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May 4, 2020

Mr. Andrew Young
Project Planner
County of Alameda Planning Department, Community Development Agency
244 W. Winton Avenue, Room 111
Hayward, CA 94544
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Subject: Mulqueeny Wind Repowering Project, PLN2019-00226, Notice of Preparation of a Subsequent Environmental Impact Report, SCH #2010082063, Alameda County

Dear Mr. Young:

The California Department of Fish and Wildlife (CDFW) has reviewed the County of Alameda's Notice of Preparation (NOP) of a Subsequent Environmental Impact Report (SEIR) for the Mulqueeny Wind Repowering Project (Project). The Project is an application for a Conditional Use Permit (CUP) to repower (i.e., replace) an estimated 518 previously existing wind energy turbine sites with up to 36 new turbines. The Project is proposed on 29 nearly contiguous parcels extending over approximately 4,589 acres within the southeastern quadrant of the Alameda County portion of the Altamont Pass Wind Resource Area (APWRA) in northern California. The Project is tiered under the Altamont Pass Wind Resource Area Repowering Final Program Environmental Impact Report (PEIR, SCH #2010082063), certified on November 12, 2014. The purpose of the SEIR will be to evaluate the specific environmental effects of the Project as proposed by Mulqueeny Wind, LLC, a subsidiary of Brookfield Renewable.

CDFW is providing comments and recommendations on the SEIR regarding those activities involved in the Project that are within CDFW's area of expertise and relevant to its statutory responsibilities (Fish and Game Code, § 1802), and/or which are required to be approved by CDFW (CEQA Guidelines, §§ 15086, 15096 and 15204).

CDFW ROLE

CDFW is a Trustee Agency with responsibility under the California Environmental Quality Act (CEQA; Pub. Resources Code, § 21000 et seq.) pursuant to CEQA Guidelines section 15386 for commenting on projects that could impact fish, plant, and wildlife resources. CDFW is also considered a Responsible Agency if a project would require discretionary approval, such as permits issued under the California Endangered Species Act (CESA), the Lake or Streambed Alteration (LSA) Program, or other provisions of the Fish and Game Code that afford protection to the state's fish and wildlife trust resources. CDFW is also a participating member of the Altamont Pass Wind Resource Area Technical Advisory Committee to provide scientific and permitting guidance to Alameda County on wind turbine projects.

REGULATORY REQUIREMENTS

California Endangered Species Act
Please be advised that a CESA Permit must be obtained if the Project has the potential to result in "take" of plants or animals listed under CESA, either during construction or over the life of the Project. Issuance of a CESA Permit is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA Permit.

CEQA requires a Mandatory Finding of Significance if a project is likely to substantially restrict the range or reduce the population of a threatened or endangered species. (Pub. Resources Code, §§ 21001, subd. (c), 21083; CEQA Guidelines, §§ 15380, 15064, and 15065). Impacts must be avoided or mitigated to less-than-significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency's FOC does not eliminate the Project proponent's obligation to comply with Fish and Game Code section 2080.

Lake and Streambed Alteration
CDFW requires an LSA Notification, pursuant to Fish and Game Code section1600 et. seq., for Project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank including associated riparian or wetland resources; or deposit or dispose of material where it may pass into a river, lake or stream. Work within ephemeral streams, washes, watercourses with a subsurface flow, and floodplains are subject to notification requirements. CDFW will consider the CEQA document for the Project and may issue an LSA Agreement. CDFW may not execute the final LSA Agreement (or Incidental Take Permit) until it has complied with CEQA as a Responsible Agency.

PROJECT DESCRIPTION SUMMARY

Proponent: Mulqueeny Wind, LLC

Description and Location: The Project is located at 170257 Patterson Pass Road (address for one of 29 nearly contiguous parcels) extending over approximately 4,589 acres in the eastern Altamont Pass area of Alameda County. The Project is located north and south of Patterson Pass Road between one and two miles north of Tesla Road, and approximately one mile south of Interstate 580. The Project will allow repowering of an estimated 518 previously existing wind energy turbine sites with up to 36 new turbines with a maximum production capacity of 80 megawatts (MW), using turbines rated between 2.2 and 4.2 MW per turbine.

