 500-foot buffer will be surveyed for all other raptors and a 50-foot buffer will be surveyed for all other bird species. Additional preconstruction surveys for nesting birds prior to 7 days before construction are recommended to identify any areas that may need to be avoided and would affect the construction schedule or plans. • If an active nest is identified near a proposed work area and work cannot be conducted outside of the nesting season (February 1 to August 31), a no-activity zone will be established by a qualified biologist in coordination with USFWS and/or CDFW. To minimize the potential to affect the reproductive success of the nesting pair, the extent of the no-activity zone will be developed based on the type and extent of the proposed activity in proximity to the nest, the duration and timing of the activity, the sensitivity and habituation of the species nesting, and the dissimilarity of the proposed activity to background activities. The no-activity zone will be large enough to avoid nest abandonment and will range between 50 feet and 1,000 feet from the nest, or as otherwise required by USFWS and/or CDFW.	September 1 through January 31 – remove vegetation, if feasible Within 7 days prior to Initial Repower ground disturbing activities – preconstruction survey During, and following Initial Repower construction-related activities - avoidance and minimization	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Vegetation is removed between September 1 and January 31, if feasible • Preconstruction surveys are conducted and results provided in a report with maps of any detections • No activity zones are established around nesting birds with buffers ranging between 50 feet and 1,000 feet depending on species site specific conditions **Monitoring Action** • Verify that nesting substrate was removed during non-nesting season or that preconstruction surveys were conducted • Verify periodically during initial repowering activities that no activity zones are maintained until young have fledged
	Mitigation Measure BIO-8b: Implement measures to avoid and minimize potential impacts on western burrowing owl Where suitable habitat (grasslands) is present for western burrowing owl in and within 500 feet of proposed work areas, the following AMMs will be implemented to ensure that the repowering activities do not have an adverse impact on burrowing owls. The following measures are consistent with the EACCS and CDFW's revised Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game 2012). • 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. • To the maximum extent feasible (i.e., 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). • If an active burrow is identified near a proposed work area and work cannot be conducted outside of the nesting season (February 1– August 31), a no-activity zone will be established by a qualified biologist and 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 through 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	No less than 14 days and within 24 hours prior to Initial Repower ground disturbing activities – preconstruction survey During, and following Initial Repower construction-related activities - avoidance and minimization	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW **Criteria** • Preconstruction surveys are conducted and results provided in a report with maps of any detections • No activity zones are established around nesting and wintering burrowing owls • Passive relocation during wintering occurs only at the discretion of CDFW **Monitoring Action** • Verify that nesting substrate was removed during non-nesting season or that preconstruction surveys were conducted • Verify periodically during initial repowering activities that no activity zones are maintained until young have fledged or owls have moved away from burrow

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	conditions and in coordination with CDFW, recommend a smaller buffer (if possible) that still minimizes the potential to disturb the owls (and is deemed to still allow reproductive success during the breeding season). The site-specific buffer 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 within the direct disturbance area and cannot be avoided during non-breeding season (generally September 1 through January 31), passive relocation techniques (e.g., installing one-way doors at burrow entrances) shall be used instead of trapping. Passive relocation may also be used during the breeding season (February 1 through August 30) if a qualified biologist, coordinating with CDFW, determines through site surveillance and/or scoping that the burrow is not occupied by burrowing owl adults, young, or eggs by. Passive relocation would be accomplished by installing one-way doors (e.g., modified dryer vents or other CDFW approved method). The one-way doors shall be left in place for a minimum of one week and monitored daily to insure that the owls have left the burrow. Excavation of the burrow shall be conducted using hand tools and a section of flexible plastic pipe (at least 3 inches in diameter) shall be inserted into the burrow tunnel to maintain an escape route for any animals that may be inside the burrow. • Avoid destruction of unoccupied burrows outside the work area and place visible markers near burrows to ensure they are not collapsed. • Conduct ongoing surveillance of the project parcels for burrowing owls during project activities. If additional owls are observed using burrows within 500 feet of construction, the onsite biological monitor will determine if the owl(s) would be affected by future construction and if additional exclusion zones are required.			
Impact BIO-9: Permanent and temporary loss of foraging habitat for Swainson's hawk, western burrowing owl, and other special-status and non-special-status birds	**Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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. Prior to commencement of ground disturbing activities within the project area, the Applicant will	Within 30 days prior to any ground disturbance – Plan prepared and approved During Initial Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • Verify that CDFW has approved the grassland restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration • Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies

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Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).			
	Mitigation Measure BIO-9: Compensate for the permanent loss of foraging habitat for Swainson's hawk, western burrowing owl, and other special-status and non-special-status birds Permanent removal of suitable foraging habitat for Swainson's hawks will be mitigated by providing offsite habitat management lands as described in CDFW's Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California (California Department of Fish and Game 1994). The final acreage of off-site management lands to be provided will depend on the distance between the project area and the nearest active nest site. The mitigation ratio varies from 0.5:1 to 1:1(dependent on the location of the closest known nest site) of habitat preserved for each acre lost. In lieu of acquiring offsite mitigation lands, the Applicant may purchase mitigation credits for Swainson's hawk foraging habitat from a lead agency-approved mitigation or conservation bank that sell upland habitat credits with equal or similar habitat function to lands that are permanently affected by the project. Information on the nearest nest will be collected during preconstruction Swainson's hawk surveys conducted under Mitigation Measure BIO-8a, to determine the appropriate mitigation ratio. If no active nests are found during this survey, a search of the CNDDB will be conducted, and CDFW will be contacted to determine the nearest active nest. The protection of this habitat will also compensate for the loss of foraging habitat for other special-status and non-special-status bird species that depend on grassland for foraging habitat. If construction activities will 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 providing mitigation land as described in CDFW's Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game 2012:11–13). The standardized mitigation ratios for non-listed species developed for the Conservation Strategy will be used for the loss of habitat for burrowing owl (Table 3-10 in the Conservation Strategy).	Prior to Initial Repower construction-related activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda and CDFW **Criteria** • Compensation is provided based on acreage of permanent foraging habitat removal and distance of nearest known nest • Details on preservation site provided to County and CDFW for review and are approved prior to issuance of grading/building permits **Monitoring Action** • After approval of preservation site, responsible parties identified by Alameda County and CDFW will monitor site in perpetuity
Impact BIO-10: Potential injury or mortality of and loss of habitat for San Joaquin kit fox and American badger	**Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy** The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and 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, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. 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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel.	Prior to and during Initial Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw • Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities 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 parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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, 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. • 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			• Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions **Monitoring Action** • Verify periodically during and after initial repowering activities that AMMs are properly implemented
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). 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 Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	During Initial Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).	Within 30 days prior to any ground disturbance – Plan prepared and approved During Initial Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • Verify that CDFW has approved the grassland restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration • Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies
	Mitigation Measure BIO-10: Implement measures to avoid, minimize, and mitigate for potential impacts on San Joaquin kit fox and American badger Where suitable habitat (grassland) is present for San Joaquin fit fox or American badger on or within 200 feet of proposed work areas, the following AMMs will be implemented to ensure that repowering activities do not have an adverse impact on San Joaquin kit fox or American badger. These measures are based on measures from the EACCS, with some modifications and additions, and are consistent with the USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox (U.S. Fish and Wildlife Service 2011). Implementation of some of these measures (i.e., relocation of listed species, excavation to install exclusion fencing) could result in take and will require that the Applicant consult with USFWS and/or CDFW under the ESA and/or CESA for San Joaquin kit fox. Additional conservation measures, in addition to those measures listed below, or conditions of approval may be required in applicable project permits. • The Applicant 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) in areas proposed for disturbance as well as a 200-foot buffer around the disturbance area. Resumes of biologists will be submitted to the USFWS for review and approval prior to the start of the survey. The biologist(s) will also survey for American badger dens in conjunction with the San Joaquin kit fox surveys. • To the maximum extent feasible, suitable dens for San Joaquin kit fox and American badger will be avoided.	No less than 14 days and no more than 30 days prior to Initial Repower ground disturbing activities – preconstruction survey During, and following Initial Repower construction-related activities - avoidance and minimization	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Preconstruction surveys are conducted and results provided in a report with maps of any detections • Exclusion zones with fencing/flagging are established around potential, known, and natal/pupping dens for San Joaquin kit fox and occupied badger dens ranging from 50 feet and 200 feet from ground disturbing activities • Nighttime work is minimized or avoided • Accidental death or injury to a San Joaquin kit fi is reported within 3 days to CDFW and USFWS **Monitoring Action** • Verify that preconstruction surveys were

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• As described in U.S. Fish and Wildlife Service 2011, the preconstruction San Joaquin kit fox 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 the San Joaquin kit fox. The biologist(s) will conduct den searches by systematically walking transects through project disturbance areas and a buffer area to be determined in coordination with USFWS and CDFW. Transect distance should be determined based on the height of vegetation such that 100 percent visual coverage of the project disturbance area is achieved. 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, or ground squirrel) that otherwise have appropriate characteristics for kit fox use; or a human-made structure that otherwise has appropriate characteristics for kit fox use. ○ Known den: Any existing natural den or manmade 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 and/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 human-made 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 the USFWS within 5 days following the completion of the survey and prior to the start of ground disturbance and/or construction activities. • After preconstruction den searches and before the commencement of construction activities, exclusion zones will be established as measured in a radius outward from the entrance or cluster of entrances of each den. Construction activities will be prohibited or greatly restricted within these exclusion zones to the extent avoidance is feasible. 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 as follows. ○ 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 at or within 200 feet of the work area.			conducted and report submitted to CDFW and USFWS within 5 days from completion • Verify periodically during repowering activities that exclusion zones are maintained and fencing/flagging is intact

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Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• 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 infra-red 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: Potential dens can be removed (preferably by hand excavation) by biologist or under the supervision of a biologist without monitoring if authorized by USFWS and CDFG during ESA and CESA consultation. If any den was considered a potential den but was later determined during monitoring or destruction to be currently or previously used by kit fox (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 speed-limit will be reduced to 10 mph during nighttime work. • A representative will be appointed by the Applicant who will be the contact for any employee or contractor who might inadvertently kill or injure a kit fox or finds a dead, injured, or entrapped kit fox. The representative will be identified during environmental sensitivity training (Mitigation Measure BIO-1d) and their name and phone number will be provided to USFWS and CDFW. Upon such incident or finding, the representative will immediately contact USFWS at (916) 414-6620 or (916) 414-6600 and CDFW at (916) 445-0045 (State Dispatch) and/or the local warden or Mr. Paul Hoffman, wildlife biologist, at (530) 934-9309. • The Sacramento USFWS office and CDFW will be notified in writing within 3 working days of the accidental death or injury to a San Joaquin kit fox during proposed project-related activities. Notification must include the date, time, and location of the incident, and any other pertinent information. Compensation for permanent loss of San Joaquin kit fox habitat will be required before construction can occur and the standardized mitigation ratios developed for the EACCS will be applied (Table 3-11 of the Conservation Strategy). The standardized mitigation ratios for non-listed species developed for the EACCS will be used for the loss of habitat for American badger (Table 3-10of the EACCS). Because proposed habitat compensation would be mitigated consistent with the EACCS, which was developed in coordination with USFWS and CDFW, the proposed compensation is expected to fully mitigate for direct impacts on San Joaquin kit fox (a state and federally endangered species), associated with repowering.			
Impact BIO-11: Operation of the proposed project could have direct impacts on special-status avian species	**Applicant Proposed Measure 1: Conduct avian and bat fatality monitoring** The Applicant will monitor the Initial Repower to determine the effect of the new turbine technology, consistent with the CEC/PIER Avian Validation Study plan (i.e., for a period of 1 year following construction of the Initial Repower). The Applicant will provide Alameda County with the results of the CEC/PIER Avian Validation Study and will provide an assessment of the fatality rates for each of the four focal species and for	During Initial Repower operation. Up to 3 years of monitoring depending on results of	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Applicant will monitor the Initial Repower.

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	all birds and all bats, if not otherwise included in the CEC/PIER report. If estimated fatality rates for any of the focal species exceed the baseline estimates (birds/MW/year) of 0.562 (American kestrel), 3.126 (burrowing owl), 0.190 (red-tailed hawk), or 0.06 (golden eagle), the Applicant shall either implement APM-2 or, at their discretion, may continue the monitoring program for a period of an additional 2 years to determine if the average fatality rates observed over a longer timeframe demonstrate a reduction below the baseline fatality rates. If, at the end of 3 years of monitoring, the fatality rates still exceed baseline rates, the Applicant will implement APM-2, to reduce fatality rates below the baseline rates. In either case, the Full Repower would not be implemented until reductions from the baseline rates for all four focal species have been documented and accepted by the County. If either monitoring option (i.e., through the third year of the ongoing Study, or in additional years) shows a reduction in fatality rates of less than identified targets or objectives stated in specific percentages of the baseline fatality rates shown below for each individual focal species, APM-2 will be implemented to reduce fatality rates to levels below the applicable, species-specific baseline fatality rate. If any monitoring option (year 1, or year 1 and year 2 combined, or years 1–3 combined) identifies fatality rates below the applicable species-specific baseline rate, no additional APM's will be implemented.	monitoring in year 1.		• Applicant will provide report(s) to Alameda County. • Applicant will verify whether species-specific baseline rates are exceeded. **Monitoring Action** • Verify periodically during and after initial repowering activities that Applicant Proposed Measures are properly implemented.
	Applicant Proposed Measure 2: Implement seasonal shutdowns The Applicant will implement seasonal shutdowns to reduce fatality rates to the focal species to an appropriate target percentage of the individual baseline fatality rates described below for each focal species, as determined by the monitoring program outlined in APM-1. Turbines will be turned off prior to November 1 each year and will remain off through February 15 of the following year. No operational modifications would be implemented within the February 16 to October 31 period. The Applicant will notify Alameda County each year when the turbines have been shut down, and again when they have resumed operating. Seasonal shutdowns will remain in effect until the Applicant demonstrates to the County that improvements to the technology have been identified and implemented that would reduce the fatality rates to less than the target percentage reduction for each focal species, as identified below. If the Applicant makes such improvements, operation during the seasonal shutdown periods for the purposes of monitoring and testing improvements would be conducted. Once the Applicant demonstrates that fatality rates for each of the four focal species have been reduced to the appropriate target percentage of the baseline fatality rates, through an approved monitoring program, the seasonal shutdown period will be lifted, allowing year-round operations to resume. The threshold rates are as follows: • For red-tailed hawk, if fatalities decrease by an amount less than 50 percent below baseline, the Applicant may, at its discretion, either implement APM-2, or delay implementation of APM-2 for up to 2 years for the purpose of continuing monitoring. If continued monitoring demonstrates a reduction of more than 50 percent below baseline over the long term, then no further APM would be implemented. If, at the end of 3 years, the average fatality rate across those years is not greater than 50 percent below the baseline, the Applicant would implement APM-2 until such time as improvements to the technology demonstrably reduce fatalities by 50 percent. • Because burrowing owls exhibit large variability from year to year in fatality rates, have a very high reproductive potential, are regularly predated upon by other species, and the cause of death (i.e. turbine collision or predation) for many carcasses found during carcass searches cannot be determined, the threshold for reduction in fatalities is lower than that set for red-tailed hawks. For burrowing owls, if fatalities decrease by an amount less than 25 percent below baseline, the Applicant may implement APM-2 or delay implementation of APM-2 for up to 2 years for the purpose of continuing monitoring. If continued monitoring demonstrates a reduction of more than 25 percent below baseline over the long term, then no further APM's would be implemented. If, at the end of 3 years, the average fatality rate across years is not greater than 25 percent below baseline, the Applicant would implement APM-2 until such time as improvements to the technology demonstrably reduce fatalities by 25 percent. • There is evidence to suggest that American kestrels may be subject to predation in a manner similar to burrowing owls, and many carcasses are found as feather spots, for which the cause of death cannot be	During Initial Repower operation. Annually or until fatality rates are reduced.	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Applicant will shut down turbines on a seasonal basis if threshold rates are exceed. • Seasonal shutdowns can cease if threshold rates are achieved through other measures. **Monitoring Action** • Verify periodically after initial repowering activities that Applicant Proposed Measures are properly implemented.

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Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	determined. Therefore, the threshold for American kestrel is a fatality rate 30 percent below the baseline fatality rates. For American kestrel, if fatalities decrease by an amount less than 30 percent below baseline, the Applicant may implement APM-2 or delay implementation of APM-2 for up to 2 years for the purpose of continuing monitoring. If continued monitoring demonstrates a reduction of more than 30 percent below baseline over the long term, then no further APM's would be implemented. If, at the end of 3 years, the average fatality rate across years is not greater than 30 percent below baseline, the Applicant would implement APM-2 until such time as improvements to the technology demonstrably reduce fatalities by 30 percent. • For golden eagle, the baseline fatality rate as defined above is 0.06. Therefore, for golden eagle, if eagle fatalities exceed this rate in a single year, the Applicant would implement APM-2 or delay implementation of APM-2 for up to 2 years for the purpose of continuing monitoring. If continued monitoring demonstrates no additional eagle fatalities over an additional 2 years of monitoring, no additional APM's would be implemented. If one additional eagle fatality is documented, then APM-2 would be required to be implemented immediately and additional mitigation in the form of electric pole retrofits, consistent with USFWS guidelines and/or requirements would also be implemented at the discretion of the Applicant or the County.			
	Mitigation Measure BIO-11a: Incorporate avian-safe practices into design of turbine-related infrastructure The Applicant will apply the following measures when designing and siting turbine-related infrastructure. These measures will reduce the electrocution and collision risk of birds with turbine-related infrastructure. • 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 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. • When lines cannot be placed underground, appropriate avian protection designs must be employed (e.g., bird flight diverters or visibility enhancement such as spiral damping devices). As a minimum requirement, the collection system will utilize 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., lay-down 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, 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.	Prior to and after Initial Repower construction	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Met towers avoid guy wires or use appropriate deterrent devices • Met tower lighting meets FAA requirements. • Collection lines follow APLIC guidelines. • Lighting is appropriate and focused downward. **Monitoring Action** • Verify that project plans incorporate avian safe infrastructure. • Verify following construction that infrastructure meets avian-safe design practices.
	Mitigation Measure BIO-11b: Compensate for the loss of burrowing owl and other focal species If avian impacts cannot be reduced to below baseline fatality through the implementation of APMs 1 and 2, the Applicant will be required to compensate for the unavoidable loss of avian species through the purchase and preservation of conservation lands, on an in perpetuity basis, from a local mitigation and/or conservation bank. One metric of describing potential impacts to avian species from wind project operations is the amount of risk area, often considered to be synonymous with the rotor-swept area. Thus, the amount of rotor-swept area can be used as a metric for mitigating potential impacts to avian species. The County has determined that this is the best currently available metric for mitigating impacts to burrowing owl and other focal species from operations in this specific instance. Consequently, the Applicant shall preserve lands which provide habitat for burrowing owl (but which may also provide habitat for American kestrel and red-tailed hawk), the primary focal species potentially	During Initial Repower operation. Within 1 year of completion of monitoring described in APM 1.	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda and CDFW **Criteria** • Applicant will preserve mitigation lands if applicable species thresholds are exceeded. • Lands preserved on a 1:1 rotor swept area basis. • Mitigation lands will be approved by DFW and Alameda County.