The Project description in the draft SEIR should include a complete description of current site conditions. The Project description should detail activities that result in any type of ground disturbance, including "minor" disturbances (e.g., trampling, soil erosion, runoff, and sedimentation). For example, the Project description should include information on work areas, temporary and permanent access roads, equipment staging and storage areas, sources of

water withdrawal (for dust control), stockpile storage, post-project destination of runoff from the Project site, changes in topography as a result of grading, and potential spills and leaks. As a construction-related measure, the draft SEIR should also specify that imported fill soils will be free from trash, debris, piping of any material, wooden boards, logs, branches or chips, broken concrete or asphalt, metal pieces of any kind, plastic, glass, or other human-made materials and not contain any chemicals, substances or contaminants at concentrations greater than those determined through required testing processes to be safe for human contact.

Environmental Setting
The NOP for the Project states that a total of 518 old generation wind turbines or former turbine sites will be replaced with up to 36 new wind turbines. The draft SEIR should provide details on existing site conditions and all additional work, such as removal of concrete foundations, that will be required.

The Project site is known to provide habitat for the federally and State threatened California tiger salamander *(Ambystoma californiense*), federally threatened and State Species of Special Concern California red-legged frog (*Rana draytonii*), State Species of Special Concern western burrowing owl (*Athene cunicularia*) and the federally endangered and State threatened San Joaquin kit fox (*Vulpes macrotis mutica*).

Adjacent Lands
The northeastern boundary of the proposed Project area is located adjacent to the Haera Wildlife Conservation Bank, a 299-acre property which was established as a conservation bank to provide compensatory credits for impacts to western burrowing owl and San Joaquin kit fox. The bank also provides habitat for California tiger salamander.

The northwestern boundary of the Project area is located adjacent to the former Jess Ranch, owned by Contra Costa Water District, which was established as conservation for the California tiger salamander, San Joaquin kit fox, California red-legged frog and western burrowing owl.

Near the center of the proposed Project area lies the Two Sisters Burrowing Owl Preserve, an approximately 155.76-acre property established as mitigation for western burrowing owl.

On the southern half of the eastern boundary lies Lawrence Livermore National Laboratory's Site 300 which is approximately 7,000 acres of protected land. Site 300 provides habitat for important plant and wildlife populations, such as the federally and state endangered large-flowered fiddleneck (*Amsinckia grandiflora*), as well as the state and federally threatened Alameda whipsnake (*Masticophis lateralis euryxanthus*) and California tiger salamander. The site also supports raptors such as the golden eagle (*Aquila chrysaetos)* which is a State Fully Protected Species (Fish and Game Code, § 3511)*,* as well as red-tailed hawk (*Buteo jamaicensis*), western burrowing owl, and many species of resident and neotropical birds.

Adjacent properties on the southern and western boundaries of the proposed Project area support California tiger salamander, California red-legged frog, the State-threatened tricolored blackbird (*Agelaius tricolor*), as well as San Joaquin kit fox and western burrowing owl. These properties have a high potential for being protected as conservation lands, and a conservation bank for special-status species has been proposed in this area.

A portion of the western boundary of the Project area is located adjacent to the Golden Hills Wind Energy Project (Golden Hills), also located within the APWRA, which is known to provide habitat for western burrowing owl, California tiger salamander, California red-legged frog, and San Joaquin kit fox. Over the required three years of post-construction fatality monitoring under the PEIR, the Golden Hills project has documented mortality of significant numbers of birds and bats, including species such as, golden eagle, red-tailed hawks, burrowing owl, tricolored blackbird, and hoary bat (*Aeorestes cinereus*) which is on the CDFW Watch List (those with restricted distributions and warranting monitoring of potential threats).