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	impacted by the proposed project, as well as other avian species. Lands will be preserved on a 1:1 rotor swept area basis, with the amount of land preserved in a ratio based on the total rotor swept area of the proposed turbines and the rate of estimated fatalities. Lands will be preserved on a 1:1 rotor-swept area basis (approximately 1.5 acres) if the rate of estimated fatalities (after monitoring is complete) is more than the baseline fatality rate, as determined by the lead agency. Conserved lands shall provide breeding opportunities for one or more of the primary focal species listed above in an effort to offset fatalities associated with operation of the Initial Repower. If necessary, enhancement measures will be implemented to ensure that the conserved lands provide breeding opportunities for one or more of the primary focal species. Types of habitat enhancement measures on the conserved lands will be weighted according to the relative abundance of focal species impacted by the project, the species-specific needs of those species, and the type and quality of habitat that may already exist on the conserved land. The Applicant will consult with and obtain approval on the mitigation site from the County, including providing an assessment of the number of acres necessary to mitigate the annual impacts to burrowing owl and the other primary focal species (red-tailed hawk and American kestrel).			**Monitoring Action** • Verify periodically during and after initial repowering activities that Applicant Proposed Measures are properly implemented.
	Mitigation Measure BIO-11c: Mitigate for the loss of individual golden eagles by retrofitting electrical facilities If golden eagle fatalities occur, the Applicant will mitigate for the proposed project's observed golden eagle mortality by retrofitting hazardous electrical poles in an onsite location (if any hazardous poles are located onsite), or in an offsite location. The mitigation must occur within 140 miles of the proposed project, the area typically defined by the USFWS as the local population. The Initial Repower is projected to result in the fatality of up to approximately one eagle every 4 years (0.24 golden eagles/MW/yr., although a smaller fatality rate is also possible. As described under APM 1, the Applicant has committed to monitoring the effects of the proposed project, and the monitoring will include documentation of any golden eagle fatalities. Based on current published draft guidance from the USFWS (2012), and using a general example, a ratio of 29 utility pole retrofits for each eagle is suggested by the USFWS. The Applicant will therefore retrofit 29 utility poles as mitigation for each eagle fatality from the proposed project, as determined through the Avian Validation Study and any supplemental monitoring efforts. The Applicant may contract directly with an electrical utility to fund this mitigation; however, a written agreement and evidence of the completion of the retrofits must be provided to the County. USFWS has estimated the cost of retrofits at $7,500 per pole, and therefore the Applicant may contribute the required funds, to a third party mitigation account (approved by Alameda County) instead of contracting directly with a utility. The third party mitigation account holder would have the responsibility of completing the mitigation or contracting for the mitigation to be completed. Evidence of completion of mitigation must be provided to the County within 1 year of completion of monitoring.	During Initial Repower operation. Within 1 year of completion of monitoring described in APM 1.	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Applicant will mitigate for the take of golden eagles through power pole retrofits • Applicant will mitigate for each eagle through the retrofit of 29 utility poles. **Monitoring Action** • Verify that mitigation has been completed as required.
Biological Resources – Full Repower				
Impact BIO-1[F]: Project construction could have direct or indirect impacts on special-status plants	**Mitigation Measure BIO-1a: Conduct surveys to determine the presence or absence of special-status plant species** The Applicant shall conduct spring surveys for the special-status plant species within and adjacent (i.e., within 250 feet) to all areas of proposed temporary or permanent disturbance prior to construction-related activities. All surveys shall be conducted by qualified biologists using the 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. Mitigation Measure BIO-1b will apply when the spring surveys determine that any special-status plant species is present.	Prior to Full Repower construction-related activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Qualified biologist conducts surveys during appropriate season and prepares report of findings • Locations of special-status plants near proposed disturbance areas are mapped **Monitoring Action** • Verify surveys are complete prior to issuing grading or building permits

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	Mitigation Measure BIO-1b: Avoid and minimize impacts on special-status plant species by establishing activity exclusion zones, where feasible Where surveys determine that a special-status plant species is present in or adjacent to a project parcel, direct and indirect impacts of the project on the species (e.g., heartscale and/or other species detected as a result of surveys conducted in compliance with Mitigation Measure BIO-1a) shall be avoided where feasible through the establishment of activity exclusion zones, within which no ground-disturbing activities shall take place, including construction of new facilities, construction staging, or other temporary work areas. Activity exclusion zones for special-status plant species shall be established prior to construction activities around each occupied habitat site, the boundaries of which shall be clearly marked with standard orange plastic construction exclusion fencing or its equivalent. The establishment of activity exclusion zones shall not be required if no construction-related disturbances would occur within 250 feet of the occupied habitat site. 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. Mitigation Measure BIO-1c will apply when activity exclusion zones are not feasible (i.e., footprint of new turbine foundations cannot be moved or adjusted).	Prior to and during Full Repower construction-related activities if required pursuant to MM BIO-1a	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Based on results of MM BIO-1a surveys, confirm if MM BIO-1b implementation necessary • Exclusion zones are established around special-status plant populations that occur within 250 feet of ground disturbance • Fencing of exclusion zone is maintained intact during project construction **Monitoring Action** • Where exclusion zones are established, verify that fencing or other demarcation is intact and resources are being avoided
	Mitigation Measure BIO-1c: Compensate for impacts on special-status plant species 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 shall be compensated for through the acquisition, protection, and subsequent management in perpetuity of other existing occurrences at a 2:1 ratio (i.e., preserving two existing similar occurrences per individual similar occurrence impacts). Prior to implementing compensation measures, the Applicant shall provide detailed information to the lead agency and CDFW on the location of the preserved occurrences, quality of the preserved habitat, provisions for protecting and managing the areas in-perpetuity, responsible parties, and other pertinent information that demonstrates the feasibility of the compensation.	Prior to and during Full Repower construction-related activities if required pursuant to MM BIO-1a	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda and CDFW **Criteria** • Details on preservation site provided to County and CDFW for review and are approved prior to issuance of grading/building permits • Project activity is relocated to avoid plant populations that cannot be adequately compensated **Monitoring Action** • After approval of preservation site, responsible parties identified by Alameda County and CDFW will monitor site in perpetuity
	Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and 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, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines.	During Full Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities 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 parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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, 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. • 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). The biologist will assist the crew, as needed, to comply with all project implementation restrictions and guidelines. In addition, the	During Full Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and

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Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	biologist will be responsible for ensuring that the Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.			provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary
	Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).	Within 30 days prior to any ground disturbance – Plan prepared and approved During Full Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • County will verify that CDFW has approved the grassland restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration • Project Applicant will provide annual monitoring reports to the County
Impact BIO-2[F]: Construction of the proposed project has the potential to directly or indirectly affect sensitive natural communities	**Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy** The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and will include a brief review of the biology of the covered species and guidelines that	Prior to and during Full Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet

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Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	must be followed by all personnel to reduce or avoid negative effects on these species during decommissioning, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. 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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities 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 parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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, 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. • 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw • Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions **Monitoring Action** • Verify periodically during and after initial repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). 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 Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	During Full Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary
	Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).	Within 30 days prior to any ground disturbance – Plan prepared and approved During Full Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • Verify that CDFW has approved the grassland restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration • Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	Mitigation Measure BIO-2: Compensate for the loss of alkali meadow habitat If alkali meadow habitat is filled or disturbed as part of the project, the Applicant shall compensate for the loss of this habitat to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies (e.g., CDFW, USFWS, and USACE). The compensation shall 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, off-site restoration, or mitigation credits. The Applicant shall provide the lead agency with proof of the pertinent state and federal agencies' approvals of the compensation and any related permits.	Prior to and during Full Repower construction-related activities	Project Applicant	**Reviewing Party** County of Alameda and Corps **Criteria** • A compensatory mitigation plan is prepared and implemented • Replacement habitat is provided at a minimum 1:1 ratio **Monitoring Action** • Alameda County verifies that compensation plan has been approved by the Corps and all other responsible agencies prior to issuance of a grading/building permit
Impact BIO-3[F]: Construction of the proposed project has the potential to affect wetlands and other waters of the United States	**Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy** The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and 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, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. 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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own	Prior to and during Full Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw • Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions M**onitoring Action** • Verify periodically during and after Full repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities 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 parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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, 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. • 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). 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 Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	During Full Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary
	Mitigation Measure BIO-3a: Identify and delineate waters of the United States and waters of the State (including wetlands) Prior to construction activities and final siting of individual work areas, the Applicant will retain a qualified wetland ecologist (i.e., a wetland ecologist with previous experience conducting wetland delineations in the region) to identify areas that could qualify as waters of the United States and waters of the State, including wetlands, assuming such features exist within or adjacent to work areas identified for each project element. Wetlands will be identified using both the USACE and USFWS/CDFW definitions of wetlands. USACE jurisdictional wetlands will be delineated using the methods outlined in the 1987 Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and where appropriate, using the updated methods in the Arid West Supplement (U.S. Army Corps of Engineers 2008) to the 1987 manual. The jurisdictional boundary of other waters of the United States will be identified based on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed	Prior to Full Repower ground-disturbing activities and following final designation of work areas	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda and Corps **Criteria** • Wetland delineation is completed prior to ground disturbance and report with map is prepared • Delineation report is verified by the Corps. **Monitoring Action** • Verify that delineation has been completed and is verified by the Corps

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area (33 CFR 328.3[e]). This information will be mapped and documented in a wetland delineation report and submitted to USACE with a copy provided to the lead agency.			
	Mitigation Measure BIO-3b: Avoid and minimize disturbance of waters of the United States, including wetland communities The Applicant will avoid and minimize impacts on delineated wetlands and other waters of the United States (creeks and streams) by implementing the following measures. • Redesign or modify the location of work areas to avoid direct and indirect impacts on wetland habitats. • Protect wetland habitats that occur near the project area by installing fencing around the environmentally sensitive area at least 20 feet from the edge of the wetland. Depending on site-specific conditions and permit requirements, this buffer may be wider than 20 feet (e.g., 250 feet for seasonal wetlands considered special-status wildlife habitat). The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits decommissioning- and reclamation-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area. • Stabilize exposed slopes and streambanks immediately upon completion of decommissioning and reclamation activities. Other waters of the United States will be restored in a manner that encourages vegetation to reestablish to its pre-program condition and that reduces the effects of erosion on the drainage system. • In highly erodible stream systems, stabilize banks using a nonvegetative material that will bind the soil initially and break down within a few years. If the project engineers determine that more aggressive erosion control treatments are needed, use geotextile mats, excelsior blankets, or other soil stabilization products. • During decommissioning and reclamation, remove trees, shrubs, debris, or soils that are inadvertently deposited below the ordinary high water mark (OHWM) of drainages in a manner that minimizes disturbance of the drainage bed and bank.	Prior to, during, and following Full Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Work areas have been re-designed to avoid wetlands where feasible • Exclusion areas established and fencing is installed no less than 20 feet from all wetlands within 250 feet of ground disturbance • Exposed slopes are stabilized • Temporary fill will be removed following construction **Monitoring Action** • Verify periodically during and after Full repowering activities that avoidance and minimization measures are properly implemented
	Mitigation Measure BIO-3c: Compensate for unavoidable impacts on waters of the United States If wetlands are filled or disturbed as part of the project, including situations where avoidance or minimization is infeasible, the Applicant shall compensate for the loss of wetland habitat to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies (e.g., CDFW, USFWS, and USACE). The compensation shall 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, off-site restoration, or mitigation credits. If onsite or off-site restoration is chosen, a restoration and monitoring plan shall be developed and implemented. The plan shall describe how wetlands shall be created and monitored over a minimum period of time and will be developed in consultation with the responsible agencies (e.g., CDFW, USFWS, and USACE). The plan will include restoration success criteria based on the actual impacts of the project to ensure that functions and values of the wetlands are replaced. At a minimum, the plan will include requirements to monitor restoration areas annually in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the wetlands meet the restoration goals outlined in the plan. Additionally, the plan will include remedial measures to ensure the mitigation is completed, including but not limited to, supplemental seeding, planting, weed control, etc. as determined to be necessary to achieve the success criteria, as well as additional monitoring as necessary to verify the success of the remedial measures. The Applicant shall provide the lead agency with proof of the pertinent state and federal agencies' approval of the compensation and any related permits prior to commencement of project construction.	Prior to and during Full Repower construction-related activities	Project Applicant	**Reviewing Party** County of Alameda, Corps, CDFW, USFWS **Criteria** • A compensatory mitigation plan is prepared and implemented • Replacement habitat is provided at a minimum 1:1 ratio **Monitoring Action** • Verify compensation plan has been approved by the Corps and all other responsible agencies prior to issuance of a grading/building permit • Qualified biologist will monitor annually in years 1–3 following the year of restoration/ construction • Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact BIO-4[F]: Potential disturbance of vernal pool fairy shrimp, longhorn fairy shrimp, and vernal pool tadpole shrimp and their habitat	**Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy** The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and 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, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. 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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities 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 parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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, 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.	Prior to and during Full Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw • Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions **Monitoring Action** • Verify periodically during and after full repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). 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 Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	During Full Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary
	Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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	Within 30 days prior to any ground disturbance – Plan prepared and approved During Full Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • Verify that CDFW has approved the grassland restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration • Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	the plan. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).			
	Mitigation Measure BIO-3b: Avoid and minimize disturbance of waters of the United States, including wetland communities The Applicant will avoid and minimize impacts on delineated wetlands and other waters of the United States (creeks and streams) by implementing the following measures. • Redesign or modify the location of work areas to avoid direct and indirect impacts on wetland habitats. • Protect wetland habitats that occur near the project area by installing fencing around the environmentally sensitive area at least 20 feet from the edge of the wetland. Depending on site-specific conditions and permit requirements, this buffer may be wider than 20 feet (e.g., 250 feet for seasonal wetlands considered special-status wildlife habitat). The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits decommissioning- and reclamation-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area. • Stabilize exposed slopes and streambanks immediately upon completion of decommissioning and reclamation activities. Other waters of the United States will be restored in a manner that encourages vegetation to reestablish to its pre-program condition and that reduces the effects of erosion on the drainage system. • In highly erodible stream systems, stabilize banks using a nonvegetative material that will bind the soil initially and break down within a few years. If the project engineers determine that more aggressive erosion control treatments are needed, use geotextile mats, excelsior blankets, or other soil stabilization products. • During decommissioning and reclamation, remove trees, shrubs, debris, or soils that are inadvertently deposited below the ordinary high water mark (OHWM) of drainages in a manner that minimizes disturbance of the drainage bed and bank.	Prior to, during, and following Full Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Work areas have been re-designed to avid wetlands where feasible • Exclusion areas established and fencing is installed no less than 20 feet from all wetlands within 250 feet of ground disturbance • Exposed slopes are stabilized • Temporary fill will be removed following construction **Monitoring Action** • Verify periodically during and after full repowering activities that avoidance and minimization measures are properly implemented
	Mitigation Measure BIO-4: Implement measures to avoid, minimize, and mitigate for potential impacts on longhorn fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp The following AMMs will be implemented during construction to ensure that repowering activities do not have an adverse impact on listed vernal pool branchiopods. These measures are based on measures from the Conservation Strategy, with some modifications and additions. Additional conservation measures or conditions of approval may be required by applicable project permits (e.g., ESA incidental take permit). • Ground disturbance within 250 feet of suitable vernal pool branchiopod habitat (i.e., ponds, vernal pools) will be avoided from the first day of the first significant rain (1 inch or greater) until June 1, or until pools remain dry for 72 hours and no significant rain is forecast on the day of such ground disturbance. • Locate staging areas at least 250 feet from suitable vernal pool branchiopod habitat (i.e., ponds, vernal pool). • If suitable vernal pool brachiopod habitat is present within the work area or within 250 feet of the work area, a qualified biologist will stake and flag an exclusion zone prior to construction activities. The exclusion zone will be fenced with orange construction zone and erosion control fencing (to be installed by construction crew). The exclusion zone will encompass the maximum practicable distance from the worksite and at least 250 feet from the aquatic feature wet or dry. • No herbicide will be applied within 100 feet of aquatic habitat, except when applied to cut stumps or frilled stems or injected into stems. No broadcast applications will be applied.	Prior to and during, Full Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Ground disturbance does not occur within 250 feet of vernal pool branchiopod habitat during wet season (starting first day of 1-inch or greater rain event until June 1 or until habitat is dry for at least 72 hours) • Staging areas are more than 250 feet from vernal pool branchiopod habitat • Exclusion areas established and fencing is installed no less than 250 feet of ground disturbance • Herbicide use is restricted to area more than 100 feet from aquatic habitats • Hydrology around aquatic resources is maintained

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• Avoid modifying or changing the hydrology of aquatic habitats. • Install utility collection and communication lines across ephemeral drainages by directional boring or overheading and/or rerouting lines around or over wetlands and ponds, where feasible. If all potential indirect effects cannot be avoided, the Applicant will consult with USFWS before construction occurs. Additional conservation measures or conditions of approval, in addition to the measures listed above, may be required in applicable project permits (e.g., ESA incidental take permit). These measures may include, increased exclusion zones and additional erosion control measures.			• Directional boring or rerouting techniques are used during installation of utility and communication lines to avoid effecting drainages **Monitoring Action** • Verify periodically during and after full repowering activities that avoidance and minimization measures are properly implemented
Impact BIO-5[F]: Potential disturbance or mortality of and loss of suitable habitat for California tiger salamander and California red-legged frog	**Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy** The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and 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, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. 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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities to reduce sedimentation in nearby aquatic habitat when activities are the source of potential	Prior to and during Full Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw • Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions **Monitoring Action** • Verify periodically during and after full repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	erosion. Plastic monofilament netting (erosion control matting) or similar material containing netting will not be used at the project parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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, 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. • 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). 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 Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	During Full Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary
	Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered	Within 30 days prior to any ground disturbance – Plan prepared and approved During Full Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • Verify that CDFW has approved the grassland

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).			restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration • Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies
	Mitigation Measure BIO-3b: Avoid and minimize disturbance of waters of the United States, including wetland communities The Applicant will avoid and minimize impacts on delineated wetlands and other waters of the United States (creeks and streams) by implementing the following measures. • Redesign or modify the location of work areas to avoid direct and indirect impacts on wetland habitats. • Protect wetland habitats that occur near the project area by installing fencing around the environmentally sensitive area at least 20 feet from the edge of the wetland. Depending on site-specific conditions and permit requirements, this buffer may be wider than 20 feet (e.g., 250 feet for seasonal wetlands considered special-status wildlife habitat). The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits decommissioning- and reclamation-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area. • Stabilize exposed slopes and streambanks immediately upon completion of decommissioning and reclamation activities. Other waters of the United States will be restored in a manner that encourages vegetation to reestablish to its pre-program condition and that reduces the effects of erosion on the drainage system. • In highly erodible stream systems, stabilize banks using a nonvegetative material that will bind the soil initially and break down within a few years. If the project engineers determine that more aggressive erosion control treatments are needed, use geotextile mats, excelsior blankets, or other soil stabilization products. • During decommissioning and reclamation, remove trees, shrubs, debris, or soils that are inadvertently deposited below the ordinary high water mark (OHWM) of drainages in a manner that minimizes disturbance of the drainage bed and bank.	Prior to, during, and following Full Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Work areas have been re-designed to avid wetlands where feasible • Exclusion areas established and fencing is installed no less than 20 feet from all wetlands within 250 feet of ground disturbance • Exposed slopes are stabilized • Temporary fill will be removed following construction **Monitoring Action** • Verify periodically during and after full repowering activities that avoidance and minimization measures are properly implemented
	Mitigation Measure BIO-5: Implement measures to avoid, minimize, and mitigate for potential impacts on California tiger salamander and California red-legged frog Where suitable aquatic (ponds, perennial wetland drainages) or upland (grassland) habitat for California tiger salamander and California red-legged frog occurs within proposed work areas, the following AMMs will be implemented to ensure that repowering activities do not have an adverse impact on these species. These measures are based on measures from the Conservation Strategy, with some modifications and additions. Implementation of some of these measures (i.e., relocation of listed species, excavation to install exclusion fencing) could result in take and will require that the Applicant consult with USFWS (California red-legged frog and California tiger salamander) and CDFW (California tiger salamander only) before construction begins. Additional conservation measures or conditions of approval, in addition to the	Prior to and during Full Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Potential breeding ponds are avoided • Ground disturbing activities occur during dry weather • Barrier fencing is properly installed around work area • Preconstruction surveys are conducted and

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	measures listed below, may be required in applicable project permits (e.g., ESA incidental take permit). • Direct impacts on potential breeding ponds will be avoided. • Ground-disturbing activities within upland 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 percent 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. If construction would need to continue past October 31, the Applicant will request an authorization from USFWS and CDFW to extend the work period. • 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 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 habitat 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). • No monofilament plastic mesh or line will be used for erosion control. • All construction 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. • To prevent inadvertent entrapment of special-status amphibians during construction, all excavated, steep-walled holes or trenches 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. • Work crews or 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 USFWS and/or CDFW-approved biologist, will trap and move special-status amphibians in accordance with the relocation plan. If all potential direct and indirect impacts on California tiger salamander and California red-legged frog cannot be avoided, the Applicant will consult with USFWS and CDFW under the ESA and CESA before construction can occur. Loss of habitat for California tiger salamander and California red-legged frog will be compensated for in accordance with the standardized mitigation ratios developed for the Conservation Strategy (Tables 3-7 and 3-8 of the Conservation Strategy). Based on the location of the impact site (proposed project area), which does not occur within designated critical habitat for either species and is within the California tiger salamander north mitigation area, the mitigation ratio would vary between 2.5:1 and 4:1 (2.5 to 4:1 acres of mitigation lands for every 1 acre affected). Because proposed habitat compensation would be mitigated consistent with the Conservation Strategy, which was developed in coordination with USFWS and CDFW, the proposed compensation is expected to fully mitigate for direct impacts associated with repowering.			results provided in a report with maps of any detections • Relocation of special-status amphibians is conducted under discretion of USFWS and CDFW • Night time work does not occur between November 1 and June 15 • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Escape ramps are provided in any trench or pit more than 6 inches deep • Open trenches, pits, and underside of vehicles left onsite are inspected prior at the beginning and end of work day to look for special-status amphibians • Special-status amphibians are allowed to move out of work area on their own **Monitoring Action** • Verify that relocation plan has been approved by CDFW and USFWS prior to issuance of a grading/building permit • Verify periodically during and after full repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact BIO-6[F]: Potential disturbance or mortality of and loss of suitable habitat for Pacific pond turtle	**Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy** The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and 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, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. 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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities 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 parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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, 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.	Prior to and during Full Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw • Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions **Monitoring Action** • Verify periodically during and after full repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). 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 Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	During Full Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary
	Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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	Within 30 days prior to any ground disturbance – Plan prepared and approved During Full Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • Verify that CDFW has approved the grassland restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration • Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	the plan. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).			
	Mitigation Measure BIO-3b: Avoid and minimize disturbance of waters of the United States, including wetland communities The Applicant will avoid and minimize impacts on delineated wetlands and other waters of the United States (creeks and streams) by implementing the following measures. • Redesign or modify the location of work areas to avoid direct and indirect impacts on wetland habitats. • Protect wetland habitats that occur near the project area by installing fencing around the environmentally sensitive area at least 20 feet from the edge of the wetland. Depending on site-specific conditions and permit requirements, this buffer may be wider than 20 feet (e.g., 250 feet for seasonal wetlands considered special-status wildlife habitat). The location of the fencing will be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications will contain clear language that prohibits decommissioning- and reclamation-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area. • Stabilize exposed slopes and streambanks immediately upon completion of decommissioning and reclamation activities. Other waters of the United States will be restored in a manner that encourages vegetation to reestablish to its pre-program condition and that reduces the effects of erosion on the drainage system. • In highly erodible stream systems, stabilize banks using a nonvegetative material that will bind the soil initially and break down within a few years. If the project engineers determine that more aggressive erosion control treatments are needed, use geotextile mats, excelsior blankets, or other soil stabilization products. • During decommissioning and reclamation, remove trees, shrubs, debris, or soils that are inadvertently deposited below the ordinary high water mark (OHWM) of drainages in a manner that minimizes disturbance of the drainage bed and bank.	Prior to, during, and following Full Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Work areas have been re-designed to avid wetlands where feasible • Exclusion areas established and fencing is installed no less than 20 feet from all wetlands within 250 feet of ground disturbance • Exposed slopes are stabilized • Temporary fill will be removed following construction **Monitoring Action** • Verify periodically during and after full repowering activities that avoidance and minimization measures are properly implemented
	Mitigation Measure BIO-6: Conduct preconstruction surveys for Pacific pond turtle and monitor construction activities if turtles are observed Where suitable upland habitat (grasslands within 1,300 feet of ponds, drainages, or perennial wetland drainages) for Pacific pond turtle occurs within proposed work areas, the following AMMs will be implemented to ensure that the repowering activities do not have an adverse impact on Pacific pond turtle. • One week before and within 24 hours of beginning work in or adjacent to suitable aquatic habitat (ponds, drainages), a qualified biologist (one who is familiar with different species of turtles) will conduct surveys for Pacific 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 time per 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 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	One week prior to and within 24 hours of Full Repower ground disturbing activities within 1,300 feet of ponds and drainages-preconstruction survey During Full Repower ground disturbing activities within 1,300 feet of ponds and drainages-Repower	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW **Criteria** • Preconstruction surveys are conducted when ground disturbing activities occur within 1,300 feet of aquatic habitat of Pacific pond turtle • Construction within or adjacent to occupied aquatic habitat is monitored by a qualified biologist • Pond turtles within the work area are allowed to passively move offsite or are relocated under discretion of CDFW **Monitoring Action** • Verify preconstruction surveys were conducted and that areas are monitored as required

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	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.			
Impact BIO-7[F]: Potential disturbance or mortality of and loss of suitable habitat for Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip	**Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy** The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and 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, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. 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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities 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 parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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 and during Full Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw • Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions **Monitoring Action** • Verify periodically during and after full repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• Prior to ground disturbing activities in sensitive habitats, 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. • 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). 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 Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	During Full Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary
	Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to	Within 30 days prior to any ground disturbance – Plan prepared and approved During Full Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • Verify that CDFW has approved the grassland restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).			• Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies
	Mitigation Measure BIO-7: Implement measures to avoid, minimize, and mitigate for potential impacts on Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip Where suitable habitat (annual grassland) for Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip is identified within proposed work areas, the following AMMs will be implemented to ensure that the repowering activities do not have an adverse impact on these species. These measures are based on measures from the EACCS, with some modifications and additions. Implementation of some of these measures for the Alameda whipsnake would only apply if required by USFWS or CDFW after consultation under ESA or CESA. 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 (including equipment staging, vegetation removal, grading) associated with repowering. If Blainville's horned lizard, Alameda whipsnake, or San Joaquin coachwhip 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 mesh or line will be used for erosion control. • Where applicable, barrier fencing (sediment control material or similar) material 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 on-site biological monitor will inspect open trenches, pits, and under construction equipment and materials left onsite for special-status reptiles each morning and evening during construction. • Vegetation within the proposed work area will be removed prior to grading. Vegetation outside the work area will not be removed. 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 USFWS- and/or CDFW-approved biologist will trap and move special-status reptiles to a USFWS- and/or CDFW-approved relocation area. If all potential direct impacts on Alameda whipsnake cannot be avoided consultation with USFWS and CDFW under the ESA and CESA will be required before construction can occur. Loss of habitat for Alameda whipsnake will be compensated for in accordance with the standardized mitigation ratios developed for the Conservation Strategy (Table 3-9 of the Conservation Strategy). The Applicant could acquire parcels, through fee title purchase and/or conservation easements, where known populations occur. Similarly, acquisition or protection of parcels that include parts of important linkages as described in the Draft Recovery Plan for Chaparral and Scrub Community Species East of San Francisco Bay, California (U.S. Fish and Wildlife Service 2002b), may be approved as mitigation for this species. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW and USFWS have reviewed and approved the proposed compensation plan. Because proposed habitat compensation would be mitigated consistent with the Conservation Strategy, which was developed in coordination with USFWS and CDFW, the proposed compensation would fully mitigate for direct impacts associated with repowering.	Immediately prior to Full Repower ground disturbing activities – preconstruction survey During, and following Full Repower construction-related activities - avoidance and minimization	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Preconstruction surveys are conducted and results provided in a report with maps of any detections • Special-status reptiles are allowed to move out of work area on their own or relocated at the discretion of CDFW and/or USFWS as applicable -status • Erosion control measures are properly implemented without use of monofilament netting • Barrier fencing is properly installed around work area where species could occur • Open trenches, pits, and underside of vehicles left onsite are inspected prior at the beginning and end of work day to look for special-status reptiles • Vegetation outside work area is avoided • Vegetation removal is monitored by a qualified biologist to look for special-status reptiles **Monitoring Action** • Verify that preconstruction surveys were conducted • Verify periodically during and after full repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact BIO-8[F]: Potential construction-related disturbance or mortality of special-status and non-special-status migratory birds	**Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy** The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and 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, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. 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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel. • 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities 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 parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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, 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.	Prior to and during Full Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw • Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting • Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions **Monitoring Action** • Verify periodically during and after full repowering activities that AMMs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). 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 Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	During Full Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary
	Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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	Within 30 days prior to any ground disturbance – Plan prepared and approved During Full Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • Verify that CDFW has approved the grassland restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration • Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	the plan. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).			
	Mitigation Measure BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non-special-status nesting birds Where suitable habitat (grassland, shrubs, trees) is present for tree/shrub- and ground-nesting migratory birds in and within 0.5 mile of proposed work areas, the following AMMs will be implemented to ensure that repowering activities do not have an adverse impact on nesting special-status and non-special-status birds. • Remove suitable nesting habitat (grassland or other ground vegetation) during the non-breeding season (September 1 through January 31) for nesting birds. • 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 0.5-mile buffer area will be surveyed for Swainson's hawk nests. The construction area and a 500-foot buffer will be surveyed for all other raptors and a 50-foot buffer will be surveyed for all other bird species. Additional preconstruction surveys for nesting birds prior to 7 days before construction are recommended to identify any areas that may need to be avoided and would affect the construction schedule or plans. • If an active nest is identified near a proposed work area and work cannot be conducted outside of the nesting season (February 1 to August 31), a no-activity zone will be established by a qualified biologist in coordination with USFWS and/or CDFW. To minimize the potential to affect the reproductive success of the nesting pair, the extent of the no-activity zone will be developed based on the type and extent of the proposed activity in proximity to the nest, the duration and timing of the activity, the sensitivity and habituation of the species nesting, and the dissimilarity of the proposed activity to background activities. The no-activity zone will be large enough to avoid nest abandonment and will range between 50 feet and 1,000 feet from the nest, or as otherwise required by USFWS and/or CDFW.	September 1 through January 31 – remove vegetation, if feasible Within 7 days prior to Full Repower ground disturbing activities – preconstruction survey During, and following Full Repower construction-related activities - avoidance and minimization	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Vegetation is removed between September 1 and January 31, if feasible • Preconstruction surveys are conducted and results provided in a report with maps of any detections • No activity zones are established around nesting birds with buffers ranging between 50 feet and 1,000 feet depending on species site specific conditions **Monitoring Action** • Verify that nesting substrate was removed during non-nesting season or that preconstruction surveys were conducted • Verify periodically during full repowering activities that no activity zones are maintained until young have fledged
	Mitigation Measure BIO-8b: Implement measures to avoid and minimize potential impacts on western burrowing owl Where suitable habitat (grasslands) is present for western burrowing owl in and within 500 feet of proposed work areas, the following AMMs will be implemented to ensure that the repowering activities do not have an adverse impact on burrowing owls. The following measures are consistent with the EACCS and CDFW's revised Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game 2012). • 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. • To the maximum extent feasible (i.e., 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). • If an active burrow is identified near a proposed work area and work cannot be conducted outside of the nesting season (February 1– August 31), a no-activity zone will be established by a qualified biologist and 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 through 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	No less than 14 days and within 24 hours prior to Full Repower ground disturbing activities – preconstruction survey During, and following Full Repower construction-related activities - avoidance and minimization	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW **Criteria** • Preconstruction surveys are conducted and results provided in a report with maps of any detections • No activity zones are established around nesting and wintering burrowing owls • Passive relocation during wintering occurs only at the discretion of CDFW **Monitoring Action** • Verify that nesting substrate was removed during non-nesting season or that preconstruction surveys were conducted • Verify periodically during full repowering activities that no activity zones are maintained until young have fledged or owls have moved away from burrow

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	conditions and in coordination with CDFW, recommend a smaller buffer (if possible) that still minimizes the potential to disturb the owls (and is deemed to still allow reproductive success during the breeding season). The site-specific buffer 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 within the direct disturbance area and cannot be avoided during non-breeding season (generally September 1 through January 31), passive relocation techniques (e.g., installing one-way doors at burrow entrances) shall be used instead of trapping. Passive relocation may also be used during the breeding season (February 1 through August 30) if a qualified biologist, coordinating with CDFW, determines through site surveillance and/or scoping that the burrow is not occupied by burrowing owl adults, young, or eggs by. Passive relocation would be accomplished by installing one-way doors (e.g., modified dryer vents or other CDFW approved method). The one-way doors shall be left in place for a minimum of one week and monitored daily to insure that the owls have left the burrow. Excavation of the burrow shall be conducted using hand tools and a section of flexible plastic pipe (at least 3 inches in diameter) shall be inserted into the burrow tunnel to maintain an escape route for any animals that may be inside the burrow. • Avoid destruction of unoccupied burrows outside the work area and place visible markers near burrows to ensure they are not collapsed. • Conduct ongoing surveillance of the project parcels for burrowing owls during project activities. If additional owls are observed using burrows within 500 feet of construction, the onsite biological monitor will determine if the owl(s) would be affected by future construction and if additional exclusion zones are required.			
Impact BIO-9[F]: Permanent and temporary loss of foraging habitat for Swainson's hawk, western burrowing owl, and other special-status and non-special-status birds	**Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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. Prior to commencement of ground disturbing activities within the project area, the Applicant will	Within 30 days prior to any ground disturbance – Plan prepared and approved During Full Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • Verify that CDFW has approved the grassland restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration • Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).			
	Mitigation Measure BIO-9: Compensate for the permanent loss of foraging habitat for Swainson's hawk, western burrowing owl, and other special-status and non-special-status birds Permanent removal of suitable foraging habitat for Swainson's hawks will be mitigated by providing offsite habitat management lands as described in CDFW's Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California (California Department of Fish and Game 1994). The final acreage of off-site management lands to be provided will depend on the distance between the project area and the nearest active nest site. The mitigation ratio varies from 0.5:1 to 1:1(dependent on the location of the closest known nest site) of habitat preserved for each acre lost. In lieu of acquiring offsite mitigation lands, the Applicant may purchase mitigation credits for Swainson's hawk foraging habitat from a lead agency-approved mitigation or conservation bank that sell upland habitat credits with equal or similar habitat function to lands that are permanently affected by the project. Information on the nearest nest will be collected during preconstruction Swainson's hawk surveys conducted under Mitigation Measure BIO-8a, to determine the appropriate mitigation ratio. If no active nests are found during this survey, a search of the CNDDB will be conducted, and CDFW will be contacted to determine the nearest active nest. The protection of this habitat will also compensate for the loss of foraging habitat for other special-status and non-special-status bird species that depend on grassland for foraging habitat. If construction activities will 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 providing mitigation land as described in CDFW's Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game 2012:11–13). The standardized mitigation ratios for non-listed species developed for the Conservation Strategy will be used for the loss of habitat for burrowing owl (Table 3-10 in the Conservation Strategy).	Prior to Full Repower construction-related activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda and CDFW **Criteria** • Compensation is provided based on acreage of permanent foraging habitat removal and distance of nearest known nest • Details on preservation site provided to County and CDFW for review and are approved prior to issuance of grading/building permits **Monitoring Action** • After approval of preservation site, responsible parties identified by Alameda County and CDFW will monitor site in perpetuity
Impact BIO-10[F]: Potential injury or mortality of and loss of habitat for San Joaquin kit fox and American badger	**Mitigation Measure BIO-1d: Implement general avoidance and minimization measures from the Conservation Strategy** The general avoidance and minimization measures (AMMs) from the Conservation Strategy, with some modifications, have been included to avoid and minimize overall biological resources impacts. The general avoidance and minimization measures to be implemented include the following. • Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training by a qualified biologist prior to commencing work. Training will include review of environmental laws and AMMs that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities. • Environmental tailgate trainings will take place on an as-needed basis in the field during decommissioning, construction, and reclamation activities. These trainings will be provided by the onsite biological monitor and 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, construction, and reclamation. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines. 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. • Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable. • Offroad vehicle travel will be avoided. • Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during offroad travel.	Prior to and during Full Repower construction-related activities	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Environmental training is provided to all construction personnel and documented on sign-in sheets • Trash dumping, firearms, barbeques, hunting, pets prohibited onsite • Vehicles and equipment constrained to designated access roads and parking areas • Refueling limited to areas more than 100 feet from wetlands or in fully contained areas • Erosion control material consists of rice straw or weed-free straw • Construction materials potential used by wildlife will be stored in a manner to prevent wildlife use or will be inspected daily to prevent harm if animal present • Erosion control measures are properly implemented without use of monofilament netting