IMPACT ANALYSIS

There is substantial evidence indicating that the Project will have additional or more severe environmental effects on birds and bats, and other adverse effects on biological resources, than were previously analyzed in the PEIR. There also is substantial evidence that the Project will require additional or different alternatives or mitigation measures than were specifically analyzed and included in the PEIR.

CDFW recommends that the draft SEIR discuss the status of wind projects that have already been approved and are operating on both the Alameda and Contra Costa County sides of the APWRA, and the total amount of ongoing annual avian and bat deaths that are currently known or estimated to be occurring in the entire APWRA based on past monitoring results and other available information. A more appropriate and detailed analysis, to the extent scientifically possible in light of the best available current information, of all potential impacts of the Project should be conducted for the proposed Project.

CDFW recommends that Alameda County ensure that the SEIR include the following:

1) A complete evaluation of all new information since the PEIR, including all information identified in comment letters, the Golden Hills and Vasco Winds monitoring reports, and all new relevant scientific studies on the impacts of, and mitigation measures for, repowered turbines within the APWRA that have been published since the PEIR was certified. The SEIR should include a comprehensive update to PEIR impact analyses for avian and bat fatalities in light of this new information and the application to this specific Project.

2) Identification of precise amount and extent of grading for turbine pads and roads, and details regarding changes in topography expected as a result of access road construction and turbine pads and the potential changes in overland flow and drainage. In addition, the SEIR should analyze the effects of this grading, particularly as to its implications for turbine micro-siting and impacts of turbine operation on birds and bats (see below).

3) A detailed micro-siting report, including analyses of latest micro-siting science and field studies of topography for this Project (as modified by grading) as well as bird and bat behavior and use in the Project area. The micro-siting analysis should use a quantitative approach based on collision-hazard modeling, combined with expert opinion, rather than, or in addition to, a qualitative analysis. This quantitative analysis should be applied to all, rather than a subset of, proposed turbine sites. The proximity to active or historic raptor nests should be an additional factor assessed and discussed in the micro-siting analysis. The most dangerous anticipated turbine locations for birds and bats should be identified

and those locations should be avoided. This micro siting analysis must be done in the SEIR itself and should not be delayed to a later date as with past projects under the PEIR. The micro-siting analysis should be provided for public review and comment in the SEIR.

4) A complete habitat assessment for the focal raptor species (golden eagle, red-tailed hawk, American kestrel and burrowing owl) and bats within the Project area and nearby surrounding lands. Lands should be assessed for their potential use by breeding, migrating and wintering species. The draft SEIR should include results of pre-Project construction avian and bat surveys and a requirement to conduct annual bird and bat surveys during the operational term of the Project.

5) Project-specific impact analyses on tri-colored blackbird and Swainson's hawk (*Buteo swainsoni*), two species listed under CESA as threatened. The draft SEIR must include detailed habitat assessments for these species and a thorough analysis of potential impacts of the Project on nesting, foraging and roosting habitats on the Project site during construction, as well impacts to the species from ongoing turbine operations. Tri-colored blackbirds are known to nest on the adjacent property to the south with one colony located 0.15 mile from the Project boundary and the other approximately 0.5 mile from the Project boundary. Tricolored blackbirds typically forage from 3 to 8 miles from nesting colonies (CDFW 2018) and would therefore be at great risk of collision with turbines within the Project area. Furthermore, the Golden Hills Wind Energy Project Post-Construction Bird and Bat Fatality Monitoring 2019 Summary Report, prepared by H.T. Harvey & Associates, dated January 2020, documents that the operation of the Golden Hills project has resulted in at least four tricolored blackbird mortalities. Three of the four fatalities occurred at turbines less than one mile from the northwestern Project boundary which could indicate an undocumented nest site in or near the north end of the Project area.

6) A clear description of turbine size, rotor swept area and height of blades above ground, and a corresponding analysis of impacts of each turbine model on birds and bats. The effects of larger turbines between 3-4.2 MW in size should specifically be analyzed in terms of rotor swept area. The proposed Project should include turbines with smaller rotor swept areas and adhere to the PEIR recommendation of a minimum blade height of 29m.