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• 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 and refueling is restricted to that area. • 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. • 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. If an animal is observed to be occupying any construction materials that must be moved, the animal(s) will be allowed to passively leave on their own or the monitoring biologist will coordinate with the appropriate agency (USFWS for federally listed species and CDFW for all other species) to determine if trapping, rescue, or other measures are necessary and appropriate given the species and situation. • Erosion control measures will be implemented during decommissioning, construction, and reclamation activities 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 parcels. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds. • 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, 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. • 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). • Trenches and pits will be backfilled as soon as possible. Trenches that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Earthen escape ramps will be installed at intervals prescribed by a qualified biologist. Work will not continue until trapped animals have moved out of open trenches. • The Applicant will include special provisions in the bid solicitation package and final construction contract(s) that specify all relevant permit requirements and project AMMs that must be implemented during construction.			• Grading area minimized • Trenches and pits filled or covered at night and checked in the morning • Bid solicitation contained all relevant biological resources AMMs and permit conditions **Monitoring Action** • Verify periodically during and after full repowering activities that AMMs are properly implemented
	Mitigation Measure BIO-1e: Retain a biological monitor during ground-disturbing activities within environmentally-sensitive habitat areas The Applicant will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning and construction activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). 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 Applicant or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources–related mitigation measures.	During Full Repower ground-disturbing activities	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Qualified biological monitor is present during all ground disturbing activities near sensitive resources documented in daily logs and provided to the County, USFWS, and CDFW **Monitoring Action** • Verify that biologist is qualified and that monitoring of construction activities is occurring as necessary

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	Mitigation Measure BIO-1f: 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 turbine pad areas are restored to preconstruction 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 and stockpiled for use in restoration. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the reference 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 project area and should include native or naturalized, non-invasive species sourced within the project area or within 50 miles of the project area. • 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 May) in years 1–3 following the year of restoration. At the end of 3 years, the restoration will be considered successful if the percent cover for restored areas is 70 percent absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5 percent relative cover of the vegetation in the restoration areas will consist of species designated as invasive plants in Cal-IPC's California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures will be employed by the Applicant if the restoration does not meet these success criteria. Remedial measures included in the plan will include supplemental seeding, weed control, etc. as determined necessary to achieve the long-term success criteria. Monitoring may be extended for 2 additional years if necessary to ensure achievement of the success criteria. 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. Prior to commencement of ground disturbing activities within the project area, the Applicant will provide evidence to the lead agency that CDFW has reviewed and approved of the Grassland Restoration Plan. Additionally, the Applicant will provide annual monitoring reports to the County by August 1 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary).	Within 30 days prior to any ground disturbance – Plan prepared and approved During Full Repower ground-disturbing activities - grassland restoration occurs Annually between March and May in years 1–3 following the year of restoration – monitoring of restoration areas	Project Applicant and Qualified Restoration Specialist in coordination with CDFW	**Reviewing Party** County of Alameda, CDFW **Criteria** • Topsoil is stockpiled in areas temporarily affected and replaced prior to seeding • Temporarily graveled areas will have gravel removed following construction • Seeding will occur with native or naturalized seed that matches surrounding area • Restoration will be determined successful after no less than 3 years and when percent cover is at least 70%, invasive cover is no more than 5% **Monitoring Action** • Verify that CDFW has approved the grassland restoration plan prior to issuance of a grading/building permit • Qualified biologist will monitor annually (between March and May) in years 1–3 following the year of restoration • Project Applicant will provide annual monitoring reports to the County and applicable state and federal agencies
	Mitigation Measure BIO-10: Implement measures to avoid, minimize, and mitigate for potential impacts on San Joaquin kit fox and American badger Where suitable habitat (grassland) is present for San Joaquin fit fox or American badger on or within 200 feet of proposed work areas, the following AMMs will be implemented to ensure that repowering activities do not have an adverse impact on San Joaquin kit fox or American badger. These measures are based on measures from the EACCS, with some modifications and additions, and are consistent with the USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox (U.S. Fish and Wildlife Service 2011). Implementation of some of these measures (i.e., relocation of listed species, excavation to install exclusion fencing) could result in take and will require that the Applicant consult with USFWS and/or CDFW under the ESA and/or CESA for San Joaquin kit fox. Additional conservation measures, in addition to those measures listed below, or conditions of approval may be required in applicable project permits. • The Applicant 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) in areas proposed for disturbance as well as a 200-foot buffer around the disturbance area. Resumes of biologists will be submitted to the USFWS for review and approval prior to the start of the survey. The biologist(s) will also survey for American badger dens in conjunction with the San Joaquin kit fox surveys. • To the maximum extent feasible, suitable dens for San Joaquin kit fox and American badger will be avoided.	No less than 14 days and no more than 30 days prior to Full Repower ground disturbing activities – preconstruction survey During, and following Full Repower construction-related activities - avoidance and minimization	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • Preconstruction surveys are conducted and results provided in a report with maps of any detections • Exclusion zones with fencing/flagging are established around potential, known, and natal/pupping dens for San Joaquin kit fox and occupied badger dens ranging from 50 feet and 200 feet from ground disturbing activities • Nighttime work is minimized or avoided • Accidental death or injury to a San Joaquin kit fi is reported within 3 days to CDFW and USFWS **Monitoring Action** • Verify that preconstruction surveys were

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• As described in U.S. Fish and Wildlife Service 2011, the preconstruction San Joaquin kit fox 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 the San Joaquin kit fox. The biologist(s) will conduct den searches by systematically walking transects through project disturbance areas and a buffer area to be determined in coordination with USFWS and CDFW. Transect distance should be determined based on the height of vegetation such that 100 percent visual coverage of the project disturbance area is achieved. 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, or ground squirrel) that otherwise have appropriate characteristics for kit fox use; or a human-made structure that otherwise has appropriate characteristics for kit fox use. ○ Known den: Any existing natural den or manmade 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 and/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 human-made 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 the USFWS within 5 days following the completion of the survey and prior to the start of ground disturbance and/or construction activities. • After preconstruction den searches and before the commencement of construction activities, exclusion zones will be established as measured in a radius outward from the entrance or cluster of entrances of each den. Construction activities will be prohibited or greatly restricted within these exclusion zones to the extent avoidance is feasible. 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 as follows. ○ 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 at or within 200 feet of the work area.			conducted and report submitted to CDFW and USFWS within 5 days from completion • Verify periodically during repowering activities that exclusion zones are maintained and fencing/flagging is intact

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• 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 infra-red 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: Potential dens can be removed (preferably by hand excavation) by biologist or under the supervision of a biologist without monitoring if authorized by USFWS and CDFG during ESA and CESA consultation. If any den was considered a potential den but was later determined during monitoring or destruction to be currently or previously used by kit fox (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 speed-limit will be reduced to 10 mph during nighttime work. • A representative will be appointed by the Applicant who will be the contact for any employee or contractor who might inadvertently kill or injure a kit fox or finds a dead, injured, or entrapped kit fox. The representative will be identified during environmental sensitivity training (Mitigation Measure BIO-1d) and their name and phone number will be provided to USFWS and CDFW. Upon such incident or finding, the representative will immediately contact USFWS at (916) 414-6620 or (916) 414-6600 and CDFW at (916) 445-0045 (State Dispatch) and/or the local warden or Mr. Paul Hoffman, wildlife biologist, at (530) 934-9309. • The Sacramento USFWS office and CDFW will be notified in writing within 3 working days of the accidental death or injury to a San Joaquin kit fox during proposed project-related activities. Notification must include the date, time, and location of the incident, and any other pertinent information. Compensation for permanent loss of San Joaquin kit fox habitat will be required before construction can occur and the standardized mitigation ratios developed for the EACCS will be applied (Table 3-11 of the Conservation Strategy). The standardized mitigation ratios for non-listed species developed for the EACCS will be used for the loss of habitat for American badger (Table 3-10of the EACCS). Because proposed habitat compensation would be mitigated consistent with the EACCS, which was developed in coordination with USFWS and CDFW, the proposed compensation is expected to fully mitigate for direct impacts on San Joaquin kit fox (a state and federally endangered species), associated with repowering.			

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact BIO-11[F]: Operation of the proposed project could have direct impacts on special-status avian species	**Mitigation Measure BIO-11a: Incorporate avian-safe practices into design of turbine-related infrastructure** The Applicant will apply the following measures when designing and siting turbine-related infrastructure. These measures will reduce the electrocution and collision risk of birds with turbine-related infrastructure. • 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 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. • When lines cannot be placed underground, appropriate avian protection designs must be employed (e.g., bird flight diverters or visibility enhancement such as spiral damping devices). As a minimum requirement, the collection system will utilize 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., lay-down 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, 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.	Prior to and after Full Repower construction	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Met towers avoid guy wires or use appropriate deterrent devices • Met tower lighting meets FAA requirements. • Collection lines follow APLIC guidelines. • Lighting is appropriate and focused downward. **Monitoring Action** • Verify that project plans incorporate avian safe infrastructure. • Verify following construction that infrastructure meets avian-safe design practices.
	Mitigation Measure BIO-11b: Compensate for the loss of burrowing owl and other focal species If avian impacts cannot be reduced to below baseline fatality through the implementation of APMs 1 and 2, the Applicant will be required to compensate for the unavoidable loss of avian species through the purchase and preservation of conservation lands, on an in perpetuity basis, from a local mitigation and/or conservation bank. One metric of describing potential impacts to avian species from wind project operations is the amount of risk area, often considered to be synonymous with the rotor-swept area. Thus, the amount of rotor-swept area can be used as a metric for mitigating potential impacts to avian species. The County has determined that this is the best currently available metric for mitigating impacts to burrowing owl and other focal species from operations in this specific instance. Consequently, the Applicant shall preserve lands which provide habitat for burrowing owl (but which may also provide habitat for American kestrel and red-tailed hawk), the primary focal species potentially impacted by the proposed project, as well as other avian species. Lands will be preserved on a 1:1 rotor swept area basis, with the amount of land preserved in a ratio based on the total rotor swept area of the proposed turbines and the rate of estimated fatalities. Lands will be preserved on a 1:1 rotor-swept area basis if the rate of estimated fatalities (after monitoring is complete) is more than the baseline fatality rate, as determined by the lead agency. Conserved lands shall provide breeding opportunities for one or more of the primary focal species listed above in an effort to offset fatalities associated with operation of the Initial Repower. If necessary, enhancement measures will be implemented to ensure that the conserved lands provide breeding opportunities for one or more of the primary focal species. Types of habitat enhancement measures on the conserved lands will be weighted according to the relative abundance of focal species impacted by the project, the species-specific needs of those species, and the type and quality of habitat that may already exist on the conserved land. The Applicant will consult with and obtain approval on the mitigation site from the County, including providing an assessment of the number of acres necessary to mitigate the annual impacts to burrowing owl and the other primary focal species (red-tailed hawk and American kestrel).	During Full Repower operation. Within 1 year of completion of monitoring described in APM 1.	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda and CDFW **Criteria** • Applicant will preserve mitigation lands if applicable species thresholds are exceeded. • Lands preserved on a 1:1 rotor swept area basis. • Mitigation lands will be approved by DFW and Alameda County. **Monitoring Action** • Verify periodically during and after initial repowering activities that Applicant Proposed Measures are properly implemented.

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	Mitigation Measure BIO-11c: Mitigate for the loss of individual golden eagles by retrofitting electrical facilities If golden eagle fatalities occur, the Applicant will mitigate for the proposed project's observed golden eagle mortality by retrofitting hazardous electrical poles in an onsite location (if any hazardous poles are located onsite), or in an offsite location. The mitigation must occur within 140 miles of the proposed project, the area typically defined by the USFWS as the local population. The Initial Repower is projected to result in the fatality of up to approximately one eagle every 4 years (0.24 golden eagles/MW/yr, although a smaller fatality rate is also possible. As described under APM 1, the Applicant has committed to monitoring the effects of the proposed project, and the monitoring will include documentation of any golden eagle fatalities. Based on current published draft guidance from the USFWS (2012), and using a general example, a ratio of 29 utility pole retrofits for each eagle is suggested by the USFWS. The Applicant will therefore retrofit 29 utility poles as mitigation for each eagle fatality from the proposed project, as determined through the Avian Validation Study and any supplemental monitoring efforts. The Applicant may contract directly with an electrical utility to fund this mitigation; however, a written agreement and evidence of the completion of the retrofits must be provided to the County. USFWS has estimated the cost of retrofits at $7,500 per pole, and therefore the Applicant may contribute the required funds, to a third party mitigation account (approved by Alameda County) instead of contracting directly with a utility. The third party mitigation account holder would have the responsibility of completing the mitigation or contracting for the mitigation to be completed. Evidence of completion of mitigation must be provided to the County within 1 year of completion of monitoring.	During Initial Repower operation. Within 1 year of completion of monitoring described in APM 1.	Project Applicant/ Contractor/ Qualified Biologist	**Reviewing Party** County of Alameda **Criteria** • Applicant will mitigate for the take of golden eagles through power pole retrofits • Applicant will mitigate for each eagle through the retrofit of 29 utility poles. **Monitoring Action** • Verify that mitigation has been completed as required.
	Mitigation Measure BIO-11d: Implement additional measures to reduce Full Repower avian fatality rates If the results of the Avian Validation Study demonstrate that the Full Repower will likely cause avian fatality rates in excess of the Initial Repower reduction targets outlined in APM 2, the results of the Avian Validation Study will be analyzed to formulate avian impact reduction measures to reduce the effects of the Full Repower to or below specified fatality rates. The specific form such reduction measures may take will depend on the results of the Avian Validation Study and engagement with the County, USFWS and CDFW on the basis of such results. Examples of potential measures may include the following. • Technology modifications • Hazard-based micrositing • Hazard-based capacity limitations • Hazard-based cut-in-speed or real-time curtailment • Compensatory research funding, habitat protection, ground squirrel control restrictions, or electric pole retro-fits to APLIC standards • Partial or full siting of conventional turbines instead of shrouded turbines Such other measures as may be required by the County, USFWS or CDFW under their respective regulatory regimes applicable to avian species (e.g., County planning and zoning regulations, BGEPA, MBTA, California Fish & Game Code) If any of the reduction measures listed above are deemed necessary to reduce the potential impacts of the Full Repower on avian species, the Applicant will implement a fatality monitoring program to measure the results of the measures. The fatality monitoring program will be described by the Applicant in the project description for the Full Repower and at a minimum will include the following: • Fatality monitoring for birds and bats for a period of 3 years using a statistically valid sampling approach. • Yearly reports (submitted to the County for review and approval) which describe the monitoring methods and results, and which describe the potential effects of the reduction measures implemented on the project. • Methods for implementing adaptive management during the monitoring period to ensure appropriate	Prior to Full Repower construction and operation. Annual monitoring reports will be prepared if necessary.	Project Applicant/ Qualified Biologist	**Reviewing Party** County of Alameda, CDFW, USFWS **Criteria** • If avian impact rates exceed thresholds in APM 2, formulate additional measures to reduce impacts • Conduct monitoring to ensure avian impact rates are as expected. **Monitoring Action** • Review reports and/or avian impact reduction strategies and verify that appropriate additional measures are implemented to reduce avian fatality rates.

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	measures are being implemented to reduce impacts on birds and bats.			
Cultural Resources – Initial Repower				
Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5	**Mitigation Measure CUL-2: Stop work in case of accidental discovery of buried archeological resources** If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or human bone, are inadvertently discovered during ground disturbing activities, work will stop in that area and within 100 feet of the find until a qualified archaeologist can assess the significance of the find and, if avoidance is not possible, develop appropriate treatment measures such as recordation and excavation, in consultation with the County. If the find is Native American in origin, consultation with the NAHC and local Native American representatives will be initiated.	During Initial Repower construction	Project Applicant/ Contractor	**Reviewing Party** County of Alameda, NAHC (if Native American artifacts are found). **Criteria** • Contact qualified archaeologist to assess the find • Contact NAHC if Native American artifacts are uncovered **Monitoring Action** • Review measure with construction crew before ground-disturbing activities
Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries	**Mitigation Measure CUL-3: Stop work in case of accidental discovery of buried human remains** If human remains of Native American origin are discovered during project construction, it is necessary to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the NAHC (PRC Section 5097). If any human remains are discovered or recognized in any location other than a dedicated cemetery, there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: • the Alameda County coroner has been informed and has determined that no investigation of the cause of death is required; and • if the remains are of Native American origin, • the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC 5097.98, or • the NAHC was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.	During Initial Repower construction	Project Applicant/ Contractor	**Reviewing Party** County of Alameda, NAHC (if Native American artifacts are found). **Criteria** • Contact County Coroner if human remains are found • Contact qualified archaeologist • Contact NAHC if remains are determined to be Native American **Monitoring Action** • Review measure with construction crew before ground-disturbing activities
Cultural Resources – Full Repower				
Impact CUL-2[F]: Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5	**Mitigation Measure CUL-2: Stop work in case of accidental discovery of buried archeological resources** If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or human bone, are inadvertently discovered during ground disturbing activities, work will stop in that area and within 100 feet of the find until a qualified archaeologist can assess the significance of the find and, if avoidance is not possible, develop appropriate treatment measures such as recordation and excavation, in consultation with the County. If the find is Native American in origin, consultation with the NAHC and local Native American representatives will be initiated.	During Full Repower construction	Project Applicant/ Contractor	**Reviewing Party** County of Alameda, NAHC (if Native American artifacts are found). **Criteria** • Contact qualified archaeologist to assess the find • Contact NAHC if Native American artifacts are uncovered **Monitoring Action** • Review measure with construction crew before ground-disturbing activities

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact CUL-3[F]: Disturb any human remains, including those interred outside of formal cemeteries	**Mitigation Measure CUL-3: Stop work in case of accidental discovery of buried human remains** If human remains of Native American origin are discovered during project construction, it is necessary to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the NAHC (PRC Section 5097). If any human remains are discovered or recognized in any location other than a dedicated cemetery, there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: • the Alameda County coroner has been informed and has determined that no investigation of the cause of death is required; and • if the remains are of Native American origin, • the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC 5097.98, or • the NAHC was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.	During Full Repower construction	Project Applicant/ Contractor	**Reviewing Party** **Reviewing Party** County of Alameda, NAHC (if Native American artifacts are found). **Criteria** • Contact County Coroner if human remains are found • Contact qualified archaeologist • Contact NAHC if remains are determined to be Native American **Monitoring Action** • Review measure with construction crew before ground-disturbing activities
Geology, Soils, and Paleontological Resources – Initial Repower				
Impact GEO-1: 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 fault	**Mitigation Measure GEO-1: Prepare a site-specific geotechnical report** Prior to any construction activities, 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, which will comply with all state and local code requirements, will be submitted to the County building department as part of the approval process. This report will address the following issues. • Potential for surface fault rupture at turbine site location: Turbine foundations will be sited according to recommendations made pursuant to state and local code requirements in this geotechnical report. • Strong ground shaking: The geotechnical report will analyze the potential for strong ground shaking in the project area, using accepted methodologies, and provide site-specific foundation design recommendations. The structural design requirements will be based on conformance with the most current version of the CBC, including applicable County amendments, to ensure that the project will withstand ground accelerations expected from known active faults. • Slope failure: The geotechnical report will investigate the potential for slope failure (both seismically and nonseismically induced) and develop site-specific foundation plans engineered for the terrain, rock and soil types, and other conditions present at the project parcels. Site-specific engineering requirements for mitigation of slope failure will specify proven methods generally accepted by registered engineers, including measures described in CGS Special Publication 117A (2008). • Expansive soils: The geotechnical report will assess the soil types present at each project parcel and determine the best engineering designs to accommodate the soil conditions at the parcels. Design requirements: Site-specific design to address the issues of surface fault rupture, strong ground motion, slope failure, and expansive soils will include final design parameters for earthwork, foundations, site preparation, structure, and infrastructure. The project structural engineer will review the site-specific design, provide additional design features, if necessary, to meet building code requirements, and incorporate all applicable design features from the investigation into the structural design plans to ensure that the final plans meet current building code requirements. Geologic hazards, including the potential for grading to create unstable cut or fill slopes, are addressed through the County's adopted building codes. The County enforces compliance with geotechnical report recommendations via the building permit process. Design and engineering recommendations in the geotechnical report will be implemented by the project proponent during construction. The County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report will review the geotechnical investigation, approve the final report, and require compliance with all geotechnical design features described in the	Prior to Initial Repower construction During design phase	Applicant	**Reviewing Party** County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report County building department **Criteria** • compliance with the geotechnical investigation recommendations • compliance with applicable building code requirements **Monitoring Action** NA

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	report in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits. The County building department personnel will review project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable geotechnical investigation and other applicable building code requirements.			
Impact GEO-2: 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	**Mitigation Measure GEO-1: Prepare a site-specific geotechnical report** Prior to any construction activities, 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, which will comply with all state and local code requirements, will be submitted to the County building department as part of the approval process. This report will address the following issues. • Potential for surface fault rupture at turbine site location: The geotechnical report will investigate the Midway fault and determine whether it poses a risk of surface rupture. Turbine foundations will be sited according to recommendations in this geotechnical report. • Strong ground shaking: The geotechnical report will analyze the potential for strong ground shaking in the project area, using accepted methodologies, and provide site-specific foundation design recommendations. The structural design requirements will be based on conformance with the most current version of the CBC, including applicable County amendments, to ensure that the project will withstand ground accelerations expected from known active faults. • Slope failure: The geotechnical report will investigate the potential for slope failure (both seismically and nonseismically induced) and develop site-specific foundation plans engineered for the terrain, rock and soil types, and other conditions present at the project parcels. Site-specific engineering requirements for mitigation of slope failure will specify proven methods generally accepted by registered engineers, including measures described in CGS Special Publication 117A (2008). • Expansive soils: The geotechnical report will assess the soil types present at each project parcel and determine the best engineering designs to accommodate the soil conditions at the parcels. Design requirements: Site-specific design to address the issues of surface fault rupture, strong ground motion, slope failure, and expansive soils will include final design parameters for earthwork, foundations, site preparation, structure, and infrastructure. The project structural engineer will review the site-specific design, provide additional mitigation, if necessary, to meet building code requirements, and incorporate all applicable mitigation from the investigation into the structural design plans to ensure that the final plans meet current building code requirements. Geologic hazards, including the potential for grading to create unstable cut or fill slopes, are addressed through the County's adopted building codes. The County enforces compliance with geotechnical report recommendations via the building permit process. Design and engineering recommendations in the geotechnical report will be implemented by the project proponent during construction. The County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report will review the geotechnical investigation, approve the final report, and require compliance with all geotechnical mitigation described in the report in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits. The County building department personnel will review project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable geotechnical investigation and other applicable building code requirements.	Prior to Initial Repower construction During design phase	Applicant	**Reviewing Party** County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report County building department **Criteria** • compliance with the geotechnical investigation recommendations • compliance with applicable building code requirements **Monitoring Action** NA

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact GEO-3: 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 liquefaction and landslides	**Mitigation Measure GEO-1: Prepare a site-specific geotechnical report** Prior to any construction activities, 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, which will comply with all state and local code requirements, will be submitted to the County building department as part of the approval process. This report will address the following issues. • Potential for surface fault rupture at turbine site location: The geotechnical report will investigate the Midway fault and determine whether it poses a risk of surface rupture. Turbine foundations will be sited according to recommendations in this geotechnical report. • Strong ground shaking: The geotechnical report will analyze the potential for strong ground shaking in the project area, using accepted methodologies, and provide site-specific foundation design recommendations. The structural design requirements will be based on conformance with the most current version of the CBC, including applicable County amendments, to ensure that the project will withstand ground accelerations expected from known active faults. • Slope failure: The geotechnical report will investigate the potential for slope failure (both seismically and nonseismically induced) and develop site-specific foundation plans engineered for the terrain, rock and soil types, and other conditions present at the project parcels. Site-specific engineering requirements for mitigation of slope failure will specify proven methods generally accepted by registered engineers, including measures described in CGS Special Publication 117A (2008). • Expansive soils: The geotechnical report will assess the soil types present at each project parcel and determine the best engineering designs to accommodate the soil conditions at the parcels. Design requirements: Site-specific design to address the issues of surface fault rupture, strong ground motion, slope failure, and expansive soils will include final design parameters for earthwork, foundations, site preparation, structure, and infrastructure. The project structural engineer will review the site-specific design, provide additional mitigation, if necessary, to meet building code requirements, and incorporate all applicable mitigation from the investigation into the structural design plans to ensure that the final plans meet current building code requirements. Geologic hazards, including the potential for grading to create unstable cut or fill slopes, are addressed through the County's adopted building codes. The County enforces compliance with geotechnical report recommendations via the building permit process. Design and engineering recommendations in the geotechnical report will be implemented by the project proponent during construction. The County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report will review the geotechnical investigation, approve the final report, and require compliance with all geotechnical mitigation described in the report in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits. The County building department personnel will review project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable geotechnical investigation and other applicable building code requirements.	Prior to Initial Repower construction During design phase	Applicant	**Reviewing Party** County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report County building department **Criteria** • compliance with the geotechnical investigation recommendations • compliance with applicable building code requirements **Monitoring Action** NA
Impact GEO-5: Be located on expansive soil creating substantial risks to life or property	**Mitigation Measure GEO-1: Prepare a site-specific geotechnical report** Prior to any construction activities, 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, which will comply with all state and local code requirements, will be submitted to the County building department as part of the approval process. This report will address the following issues. • Potential for surface fault rupture at turbine site location: The geotechnical report will investigate the Midway fault and determine whether it poses a risk of surface rupture. Turbine foundations will be sited according to recommendations in this geotechnical report. • Strong ground shaking: The geotechnical report will analyze the potential for strong ground shaking in the project area, using accepted methodologies, and provide site-specific foundation design recommendations. The structural design requirements will be based on conformance with the most	Prior to Initial Repower construction During design phase	Applicant	**Reviewing Party** County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report County building department **Criteria** • compliance with the geotechnical investigation recommendations • compliance with applicable building code requirements

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	current version of the CBC, including applicable County amendments, to ensure that the project will withstand ground accelerations expected from known active faults. • Slope failure: The geotechnical report will investigate the potential for slope failure (both seismically and nonseismically induced) and develop site-specific foundation plans engineered for the terrain, rock and soil types, and other conditions present at the project parcels. Site-specific engineering requirements for mitigation of slope failure will specify proven methods generally accepted by registered engineers, including measures described in CGS Special Publication 117A (2008). • Expansive soils: The geotechnical report will assess the soil types present at each project parcel and determine the best engineering designs to accommodate the soil conditions at the parcels. Design requirements: Site-specific design to address the issues of surface fault rupture, strong ground motion, slope failure, and expansive soils will include final design parameters for earthwork, foundations, site preparation, structure, and infrastructure. The project structural engineer will review the site-specific design, provide additional mitigation, if necessary, to meet building code requirements, and incorporate all applicable mitigation from the investigation into the structural design plans to ensure that the final plans meet current building code requirements. Geologic hazards, including the potential for grading to create unstable cut or fill slopes, are addressed through the County's adopted building codes. The County enforces compliance with geotechnical report recommendations via the building permit process. Design and engineering recommendations in the geotechnical report will be implemented by the project proponent during construction. The County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report will review the geotechnical investigation, approve the final report, and require compliance with all geotechnical mitigation described in the report in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits. The County building department personnel will review project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable geotechnical investigation and other applicable building code requirements.			**Monitoring Action** NA
Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	**Mitigation Measure GEO-6a: 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) (Standard Procedures) to monitor activities with the potential to disturb sensitive paleontological resources. Data gathered during detailed design of the Initial Repower will be used to determine the activities that will require the presence of a monitor pursuant to SVP's Standard Procedures. 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.	Retain professional paleontologist prior to construction Monitor during Initial Repower construction	Applicant	**Reviewing Party** Professional paleontologist County building department **Criteria** • SVP sensitivity criteria (Table 3.6-2) **Monitoring Action** • Monitoring during any ground-disturbing activities involving excavation deeper than 3 feet in areas with high potential to contain sensitive paleontological resources • Prepare and curate recovered fossils
	Mitigation Measure GEO-6b: 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.	Immediately prior to Initial Repower construction	Applicant	**Reviewing Party** Professional paleontologist County building department **Criteria** NA **Monitoring Action** NA

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	Mitigation Measure GEO-6c: 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 a 100-foot radius 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 Initial Repower construction	Applicant	**Reviewing Party** Professional paleontologist County building department **Criteria** • SVP sensitivity criteria (Table 3.6-2) **Monitoring Action** • Stop construction in area • Contact professional paleontologist • Excavate find and document and curate
Geology, Soils, and Paleontological Resources – Full Repower				
Impact GEO-1[F]: 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 fault	**Mitigation Measure GEO-1: Prepare a site-specific geotechnical report** Prior to any construction activities, 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, which will comply with all state and local code requirements, will be submitted to the County building department as part of the approval process. This report will address the following issues. • Potential for surface fault rupture at turbine site location: The geotechnical report will investigate the Midway fault and determine whether it poses a risk of surface rupture. Turbine foundations will be sited according to recommendations in this geotechnical report. • Strong ground shaking: The geotechnical report will analyze the potential for strong ground shaking in the project area, using accepted methodologies, and provide site-specific foundation design recommendations. The structural design requirements will be based on conformance with the most current version of the CBC, including applicable County amendments, to ensure that the project will withstand ground accelerations expected from known active faults. • Slope failure: The geotechnical report will investigate the potential for slope failure (both seismically and nonseismically induced) and develop site-specific foundation plans engineered for the terrain, rock and soil types, and other conditions present at the project parcels. Site-specific engineering requirements for mitigation of slope failure will specify proven methods generally accepted by registered engineers, including measures described in CGS Special Publication 117A (2008). • Expansive soils: The geotechnical report will assess the soil types present at each project parcel and determine the best engineering designs to accommodate the soil conditions at the parcels. Design requirements: Site-specific design to address the issues of surface fault rupture, strong ground motion, slope failure, and expansive soils will include final design parameters for earthwork, foundations, site preparation, structure, and infrastructure. The project structural engineer will review the site-specific design, provide additional mitigation, if necessary, to meet building code requirements, and incorporate all applicable mitigation from the investigation into the structural design plans to ensure that the final plans meet current building code requirements. Geologic hazards, including the potential for grading to create unstable cut or fill slopes, are addressed through the County's adopted building codes. The County enforces compliance with geotechnical report recommendations via the building permit process. Design and engineering recommendations in the geotechnical report will be implemented by the project proponent during construction. The County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report will review the geotechnical investigation, approve the final report, and require compliance with all geotechnical mitigation described in the report in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits. The County building department personnel will review project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable	Prior to Full Repower construction During design phase	Applicant	**Reviewing Party** County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report County building department **Criteria** • compliance with the geotechnical investigation recommendations • compliance with applicable building code requirements **Monitoring Action** NA

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	geotechnical investigation and other applicable building code requirements.			
Impact GEO-2[F]: 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	**Mitigation Measure GEO-1: Prepare a site-specific geotechnical report** Prior to any construction activities, 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, which will comply with all state and local code requirements, will be submitted to the County building department as part of the approval process. This report will address the following issues. • Potential for surface fault rupture at turbine site location: The geotechnical report will investigate the Midway fault and determine whether it poses a risk of surface rupture. Turbine foundations will be sited according to recommendations in this geotechnical report. • Strong ground shaking: The geotechnical report will analyze the potential for strong ground shaking in the project area, using accepted methodologies, and provide site-specific foundation design recommendations. The structural design requirements will be based on conformance with the most current version of the CBC, including applicable County amendments, to ensure that the project will withstand ground accelerations expected from known active faults. • Slope failure: The geotechnical report will investigate the potential for slope failure (both seismically and nonseismically induced) and develop site-specific foundation plans engineered for the terrain, rock and soil types, and other conditions present at the project parcels. Site-specific engineering requirements for mitigation of slope failure will specify proven methods generally accepted by registered engineers, including measures described in CGS Special Publication 117A (2008). • Expansive soils: The geotechnical report will assess the soil types present at each project parcel and determine the best engineering designs to accommodate the soil conditions at the parcels. Design requirements: Site-specific design to address the issues of surface fault rupture, strong ground motion, slope failure, and expansive soils will include final design parameters for earthwork, foundations, site preparation, structure, and infrastructure. The project structural engineer will review the site-specific design, provide additional mitigation, if necessary, to meet building code requirements, and incorporate all applicable mitigation from the investigation into the structural design plans to ensure that the final plans meet current building code requirements. Geologic hazards, including the potential for grading to create unstable cut or fill slopes, are addressed through the County's adopted building codes. The County enforces compliance with geotechnical report recommendations via the building permit process. Design and engineering recommendations in the geotechnical report will be implemented by the project proponent during construction. The County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report will review the geotechnical investigation, approve the final report, and require compliance with all geotechnical mitigation described in the report in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits. The County building department personnel will review project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable geotechnical investigation and other applicable building code requirements.	Prior to Full Repower construction During design phase	Applicant	**Reviewing Party** County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report County building department **Criteria** • compliance with the geotechnical investigation recommendations • compliance with applicable building code requirements **Monitoring Action** NA
Impact GEO-3[F]: 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 liquefaction and landslides	**Mitigation Measure GEO-1: Prepare a site-specific geotechnical report** Prior to any construction activities, 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, which will comply with all state and local code requirements, will be submitted to the County building department as part of the approval process. This report will address the following issues. • Potential for surface fault rupture at turbine site location: The geotechnical report will investigate the Midway fault and determine whether it poses a risk of surface rupture. Turbine foundations will be sited according to recommendations in this geotechnical report. • Strong ground shaking: The geotechnical report will analyze the potential for strong ground shaking in the project area, using accepted methodologies, and provide site-specific foundation design	Prior to Full Repower construction During design phase	Applicant	**Reviewing Party** County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report County building department **Criteria** • compliance with the geotechnical investigation recommendations • compliance with applicable building code

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	recommendations. The structural design requirements will be based on conformance with the most current version of the CBC, including applicable County amendments, to ensure that the project will withstand ground accelerations expected from known active faults. • Slope failure: The geotechnical report will investigate the potential for slope failure (both seismically and nonseismically induced) and develop site-specific foundation plans engineered for the terrain, rock and soil types, and other conditions present at the project parcels. Site-specific engineering requirements for mitigation of slope failure will specify proven methods generally accepted by registered engineers, including measures described in CGS Special Publication 117A (2008). • Expansive soils: The geotechnical report will assess the soil types present at each project parcel and determine the best engineering designs to accommodate the soil conditions at the parcels. Design requirements: Site-specific design to address the issues of surface fault rupture, strong ground motion, slope failure, and expansive soils will include final design parameters for earthwork, foundations, site preparation, structure, and infrastructure. The project structural engineer will review the site-specific design, provide additional mitigation, if necessary, to meet building code requirements, and incorporate all applicable mitigation from the investigation into the structural design plans to ensure that the final plans meet current building code requirements. Geologic hazards, including the potential for grading to create unstable cut or fill slopes, are addressed through the County's adopted building codes. The County enforces compliance with geotechnical report recommendations via the building permit process. Design and engineering recommendations in the geotechnical report will be implemented by the project proponent during construction. The County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report will review the geotechnical investigation, approve the final report, and require compliance with all geotechnical mitigation described in the report in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits. The County building department personnel will review project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable geotechnical investigation and other applicable building code requirements.			requirements **Monitoring Action** NA
Impact GEO-5[F]: Be located on expansive soil creating substantial risks to life or property	**Mitigation Measure GEO-1: Prepare a site-specific geotechnical report** Prior to any construction activities, 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, which will comply with all state and local code requirements, will be submitted to the County building department as part of the approval process. This report will address the following issues. • Potential for surface fault rupture at turbine site location: The geotechnical report will investigate the Midway fault and determine whether it poses a risk of surface rupture. Turbine foundations will be sited according to recommendations in this geotechnical report. • Strong ground shaking: The geotechnical report will analyze the potential for strong ground shaking in the project area, using accepted methodologies, and provide site-specific foundation design recommendations. The structural design requirements will be based on conformance with the most current version of the CBC, including applicable County amendments, to ensure that the project will withstand ground accelerations expected from known active faults. • Slope failure: The geotechnical report will investigate the potential for slope failure (both seismically and nonseismically induced) and develop site-specific foundation plans engineered for the terrain, rock and soil types, and other conditions present at the project parcels. Site-specific engineering requirements for mitigation of slope failure will specify proven methods generally accepted by registered engineers, including measures described in CGS Special Publication 117A (2008). • Expansive soils: The geotechnical report will assess the soil types present at each project parcel and determine the best engineering designs to accommodate the soil conditions at the parcels. Design requirements: Site-specific design to address the issues of surface fault rupture, strong ground motion, slope failure, and expansive soils will include final design parameters for earthwork, foundations,	Prior to Full Repower construction During design phase	Applicant	**Reviewing Party** County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report County building department **Criteria** • compliance with the geotechnical investigation recommendations • compliance with applicable building code requirements **Monitoring Action** NA

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	site preparation, structure, and infrastructure. The project structural engineer will review the site-specific design, provide additional mitigation, if necessary, to meet building code requirements, and incorporate all applicable mitigation from the investigation into the structural design plans to ensure that the final plans meet current building code requirements. Geologic hazards, including the potential for grading to create unstable cut or fill slopes, are addressed through the County's adopted building codes. The County enforces compliance with geotechnical report recommendations via the building permit process. Design and engineering recommendations in the geotechnical report will be implemented by the project proponent during construction. The County's registered geotechnical engineer or third-party registered engineer retained to review the geotechnical report will review the geotechnical investigation, approve the final report, and require compliance with all geotechnical mitigation described in the report in the plans submitted for the grading, foundation, structural, infrastructure and all other relevant construction permits. The County building department personnel will review project plans for grading, foundations, structural, infrastructure and all other relevant construction permits to ensure compliance with the applicable geotechnical investigation and other applicable building code requirements.			
Impact GEO-6[F]: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	**Mitigation Measure GEO-6a: 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) (Standard Procedures) to monitor activities with the potential to disturb sensitive paleontological resources. Data gathered during detailed design of the Initial Repower will be used to determine the activities that will require the presence of a monitor pursuant to SVP's Standard Procedures. 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.	Retain professional paleontologist prior to construction Monitor during Full Repower construction	Applicant	**Reviewing Party** Professional paleontologist County building department **Criteria** • SVP sensitivity criteria (Table 3.6-2) **Monitoring Action** • Monitoring during any ground-disturbing activities involving excavation deeper than 3 feet in areas with high potential to contain sensitive paleontological resources • Prepare and curate recovered fossils
	Mitigation Measure GEO-6b: 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.	Immediately prior to Full Repower construction	Applicant	**Reviewing Party** Professional paleontologist County building department **Criteria** NA **Monitoring Action** NA
	Mitigation Measure GEO-6c: 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 a 100-foot radius 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 Full Repower construction	Applicant	**Reviewing Party** Professional paleontologist County building department **Criteria** • SVP sensitivity criteria (Table 3.6-2) **Monitoring Action** • Stop construction in area • Contact professional paleontologist • Excavate find and document and curate

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Greenhouse Gas Emissions – Initial Repower				
Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment	**Mitigation Measure GHG-1: Implement BAAQMD BMPs for construction** The project applicant will require all construction contractors to implement the BMPs recommended by BAAQMD to reduce GHG emissions. Emission reduction measures will include, at a minimum, the following three measures. • Use alternative-fueled (e.g., biodiesel, electric) construction vehicles/equipment for at least 15 percent of the fleet. • Recycle or reuse at least 50 percent of the construction waste or demolition materials. • Use local-sourced building materials of at least 10 percent of total.	During Initial Repower construction	Contractor	**Reviewing Party** Project Applicant, then County of Alameda **Criteria** • 15% of construction vehicles and equipment will be alternatively-fueled with biodiesel, electric, or another reduced-GHG emission fuel. • 50% of construction waste and demolition material will be recycled or reused. • 10% of building material will be from local sources. **Monitoring Action** • Create a detailed inventory of construction equipment that clearly indicates which pieces of equipment are alternatively fueled. • Create a detailed inventory of construction waste and demolition material that clearly indicates 10% of the material has a destination at a recycling facility. This can be measured by the approximate weight of the material. • Create an inventory of building materials that clearly states where the materials will be purchased from. This can be measured by the approximate weight of the material.
Greenhouse Gas Emissions – Full Repower				
Impact GHG-1[F]: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment	**Mitigation Measure GHG-1: Implement BAAQMD BMPs for construction** The project applicant will require all construction contractors to implement the BMPs recommended by BAAQMD to reduce GHG emissions. Emission reduction measures will include, at a minimum, the following three measures. • Use alternative-fueled (e.g., biodiesel, electric) construction vehicles/equipment for at least 15 percent of the fleet. • Recycle or reuse at least 50 percent of the construction waste or demolition materials. • Use local-sourced building materials of at least 10 percent of total.	During Full Repower construction	Contractor	**Reviewing Party** Project Applicant, then County of Alameda **Criteria** • 15% of construction vehicles and equipment will be alternatively-fueled with biodiesel, electric, or another reduced-GHG emission fuel. • 50% of construction waste and demolition material will be recycled or reused. • 10% of building material will be from local sources. **Monitoring Action** • Create a detailed inventory of construction equipment that clearly indicates which pieces of equipment are alternatively fueled. • Create a detailed inventory of construction waste and demolition material that clearly indicates 10% of the material has a destination at a recycling facility. This can be measured by

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
				the approximate weight of the material. • Create an inventory of building materials that clearly states where the materials will be purchased from. This can be measured by the approximate weight of the material.
Hydrology and Water Quality– Initial Repower				
Impact WQ-1: Violate any water quality standards or waste discharge requirements	**Mitigation Measure WQ-1: Comply with NPDES requirements** Project contractors will obtain coverage under the Construction General Permit before the onset of any construction activities where the disturbed area is 1 acre or greater in size. A SWPPP will be developed by a qualified engineer or erosion control specialist in accordance with the Central Valley Water Board 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 Board. Compliance and coverage with the Storm Water Management Program and Construction General 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 Construction General 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 that can be expected to minimize runoff and remove contaminants from stormwater discharges. The final selection of BMPs will be subject to approval by the Regional Water Board. The contractor will verify that a Notice of Intent 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 Regional Water Board immediately if there is a noncompliance issue and will require compliance. If necessary, Alameda County will require that additional BMPs be designed and implemented if those originally implemented do not achieve the identified	Prior to Initial Repower construction (obtain coverage under Construction General Permit) During Initial Repower construction (compliance with Storm Water Management Program and Construction General Plan, BMPs)	Project Applicant/ Contractor	**Reviewing Party** County of Alameda **Criteria** • Obtain coverage under Construction General Permit • Compliance with Storm Water Management Program and Construction General Plan • Implementation of BMPs **Monitoring Action** • Verify periodically during and after initial repowering activities that BMPs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	performance standard.			
Impact WQ-3: 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	**Mitigation Measure WQ-1: Comply with NPDES requirements** Project contractors will obtain coverage under the Construction General Permit before the onset of any construction activities where the disturbed area is 1 acre or greater in size. A SWPPP will be developed by a qualified engineer or erosion control specialist in accordance with the Central Valley Water Board 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 Board. Compliance and coverage with the Storm Water Management Program and Construction General 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 Construction General 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 that can be expected to minimize runoff and remove contaminants from stormwater discharges. The final selection of BMPs will be subject to approval by the Regional Water Board. The contractor will verify that a Notice of Intent 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 Regional Water Board immediately if there is a noncompliance issue and will require compliance. If necessary, Alameda County will require that additional BMPs be designed and implemented if those originally implemented do not achieve the identified performance standard.	Prior to Initial Repower construction (obtain coverage under Construction General Permit) During Initial Repower construction (compliance with Storm Water Management Program and Construction General Plan, BMPs)	Project Applicant/ Contractor	**Reviewing Party** County of Alameda **Criteria** • Obtain coverage under Construction General Permit • Compliance with Storm Water Management Program and Construction General Plan • Implementation of BMPs **Monitoring Action** • Verify periodically during and after initial repowering activities that BMPs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact WQ-4: 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	**Mitigation Measure WQ-1: Comply with NPDES requirements** Project contractors will obtain coverage under the Construction General Permit before the onset of any construction activities where the disturbed area is 1 acre or greater in size. A SWPPP will be developed by a qualified engineer or erosion control specialist in accordance with the Central Valley Water Board 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 Board. Compliance and coverage with the Storm Water Management Program and Construction General 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 Construction General 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 that can be expected to minimize runoff and remove contaminants from stormwater discharges. The final selection of BMPs will be subject to approval by the Regional Water Board. The contractor will verify that a Notice of Intent 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 Regional Water Board immediately if there is a noncompliance issue and will require compliance. If necessary, Alameda County will require that additional BMPs be designed and implemented if those originally implemented do not achieve the identified performance standard.	Prior to Initial Repower construction (obtain coverage under Construction General Permit) During Initial Repower construction (compliance with Storm Water Management Program and Construction General Plan, BMPs)	Project Applicant/ Contractor	**Reviewing Party** County of Alameda **Criteria** • Obtain coverage under Construction General Permit • Compliance with Storm Water Management Program and Construction General Plan • Implementation of BMPs **Monitoring Action** • Verify periodically during and after initial repowering activities that BMPs are properly implemented
	Mitigation Measure WQ-4: Comply with local hydrological and drainage requirements The Applicant will perform a hydrological and drainage study for the Initial Repower according to the requirements of the Alameda County Hydrology and Hydraulic requirements, if necessary, and will design the Initial Repower so that the postconstruction volume and rate of drainage flows do not exceed preconstruction flows.	Prior to Initial Repower construction, during design phase	Project Applicant	**Reviewing Party** County of Alameda **Criteria** • Prepare hydrological and drainage study

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
				Monitoring Action • County will review and verify hydrological and drainage study
Impact WQ-5: 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	**Mitigation Measure WQ-1: Comply with NPDES requirements** Project contractors will obtain coverage under the Construction General Permit before the onset of any construction activities where the disturbed area is 1 acre or greater in size. A SWPPP will be developed by a qualified engineer or erosion control specialist in accordance with the Central Valley Water Board 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 Board. Compliance and coverage with the Storm Water Management Program and Construction General 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 Construction General 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 that can be expected to minimize runoff and remove contaminants from stormwater discharges. The final selection of BMPs will be subject to approval by the Regional Water Board. The contractor will verify that a Notice of Intent 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 Regional Water Board immediately if there is a noncompliance issue and will require compliance. If necessary, Alameda County will require that additional BMPs be designed and implemented if those originally implemented do not achieve the identified performance standard.	Prior to Initial Repower construction (obtain coverage under Construction General Permit) During Initial Repower construction (compliance with Storm Water Management Program and Construction General Plan, BMPs)	Project Applicant/ Contractor	**Reviewing Party** County of Alameda **Criteria** • Obtain coverage under Construction General Permit • Compliance with Storm Water Management Program and Construction General Plan • Implementation of BMPs **Monitoring Action** • Verify periodically during and after initial repowering activities that BMPs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	Mitigation Measure WQ-4: Comply with local hydrological and drainage requirements The Applicant will perform a hydrological and drainage study for the Initial Repower according to the requirements of the Alameda County Hydrology and Hydraulic requirements, if necessary, and will design the Initial Repower so that the postconstruction volume and rate of drainage flows do not exceed preconstruction flows.	Prior to Initial Repower construction, during design phase	Project Applicant	**Reviewing Party** County of Alameda **Criteria** • Prepare hydrological and drainage study **Monitoring Action** • County will review and verify hydrological and drainage study
Impact WQ-6: Otherwise substantially degrade water quality	**Mitigation Measure WQ-1: Comply with NPDES requirements** Project contractors will obtain coverage under the Construction General Permit before the onset of any construction activities where the disturbed area is 1 acre or greater in size. A SWPPP will be developed by a qualified engineer or erosion control specialist in accordance with the Central Valley Water Board 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 Board. Compliance and coverage with the Storm Water Management Program and Construction General 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 Construction General 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 that can be expected to minimize runoff and remove contaminants from stormwater discharges. The final selection of BMPs will be subject to approval by the Regional Water Board. The contractor will verify that a Notice of Intent 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 Regional Water Board immediately if there is a	Prior to Initial Repower construction (obtain coverage under Construction General Permit) During Initial Repower construction (compliance with Storm Water Management Program and Construction General Plan, BMPs)	Project Applicant/ Contractor	**Reviewing Party** County of Alameda **Criteria** • Obtain coverage under Construction General Permit • Compliance with Storm Water Management Program and Construction General Plan • Implementation of BMPs **Monitoring Action** • Verify periodically during and after initial repowering activities that BMPs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	noncompliance issue and will require compliance. If necessary, Alameda County will require that additional BMPs be designed and implemented if those originally implemented do not achieve the identified performance standard.			
Hydrology and Water Quality– Full Repower				
Impact WQ-1[F]: Violate any water quality standards or waste discharge requirements	**Mitigation Measure WQ-1: Comply with NPDES requirements** Project contractors will obtain coverage under the Construction General Permit before the onset of any construction activities where the disturbed area is 1 acre or greater in size. A SWPPP will be developed by a qualified engineer or erosion control specialist in accordance with the Central Valley Water Board 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 Board. Compliance and coverage with the Storm Water Management Program and Construction General 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 Construction General 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 that can be expected to minimize runoff and remove contaminants from stormwater discharges. The final selection of BMPs will be subject to approval by the Regional Water Board. The contractor will verify that a Notice of Intent 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 Regional Water Board immediately if there is a noncompliance issue and will require compliance. If necessary, Alameda County will require that additional BMPs be designed and implemented if those originally implemented do not achieve the identified performance standard.	Prior to Full Repower construction (obtain coverage under Construction General Permit) During Initial Repower construction (compliance with Storm Water Management Program and Construction General Plan, BMPs)	Project Applicant/ Contractor	**Reviewing Party** County of Alameda **Criteria** • Obtain coverage under Construction General Permit • Compliance with Storm Water Management Program and Construction General Plan • Implementation of BMPs **Monitoring Action** • Verify periodically during and after initial repowering activities that BMPs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact WQ-3[F]: 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	**Mitigation Measure WQ-1: Comply with NPDES requirements** Project contractors will obtain coverage under the Construction General Permit before the onset of any construction activities where the disturbed area is 1 acre or greater in size. A SWPPP will be developed by a qualified engineer or erosion control specialist in accordance with the Central Valley Water Board 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 Board. Compliance and coverage with the Storm Water Management Program and Construction General 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 Construction General 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 that can be expected to minimize runoff and remove contaminants from stormwater discharges. The final selection of BMPs will be subject to approval by the Regional Water Board. The contractor will verify that a Notice of Intent 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 Regional Water Board immediately if there is a noncompliance issue and will require compliance. If necessary, Alameda County will require that additional BMPs be designed and implemented if those originally implemented do not achieve the identified performance standard.	Prior to Full Repower construction (obtain coverage under Construction General Permit) During Full Repower construction (compliance with Storm Water Management Program and Construction General Plan, BMPs)	Project Applicant/ Contractor	**Reviewing Party** County of Alameda **Criteria** • Obtain coverage under Construction General Permit • Compliance with Storm Water Management Program and Construction General Plan • Implementation of BMPs **Monitoring Action** • Verify periodically during and after initial repowering activities that BMPs are properly implemented
Impact WQ-4[F]: 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	**Mitigation Measure WQ-1: Comply with NPDES requirements** Project contractors will obtain coverage under the Construction General Permit before the onset of any construction activities where the disturbed area is 1 acre or greater in size. A SWPPP will be developed by a qualified engineer or erosion control specialist in accordance with the Central Valley Water Board requirements for NPDES compliance and implemented prior to the issuance of any grading permit before	Prior to Full Repower construction (obtain coverage under Construction General Permit)	Project Applicant/ Contractor	**Reviewing Party** County of Alameda **Criteria** • Obtain coverage under Construction General

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
result in flooding onsite or offsite	construction. The SWPPP will be kept onsite during construction activity and will be made available upon request to representatives of the Regional Water Board. Compliance and coverage with the Storm Water Management Program and Construction General 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 Construction General 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 that can be expected to minimize runoff and remove contaminants from stormwater discharges. The final selection of BMPs will be subject to approval by the Regional Water Board. The contractor will verify that a Notice of Intent 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 Regional Water Board immediately if there is a noncompliance issue and will require compliance. If necessary, Alameda County will require that additional BMPs be designed and implemented if those originally implemented do not achieve the identified performance standard.	During Full Repower construction (compliance with Storm Water Management Program and Construction General Plan, BMPs)		Permit • Compliance with Storm Water Management Program and Construction General Plan • Implementation of BMPs **Monitoring Action** • Verify periodically during and after initial repowering activities that BMPs are properly implemented
	Mitigation Measure WQ-4: Comply with local hydrological and drainage requirements The Applicant will perform a hydrological and drainage study for the Full Repower according to the requirements of the Alameda County Hydrology and Hydraulic requirements, if necessary, and will design the Full Repower so that the postconstruction volume and rate of drainage flows do not exceed preconstruction flows.	Prior to Full Repower construction, during design phase	Project Applicant	**Reviewing Party** County of Alameda **Criteria** • Prepare hydrological and drainage study **Monitoring Action** • County will review and verify hydrological and drainage study

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact WQ-5[F]: 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	**Mitigation Measure WQ-1: Comply with NPDES requirements** Project contractors will obtain coverage under the Construction General Permit before the onset of any construction activities where the disturbed area is 1 acre or greater in size. A SWPPP will be developed by a qualified engineer or erosion control specialist in accordance with the Central Valley Water Board 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 Board. Compliance and coverage with the Storm Water Management Program and Construction General 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 Construction General 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 that can be expected to minimize runoff and remove contaminants from stormwater discharges. The final selection of BMPs will be subject to approval by the Regional Water Board. The contractor will verify that a Notice of Intent 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 Regional Water Board immediately if there is a noncompliance issue and will require compliance. If necessary, Alameda County will require that additional BMPs be designed and implemented if those originally implemented do not achieve the identified performance standard.	Prior to Full Repower construction (obtain coverage under Construction General Permit) During Full Repower construction (compliance with Storm Water Management Program and Construction General Plan, BMPs)	Project Applicant/ Contractor	**Reviewing Party** County of Alameda **Criteria** • Obtain coverage under Construction General Permit • Compliance with Storm Water Management Program and Construction General Plan • Implementation of BMPs **Monitoring Action** • Verify periodically during and after initial repowering activities that BMPs are properly implemented
	Mitigation Measure WQ-4: Comply with local hydrological and drainage requirements The Applicant will perform a hydrological and drainage study for the Full Repower according to the requirements of the Alameda County Hydrology and Hydraulic requirements, if necessary, and will design the Full Repower so that the postconstruction volume and rate of drainage flows do not exceed preconstruction flows.	Prior to Full Repower construction, during design phase	Project Applicant	**Reviewing Party** County of Alameda **Criteria** • Prepare hydrological and drainage study

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
				Monitoring Action • County will review and verify hydrological and drainage study
Impact WQ-6[F]: Otherwise substantially degrade water quality	**Mitigation Measure WQ-1: Comply with NPDES requirements** Project contractors will obtain coverage under the Construction General Permit before the onset of any construction activities where the disturbed area is 1 acre or greater in size. A SWPPP will be developed by a qualified engineer or erosion control specialist in accordance with the Central Valley Water Board 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 Board. Compliance and coverage with the Storm Water Management Program and Construction General 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 Construction General 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 that can be expected to minimize runoff and remove contaminants from stormwater discharges. The final selection of BMPs will be subject to approval by the Regional Water Board. The contractor will verify that a Notice of Intent 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 Regional Water Board immediately if there is a noncompliance issue and will require compliance. If necessary, Alameda County will require that additional BMPs be designed and implemented if those originally implemented do not achieve the identified performance standard.	Prior to Full Repower construction (obtain coverage under Construction General Permit) During Full Repower construction (compliance with Storm Water Management Program and Construction General Plan, BMPs)	Project Applicant/ Contractor	**Reviewing Party** County of Alameda **Criteria** • Obtain coverage under Construction General Permit • Compliance with Storm Water Management Program and Construction General Plan • Implementation of BMPs **Monitoring Action** • Verify periodically during and after initial repowering activities that BMPs are properly implemented

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Noise – Initial Repower				
Impact NOI-4: Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project	**Mitigation Measure NOI-4: Employ noise-reducing practices during construction** The project applicant will employ a combination of the following noise-reducing practices so that construction noise does not exceed Alameda County Noise Ordinance standards at the relevant property lines. Measures that can be used to limit noise include, but are not limited to those listed below. • Prohibit noise-generating activities before 7 a.m. and after 7 p.m. Monday through Friday, and before 8 a.m. and after 5 p.m. on Saturday and Sunday. • Locate equipment as far as practical from noise-sensitive uses. • 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. • Use noise-reducing enclosures around noise-generating equipment where practicable. • Implement other measures with demonstrated practicability in reducing equipment noise, upon prior approval by the County. In no case will the applicant be allowed to use gasoline or diesel engines without muffled exhausts.	During Initial Repower construction	Contractor	**Reviewing Party** Project applicant **Criteria** • No noise generating activities should occur before 7 a.m. and after 7 p.m. Monday through Friday and before 8 a.m. and after 5 p.m. on Saturday and Sunday. • All equipment should be equipped with sound control devices. • Sound enclosures should be used as frequently as needed. **Monitoring Action** • Inspect construction site to verify that noise enclosures are being used for the appropriate equipment. • Inspect construction equipment to ensure mitigation measures are implemented prior to approval • Inspect construction site to verify that equipment is located as far as practical from adjacent residences and other sensitive land uses.
Noise – Full Repower				
Impact NOI-1[F]: Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies	**Mitigation Measure NOI-1[F]: Perform an acoustical evaluation and implement noise-reduction measures** The Applicant will retain a noise specialist to conduct an acoustical evaluation of the entire project area. The acoustical evaluation will provide recommendations for measures that can be implemented to reduce noise levels to ensure compliance with applicable County noise standards. Measures that could be implemented to ensure compliance may include but would not be limited to the following. • Limiting the number of turbines that influence the noise level at any given residence. • Modifying the operation of the turbines to reduce noise. • Limiting operation of turbines at night.	Prior to Full Repower construction	Contractor to hire noise specialist.	**Reviewing Party** Project applicant **Criteria** • Criteria include the recommended measures from the noise specialist. **Monitoring Action** • Request verification from contractor that the full repower is implementing the recommended measures from the noise specialist. • Utilize the noise specialist to monitor noise levels in the project area to verify that the recommended measures are effective.

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact NOI-3[F]: Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project	**Mitigation Measure NOI-1[F]: Perform an acoustical evaluation and implement noise-reduction measures** The Applicant will retain a noise specialist to conduct an acoustical evaluation of the entire project area. The acoustical evaluation will provide recommendations for measures that can be implemented to reduce noise levels to ensure compliance with applicable County noise standards. Measures that could be implemented to ensure compliance may include but would not be limited to the following. • Limiting the number of turbines that influence the noise level at any given residence. • Modifying the operation of the turbines to reduce noise. • Limiting operation of turbines at night.	Prior to Full Repower construction	Contractor to hire noise specialist.	**Reviewing Party** Project applicant **Criteria** • Criteria include the recommended measures from the noise specialist. **Monitoring Action** • Request verification from contractor that the full repower is implementing the recommended measures from the noise specialist. • Utilize the noise specialist to monitor noise levels in the project area to verify that the recommended measures are effective.
Impact NOI-4[F]: Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project	**Mitigation Measure NOI-4: Employ noise-reducing practices during decommissioning and construction** The project applicant will employ a combination of the following noise-reducing practices so that construction noise does not exceed Alameda County Noise Ordinance standards at the relevant property lines. Measures that can be used to limit noise include, but are not limited to those listed below. • Prohibit noise-generating activities before 7 a.m. and after 7 p.m. Monday through Friday, and before 8 a.m. and after 5 p.m. on Saturday and Sunday. • Locate equipment as far as practical from noise-sensitive uses. • 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. • Use noise-reducing enclosures around noise-generating equipment where practicable. • Implement other measures with demonstrated practicability in reducing equipment noise, upon prior approval by the County. In no case will the applicant be allowed to use gasoline or diesel engines without muffled exhausts.	During decommissioning and Full Repower construction	Contractor	**Reviewing Party** Project applicant **Criteria** • No noise generating activities should occur before 7 a.m. and after 7 p.m. Monday through Friday and before 8 a.m. and after 5 p.m. on Saturday and Sunday. • All equipment should be equipped with sound control devices. • Sound enclosures should be used as frequently as needed. **Monitoring Action** • Inspect construction site to verify that noise enclosures are being used for the appropriate equipment. • Inspect construction equipment to ensure mitigation measures are implemented prior to approval • Inspect construction site to verify that equipment is located as far as practical from adjacent residences and other sensitive land uses.

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Transportation/Traffic – Initial Repower				
Impact TRA-1: 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	**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 Initial Repower project. 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 elements listed below. It is noted that the County and Caltrans may require additional elements to be identified during their review and approval of the TCP. • Schedule construction hours to avoid the construction workers commuting to/from the project parcels 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 parcels 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 project area, as well as the weight and speed limits on local county roads used to access the project area. • Ensure access for emergency vehicles to and through the project area at all times. • If lane/road closures are required during construction, the Applicant or its contractor, will 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 project area and at the entrance roads, including fences, barriers, lights, flagging, guards, and signs, to give adequate warning to the public, including bicyclists that may use the project area bike routes or other county roadways, 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. • Ensure bicycle access on local county roads used by construction haul vehicles, including providing temporary bike routes to ensure access throughout the construction period. • Repair or restore the road and road right-of-way to its original condition or better upon completion of the work. • Coordinate related construction activities, including construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205). • Coordinate with local and regional bicycling organizations regarding routes, events, and tours that use roads in the project vicinity, such as the California Amgen Tour's use of Patterson Pass Road. • Provide local city and county emergency service providers with notification of the construction activity details – schedule, haul routes, detour routes, Applicant and contractor contact names and phone numbers – prior to and ongoing throughout the construction period if any changes are made.	Prior to Initial Repower construction, during design phase: Preparation of TCP, review and approval by Alameda County Public Works Department; review of Interstate components by Caltrans Approval of TCP before construction begins. During construction: on-going implementation of TCP, including coordination with local and regional bicycling organizations and local city and county emergency service providers.	Applicant (Sand Hill Wind, LLC) / Construction Contractor	**Reviewing Party** County of Alameda Public Works Department (PWD) (for local county roads) Caltrans (for I-580, I-238, I-880, I-5, I-205) **Criteria** • Check to ensure construction hours are scheduled to avoid peak commute hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.). • Check that truck deliveries to the project area are limited (fewer and less frequent) during peak commute hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.). • Verify that written notification is provided to contractors regarding haul routes, weight, and speed limits on county roads. • Check to ensure access for emergency vehicles to and through the project area is available at all times. • Check that advance notice is provided to local fire, police, and emergency service providers for all local road / lane closures (if any) so that alternative evacuation and emergency routes are designated to maintain service response times. • Verify that adequate onsite parking is provided for construction trucks and worker vehicles. • Check that suitable public safety measures are in place on local roads in the project area and at the entrance roads to give adequate warning to motorists and bicyclists of the construction activity and of any dangers or detours that may be encountered. • Check that any local public road repairs needed during construction, including any road shoulder improvements / detour routes are completed to prevent excessive deterioration. • Verify that local roads to be used for construction have adequate and safe bicycle access, where appropriate. • Check that local roads and rights-of-way are repaired or restored to original condition or better upon completion of construction. • Verify that appropriate coordination occurs related to construction activities, including

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
				construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205). • Verify that appropriate coordination occurs with local and regional bicycling organizations, including the California Amgen Tour. • Confirm that appropriate notification of the construction activity details are provided to local city and county emergency service providers. **Monitoring Action** County of Alameda PWD: • Review TCP elements during plan check and periodically check the construction site and construction-related traffic on designated haul routes to ensure compliance with the measure. Check condition of roads and road rights-of-way upon completion of construction to confirm repairs or restoration are completed as necessary. Caltrans: • Review TCP elements prior to initiation of construction and periodically check for compliance with congestion management elements for Interstate routes (I-580, I-238, I-880, I-5, I-205)
Impact TRA-2: 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	**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 Initial Repower project. 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 elements listed below. It is noted that the County and Caltrans may require additional elements to be identified during their review and approval of the TCP. • Schedule construction hours to avoid the construction workers commuting to/from the project parcels 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 parcels 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 project area, as well as the weight and speed limits on local county roads used to access the project area.	Prior to Initial Repower construction, during design phase: Preparation of TCP, review and approval by Alameda County Public Works Department; review of Interstate components by Caltrans Approval of TCP before construction begins. During construction: on-going implementation of	Applicant (Sand Hill Wind, LLC) / Construction Contractor	**Reviewing Party** County of Alameda Public Works Department (for local county roads) Caltrans (for I-580, I-238, I-880, I-5, I-205) **Criteria** • Check to ensure construction hours are scheduled to avoid peak commute hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.). • Check that truck deliveries to the project area are limited (fewer and less frequent) during peak commute hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.). • Verify that written notification is provided to

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• Ensure access for emergency vehicles to and through the project area at all times. • If lane/road closures are required during construction, the Applicant or its contractor, will 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 project area and at the entrance roads, including fences, barriers, lights, flagging, guards, and signs, to give adequate warning to the public, including bicyclists that may use the project area bike routes or other county roadways, 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. • Ensure bicycle access on local county roads used by construction haul vehicles, including providing temporary bike routes to ensure access throughout the construction period. • Repair or restore the road and road right-of-way to its original condition or better upon completion of the work. • Coordinate related construction activities, including construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205). • Coordinate with local and regional bicycling organizations regarding routes, events, and tours that use roads in the project vicinity, such as the California Amgen Tour's use of Patterson Pass Road. • Provide local city and county emergency service providers with notification of the construction activity details – schedule, haul routes, detour routes, Applicant and contractor contact names and phone numbers – prior to and ongoing throughout the construction period if any changes are made.	TCP, including coordination with local and regional bicycling organizations and local city and county emergency service providers.		contractors regarding haul routes, weight, and speed limits on county roads. • Check to ensure access for emergency vehicles to and through the project area is available at all times. • Check that advance notice is provided to local fire, police, and emergency service providers for all local road / lane closures (if any) so that alternative evacuation and emergency routes are designated to maintain service response times. • Check that suitable public safety measures are in place on local roads in the project area and at the entrance roads to give adequate warning to motorists and bicyclists of the construction activity and of any dangers or detours that may be encountered. • Verify that appropriate coordination occurs related to construction activities, including construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205). **Monitoring Action** County of Alameda PWD: • Review TCP elements during plan check and periodically check that construction-related traffic on designated haul routes to ensure compliance with the measure. Alameda County to coordinate with Caltrans, San Joaquin County, and cities of Oakland, Stockton, and Tracy related to ensuring measures are met on roads outside of Alameda County.
Impact TRA-4: Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)	**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 Initial Repower project. 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 elements listed below. It is noted that the County and Caltrans may require additional elements to be identified during their review and approval of the TCP. • Schedule construction hours to avoid the construction workers commuting to/from the project parcels	Prior to Initial Repower construction, during design phase: Preparation of TCP, review and approval by Alameda County Public Works Department; review of Interstate components	Applicant (Sand Hill Wind, LLC) / Construction Contractor	**Reviewing Party** County of Alameda Public Works Department (for local county roads) **Criteria** • Verify that written notification is provided to contractors regarding haul routes, weight, and speed limits on county roads. • Check that advance notice is provided to local

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	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 parcels 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 project area, as well as the weight and speed limits on local county roads used to access the project area. • Ensure access for emergency vehicles to and through the project area at all times. • If lane/road closures are required during construction, the Applicant or its contractor, will 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 project area and at the entrance roads, including fences, barriers, lights, flagging, guards, and signs, to give adequate warning to the public, including bicyclists that may use the project area bike routes or other county roadways, 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. • Ensure bicycle access on local county roads used by construction haul vehicles, including providing temporary bike routes to ensure access throughout the construction period. • Repair or restore the road and road right-of-way to its original condition or better upon completion of the work. • Coordinate related construction activities, including construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205). • Coordinate with local and regional bicycling organizations regarding routes, events, and tours that use roads in the project vicinity, such as the California Amgen Tour's use of Patterson Pass Road. • Provide local city and county emergency service providers with notification of the construction activity details – schedule, haul routes, detour routes, Applicant and contractor contact names and phone numbers – prior to and ongoing throughout the construction period if any changes are made.	by Caltrans Approval of TCP before construction begins. During construction: on-going implementation of TCP, including coordination with local and regional bicycling organizations and local city and county emergency service providers.		fire, police, and emergency service providers for all local road / lane closures (if any) so that alternative evacuation and emergency routes are designated to maintain service response times. • Check that suitable public safety measures are in place on local roads in the project area and at the entrance roads to give adequate warning to motorists and bicyclists of the construction activity and of any dangers or detours that may be encountered. • Check that any local public road repairs needed during construction, including any road shoulder improvements / detour routes are completed to prevent excessive deterioration. • Verify that local roads to be used for construction have adequate and safe bicycle access, where appropriate. • Verify that appropriate coordination occurs related to construction activities, including construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205). • Verify that appropriate coordination occurs with local and regional bicycling organizations, including the California Amgen Tour. • Confirm that appropriate notification of the construction activity details are provided to local city and county emergency service providers. **Monitoring Action** County of Alameda PWD: • Review TCP elements during plan check and periodically check the construction site and construction-related traffic on designated haul routes to ensure compliance with the measure. Check condition of roads and road rights-of-way upon completion of construction to confirm repairs or restoration are completed as necessary.

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact TRA-5: Result in inadequate emergency access	**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 Initial Repower project. 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 elements listed below. It is noted that the County and Caltrans may require additional elements to be identified during their review and approval of the TCP. • Schedule construction hours to avoid the construction workers commuting to/from the project parcels 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 parcels 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 project area, as well as the weight and speed limits on local county roads used to access the project area. • Ensure access for emergency vehicles to and through the project area at all times. • If lane/road closures are required during construction, the Applicant or its contractor, will 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 project area and at the entrance roads, including fences, barriers, lights, flagging, guards, and signs, to give adequate warning to the public, including bicyclists that may use the project area bike routes or other county roadways, 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. • Ensure bicycle access on local county roads used by construction haul vehicles, including providing temporary bike routes to ensure access throughout the construction period. • Repair or restore the road and road right-of-way to its original condition or better upon completion of the work. • Coordinate related construction activities, including construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205). • Coordinate with local and regional bicycling organizations regarding routes, events, and tours that use roads in the project vicinity, such as the California Amgen Tour's use of Patterson Pass Road. • Provide local city and county emergency service providers with notification of the construction activity details – schedule, haul routes, detour routes, Applicant and contractor contact names and phone numbers – prior to and ongoing throughout the construction period if any changes are made.	Prior to Initial Repower construction, during design phase: Preparation of TCP, review and approval by Alameda County Public Works Department; review of Interstate components by Caltrans Approval of TCP before construction begins. During construction: on-going implementation of TCP, including coordination with local and regional bicycling organizations and local city and county emergency service providers.	Applicant (Sand Hill Wind, LLC) / Construction Contractor	**Reviewing Party** County of Alameda Public Works Department (for local county roads) **Criteria** • Check to ensure access for emergency vehicles to and through the project area is available at all times. • Check that advance notice is provided to local fire, police, and emergency service providers for all local road / lane closures (if any) so that alternative evacuation and emergency routes are designated to maintain service response times. • Confirm that appropriate notification of the construction activity details are provided to local city and county emergency service providers. **Monitoring Action** County of Alameda PWD: • Review TCP elements during plan check and periodically check the construction site and construction-related traffic on designated haul routes to ensure compliance with the measure.

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact TRA-6: Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities	**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 Initial Repower project. 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 elements listed below. It is noted that the County and Caltrans may require additional elements to be identified during their review and approval of the TCP. • Schedule construction hours to avoid the construction workers commuting to/from the project parcels 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 parcels 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 project area, as well as the weight and speed limits on local county roads used to access the project area. • Ensure access for emergency vehicles to and through the project area at all times. • If lane/road closures are required during construction, the Applicant or its contractor, will 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 project area and at the entrance roads, including fences, barriers, lights, flagging, guards, and signs, to give adequate warning to the public, including bicyclists that may use the project area bike routes or other county roadways, 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. • Ensure bicycle access on local county roads used by construction haul vehicles, including providing temporary bike routes to ensure access throughout the construction period. • Repair or restore the road and road right-of-way to its original condition or better upon completion of the work. • Coordinate related construction activities, including construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205). • Coordinate with local and regional bicycling organizations regarding routes, events, and tours that use roads in the project vicinity, such as the California Amgen Tour's use of Patterson Pass Road. • Provide local city and county emergency service providers with notification of the construction activity details – schedule, haul routes, detour routes, Applicant and contractor contact names and phone numbers – prior to and ongoing throughout the construction period if any changes are made.	Prior to Initial Repower construction, during design phase: Preparation of TCP, review and approval by Alameda County Public Works Department; review of Interstate components by Caltrans Approval of TCP before construction begins. During construction: on-going implementation of TCP, including coordination with local and regional bicycling organizations and local city and county emergency service providers.	Applicant (Sand Hill Wind, LLC) / Construction Contractor	**Reviewing Party** County of Alameda Public Works Department (for local county roads) **Criteria** • Check that suitable public safety measures are in place on local roads in the project area and at the entrance roads to give adequate warning to motorists and bicyclists of the construction activity and of any dangers or detours that may be encountered. • Verify that local roads to be used for construction have adequate and safe bicycle access, where appropriate. • Verify that appropriate coordination occurs with local and regional bicycling organizations, including the California Amgen Tour. **Monitoring Action** County of Alameda PWD: • Review TCP elements during plan check and periodically check the construction site and construction-related traffic on and condition of designated haul routes to ensure compliance with the measure.

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Transportation/Traffic – Full Repower				
Impact TRA-1[F]: 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	**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 Full Repower project. 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 elements listed below. It is noted that the County and Caltrans may require additional elements to be identified during their review and approval of the TCP. • Schedule construction hours to avoid the construction workers commuting to/from the project parcels 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 parcels 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 project area, as well as the weight and speed limits on local county roads used to access the project area. • Ensure access for emergency vehicles to and through the project area at all times. • If lane/road closures are required during construction, the Applicant or its contractor, will 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 project area and at the entrance roads, including fences, barriers, lights, flagging, guards, and signs, to give adequate warning to the public, including bicyclists that may use the project area bike routes or other county roadways, 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. • Ensure bicycle access on local county roads used by construction haul vehicles, including providing temporary bike routes to ensure access throughout the construction period. • Repair or restore the road and road right-of-way to its original condition or better upon completion of the work. • Coordinate related construction activities, including construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205). • Coordinate with local and regional bicycling organizations regarding routes, events, and tours that use roads in the project vicinity, such as the California Amgen Tour's use of Patterson Pass Road. • Provide local city and county emergency service providers with notification of the construction activity details – schedule, haul routes, detour routes, Applicant and contractor contact names and phone numbers – prior to and ongoing throughout the construction period if any changes are made.	Prior to Full Repower construction, during design phase: Preparation of TCP, review and approval by Alameda County Public Works Department; review of Interstate components by Caltrans Approval of TCP before construction begins. During construction: on-going implementation of TCP, including coordination with local and regional bicycling organizations and local city and county emergency service providers.	Applicant (Sand Hill Wind, LLC) / Construction Contractor	**Reviewing Party** County of Alameda Public Works Department (PWD) (for local county roads) Caltrans (for I-580, I-238, I-880, I-5, I-205) **Criteria** • Check to ensure construction hours are scheduled to avoid peak commute hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.). • Check that truck deliveries to the project area are limited (fewer and less frequent) during peak commute hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.). • Verify that written notification is provided to contractors regarding haul routes, weight, and speed limits on county roads. • Check to ensure access for emergency vehicles to and through the project area is available at all times. • Check that advance notice is provided to local fire, police, and emergency service providers for all local road / lane closures (if any) so that alternative evacuation and emergency routes are designated to maintain service response times. • Verify that adequate onsite parking is provided for construction trucks and worker vehicles. • Check that suitable public safety measures are in place on local roads in the project area and at the entrance roads to give adequate warning to motorists and bicyclists of the construction activity and of any dangers or detours that may be encountered. • Check that any local public road repairs needed during construction, including any road shoulder improvements / detour routes are completed to prevent excessive deterioration. • Verify that local roads to be used for construction have adequate and safe bicycle access, where appropriate. • Check that local roads and rights-of-way are repaired or restored to original condition or better upon completion of construction. • Verify that appropriate coordination occurs related to construction activities, including

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
				construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205). • Verify that appropriate coordination occurs with local and regional bicycling organizations, including the California Amgen Tour. • Confirm that appropriate notification of the construction activity details are provided to local city and county emergency service providers. **Monitoring Action** County of Alameda PWD: • Review TCP elements during plan check and periodically check the construction site and construction-related traffic on designated haul routes to ensure compliance with the measure. Check condition of roads and road rights-of-way upon completion of construction to confirm repairs or restoration are completed as necessary. Caltrans: • Review TCP elements prior to initiation of construction and periodically check for compliance with congestion management elements for Interstate routes (I-580, I-238, I-880, I-5, I-205)
Impact TRA-2[F]: 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	**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 Full Repower project. 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 elements listed below. It is noted that the County and Caltrans may require additional elements to be identified during their review and approval of the TCP. • Schedule construction hours to avoid the construction workers commuting to/from the project parcels 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 parcels 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 project area, as well as the weight and speed limits on local county roads used to access the project area.	Prior to Full Repower construction, during design phase: Preparation of TCP, review and approval by Alameda County Public Works Department; review of Interstate components by Caltrans Approval of TCP before construction begins. During construction: on-going implementation of	Applicant (Sand Hill Wind, LLC) / Construction Contractor	**Reviewing Party** County of Alameda Public Works Department (for local county roads) Caltrans (for I-580, I-238, I-880, I-5, I-205) **Criteria** • Check to ensure construction hours are scheduled to avoid peak commute hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.). • Check that truck deliveries to the project area are limited (fewer and less frequent) during peak commute hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.). • Verify that written notification is provided to

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	• Ensure access for emergency vehicles to and through the project area at all times. • If lane/road closures are required during construction, the Applicant or its contractor, will 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 project area and at the entrance roads, including fences, barriers, lights, flagging, guards, and signs, to give adequate warning to the public, including bicyclists that may use the project area bike routes or other county roadways, 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. • Ensure bicycle access on local county roads used by construction haul vehicles, including providing temporary bike routes to ensure access throughout the construction period. • Repair or restore the road and road right-of-way to its original condition or better upon completion of the work. • Coordinate related construction activities, including construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205). • Coordinate with local and regional bicycling organizations regarding routes, events, and tours that use roads in the project vicinity, such as the California Amgen Tour's use of Patterson Pass Road. • Provide local city and county emergency service providers with notification of the construction activity details – schedule, haul routes, detour routes, Applicant and contractor contact names and phone numbers – prior to and ongoing throughout the construction period if any changes are made.	TCP, including coordination with local and regional bicycling organizations and local city and county emergency service providers.		contractors regarding haul routes, weight, and speed limits on county roads. • Check to ensure access for emergency vehicles to and through the project area is available at all times. • Check that advance notice is provided to local fire, police, and emergency service providers for all local road / lane closures (if any) so that alternative evacuation and emergency routes are designated to maintain service response times. • Check that suitable public safety measures are in place on local roads in the project area and at the entrance roads to give adequate warning to motorists and bicyclists of the construction activity and of any dangers or detours that may be encountered. • Verify that appropriate coordination occurs related to construction activities, including construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205). **Monitoring Action** County of Alameda PWD: • Review TCP elements during plan check and periodically check that construction-related traffic on designated haul routes to ensure compliance with the measure. Alameda County to coordinate with Caltrans, San Joaquin County, and cities of Oakland, Stockton, and Tracy related to ensuring measures are met on roads outside of Alameda County.
Impact TRA-4[F]: Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)	**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 Full Repower project. 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 elements listed below. It is noted that the County and Caltrans may require additional elements to be identified during their review and approval of the TCP. • Schedule construction hours to avoid the construction workers commuting to/from the project parcels	Prior to Full Repower construction, during design phase: Preparation of TCP, review and approval by Alameda County Public Works Department; review of Interstate components	Applicant (Sand Hill Wind, LLC) / Construction Contractor	**Reviewing Party** County of Alameda Public Works Department (for local county roads) **Criteria** • Verify that written notification is provided to contractors regarding haul routes, weight, and speed limits on county roads. • Check that advance notice is provided to local

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
	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 parcels 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 project area, as well as the weight and speed limits on local county roads used to access the project area. • Ensure access for emergency vehicles to and through the project area at all times. • If lane/road closures are required during construction, the Applicant or its contractor, will 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 project area and at the entrance roads, including fences, barriers, lights, flagging, guards, and signs, to give adequate warning to the public, including bicyclists that may use the project area bike routes or other county roadways, 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. • Ensure bicycle access on local county roads used by construction haul vehicles, including providing temporary bike routes to ensure access throughout the construction period. • Repair or restore the road and road right-of-way to its original condition or better upon completion of the work. • Coordinate related construction activities, including construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205). • Coordinate with local and regional bicycling organizations regarding routes, events, and tours that use roads in the project vicinity, such as the California Amgen Tour's use of Patterson Pass Road. • Provide local city and county emergency service providers with notification of the construction activity details – schedule, haul routes, detour routes, Applicant and contractor contact names and phone numbers – prior to and ongoing throughout the construction period if any changes are made.	by Caltrans Approval of TCP before construction begins. During construction: on-going implementation of TCP, including coordination with local and regional bicycling organizations and local city and county emergency service providers.		fire, police, and emergency service providers for all local road / lane closures (if any) so that alternative evacuation and emergency routes are designated to maintain service response times. • Check that suitable public safety measures are in place on local roads in the project area and at the entrance roads to give adequate warning to motorists and bicyclists of the construction activity and of any dangers or detours that may be encountered. • Check that any local public road repairs needed during construction, including any road shoulder improvements / detour routes are completed to prevent excessive deterioration. • Verify that local roads to be used for construction have adequate and safe bicycle access, where appropriate. • Verify that appropriate coordination occurs related to construction activities, including construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205). • Verify that appropriate coordination occurs with local and regional bicycling organizations, including the California Amgen Tour. • Confirm that appropriate notification of the construction activity details are provided to local city and county emergency service providers. **Monitoring Action** County of Alameda PWD: • Review TCP elements during plan check and periodically check the construction site and construction-related traffic on designated haul routes to ensure compliance with the measure. Check condition of roads and road rights-of-way upon completion of construction to confirm repairs or restoration are completed as necessary.

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact TRA-5[F]: Result in inadequate emergency access	**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 Full Repower project. 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 elements listed below. It is noted that the County and Caltrans may require additional elements to be identified during their review and approval of the TCP. • Schedule construction hours to avoid the construction workers commuting to/from the project parcels 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 parcels 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 project area, as well as the weight and speed limits on local county roads used to access the project area. • Ensure access for emergency vehicles to and through the project area at all times. • If lane/road closures are required during construction, the Applicant or its contractor, will 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 project area and at the entrance roads, including fences, barriers, lights, flagging, guards, and signs, to give adequate warning to the public, including bicyclists that may use the project area bike routes or other county roadways, 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. • Ensure bicycle access on local county roads used by construction haul vehicles, including providing temporary bike routes to ensure access throughout the construction period. • Repair or restore the road and road right-of-way to its original condition or better upon completion of the work. • Coordinate related construction activities, including construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205). • Coordinate with local and regional bicycling organizations regarding routes, events, and tours that use roads in the project vicinity, such as the California Amgen Tour's use of Patterson Pass Road. • Provide local city and county emergency service providers with notification of the construction activity details – schedule, haul routes, detour routes, Applicant and contractor contact names and phone numbers – prior to and ongoing throughout the construction period if any changes are made.	Prior to Full Repower construction, during design phase: Preparation of TCP, review and approval by Alameda County Public Works Department; review of Interstate components by Caltrans Approval of TCP before construction begins. During construction: on-going implementation of TCP, including coordination with local and regional bicycling organizations and local city and county emergency service providers.	Applicant (Sand Hill Wind, LLC) / Construction Contractor	**Reviewing Party** County of Alameda Public Works Department (for local county roads) **Criteria** • Check to ensure access for emergency vehicles to and through the project area is available at all times. • Check that advance notice is provided to local fire, police, and emergency service providers for all local road / lane closures (if any) so that alternative evacuation and emergency routes are designated to maintain service response times. • Confirm that appropriate notification of the construction activity details are provided to local city and county emergency service providers. **Monitoring Action** County of Alameda PWD: • Review TCP elements during plan check and periodically check the construction site and construction-related traffic on designated haul routes to ensure compliance with the measure.

Final Mitigation Monitoring and Reporting Program (Continued)

Impact	Proposed Mitigation Measure(s)	Timing	Implementing Party	Monitoring
Impact TRA-6[F]: Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities	**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 Full Repower project. 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 elements listed below. It is noted that the County and Caltrans may require additional elements to be identified during their review and approval of the TCP. • Schedule construction hours to avoid the construction workers commuting to/from the project parcels 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 parcels 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 project area, as well as the weight and speed limits on local county roads used to access the project area. • Ensure access for emergency vehicles to and through the project area at all times. • If lane/road closures are required during construction, the Applicant or its contractor, will 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 project area and at the entrance roads, including fences, barriers, lights, flagging, guards, and signs, to give adequate warning to the public, including bicyclists that may use the project area bike routes or other county roadways, 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. • Ensure bicycle access on local county roads used by construction haul vehicles, including providing temporary bike routes to ensure access throughout the construction period. • Repair or restore the road and road right-of-way to its original condition or better upon completion of the work. • Coordinate related construction activities, including construction schedule, anticipated truck traffic, haul routes, and the timing for delivery of materials, with Alameda County, San Joaquin County, Caltrans, and the affected cities—Oakland, Stockton, and Tracy—to identify and minimize overlap with other area construction projects and to determine construction delivery schedules to avoid peak period congestion on CMP-designated routes (I-580, I-238, I-880, I-5, I-205). • Coordinate with local and regional bicycling organizations regarding routes, events, and tours that use roads in the project vicinity, such as the California Amgen Tour's use of Patterson Pass Road. • Provide local city and county emergency service providers with notification of the construction activity details – schedule, haul routes, detour routes, Applicant and contractor contact names and phone numbers – prior to and ongoing throughout the construction period if any changes are made.	Prior to Full Repower construction, during design phase: Preparation of TCP, review and approval by Alameda County Public Works Department; review of Interstate components by Caltrans Approval of TCP before construction begins. During construction: on-going implementation of TCP, including coordination with local and regional bicycling organizations and local city and county emergency service providers.	Applicant (Sand Hill Wind, LLC) / Construction Contractor	**Reviewing Party** County of Alameda Public Works Department (for local county roads) **Criteria** • Check that suitable public safety measures are in place on local roads in the project area and at the entrance roads to give adequate warning to motorists and bicyclists of the construction activity and of any dangers or detours that may be encountered. • Verify that local roads to be used for construction have adequate and safe bicycle access, where appropriate. • Verify that appropriate coordination occurs with local and regional bicycling organizations, including the California Amgen Tour. **Monitoring Action** County of Alameda PWD: • Review TCP elements during plan check and periodically check the construction site and construction-related traffic on and condition of designated haul routes to ensure compliance with the measure.

SAND HILL WIND PROJECT
INITIAL REPOWER

MITIGATION MEASURE MONITORING COMPLIANCE FORM

Reporting Period:

☐ **Pre-construction** ☐ **Construction** ☐ **Operation**
☐ **Decommissioning/Reclamation** ☐ **Post-reclamation**

Report Date: _____

Mitigation Measure:

_____
_____
_____
_____

Has the mitigation measure been implemented?

☐ **Yes** ☐ **No**

Notes:

_____
_____
_____
_____

Is further action or monitoring required?

☐ **Yes** ☐ **No**

If yes, describe:

_____
_____
_____
_____

Is consultation with outside agencies required?

☐ **Yes** ☐ **No**

If yes, identify agency: _____

Has consultation with outside agency been completed?

☐ **Yes** ☐ **No**

Monitoring verified by: _____ **Date:** _____

SAND HILL WIND PROJECT
FULL REPOWER

MITIGATION MEASURE MONITORING COMPLIANCE FORM

Reporting Period:

☐ **Pre-construction** ☐ **Construction** ☐ **Operation**
☐ **Decommissioning/Reclamation** ☐ **Post-reclamation**

Report Date: _____

Mitigation Measure:

_____
_____
_____
_____

Has the mitigation measure been implemented?

☐ **Yes** ☐ **No**

Notes:

_____
_____
_____
_____

Is further action or monitoring required?

☐ **Yes** ☐ **No**

If yes, describe:

_____
_____
_____
_____

Is consultation with outside agencies required?

☐ **Yes** ☐ **No**

If yes, identify agency: _____

Has consultation with outside agency been completed?

☐ **Yes** ☐ **No**

Monitoring verified by: _____ **Date:** _____