7) An analysis of effects of operation of turbines and effects of nighttime lighting on bats based on best available scientific information and monitoring reports.

8) An assessment of raptor perching, nesting and roosting opportunities provided by transmission lines and lattice towers in or near the Project area.

Alternatives

The SEIR must give serious consideration to a wide range of alternatives that will reduce avian and bat fatalities resulting from this Project, including serious consideration of the no-project alternative, reduction in project size (number and size of turbines), various turbine micro-siting arrays to avoid and minimize impacts to all four focal raptor species, other special-status avian species, and bats, and other alternatives. The Project alternatives should be developed in consideration of the existing high cumulative impacts to birds and bats due to turbine collisions in the APWRA.

Mitigation measures
The SEIR must analyze a full array of more stringent mitigation measures and update the PEIR mitigation measures in light of all new information. CDFW provides the following comments and recommendations on appropriate and effective mitigation measures to be included in the draft SEIR:

1) More stringent micro-siting requirements: i) turbines determined to have a collision hazard rating of 3 or 4, based on modeling results for golden eagles and other focal raptors, should be considered high risk and those sites should be avoided; ii) turbines found to be at a moderate-high risk should be curtailed during all appropriate raptor nesting and communal roosting seasons.

2) A qualified biologist approved by CDFW should conduct annual surveys for the four focal raptor species as well as other raptors, and tricolored blackbird, in all suitable nesting habitat within a minimum of one mile of the turbine locations. Surveys should be conducted from December 15 to July 15 for golden eagles, typically from early March to early-mid September for other raptors, and March 1 to August 15 for tricolored blackbird. In addition to nesting season surveys, overwintering surveys should also be conducted for burrowing owl from December 1 to January 31. Annual surveys for bat maternity or roosting colonies should also be conducted. Protocol-level survey methodologies should be used, and guidance on survey methodologies for golden eagle, burrowing owl and other species can be found on our website at https://wildlife.ca.gov/Conservation/Survey-Protocols#377281284-birds. CDFW staff is also available to provide additional guidance on appropriate and effective survey protocols. These annual surveys should be conducted during the entire operational term of the Project.

3) Appropriate buffers to avoid noise and visual disturbances of avian and bat species during Project-related construction activities should be established. Protective buffers should be a minimum of 0.5 mile for large raptors, 0.3 mile for burrowing owl and 0.25 mile for tricolored blackbird and bat colonies. A qualified biologist approved by CDFW should conduct regular monitoring of any active raptor nests, and tricolored blackbird and bat colonies documented during annual surveys. The biologist should adjust the no-disturbance buffer during construction based on the behavior of the breeding adults and young to avoid nest disturbance.

4) All turbines located within one mile of a golden eagle or Swainson's hawk nest or communal roosting area, and within 0.5 mile of any other raptor nest or tricolored blackbird colony, should be curtailed. Curtailment should occur each year that active nests are detected during surveys. Curtailment of turbines located near raptor nests and tricolored blackbird colonies should be implemented during daylight and crepuscular hours during the entire nesting season or until young have fledged or the nests have been determined by a qualified biologist to be unsuccessful.

   Turbines should also be curtailed nightly within a minimum of 0.5 mile of a bat colony during the appropriate breeding/roosting season. Curtailment should also occur nightly during the peak fall migration season for bats (typically early August to late November) which is a period that has been associated with high bat fatalities at existing repowered

projects in the APWRA. Seasonal curtailment has been shown to be effective in the APWRA in reducing bat collisions (Smallwood and Bell 2020).

5) For bats, cut-in speeds should be increased during night-time periods during high periods of bat activity such as the migratory seasons. Cut-in speeds should start with five meters per second and increased incrementally through adaptive management until bat mortality is significantly reduced.

6) For turbine placement and operation, a setback of 0.3 mile should be established from the property lines of all protected or proposed to be protected land (described in *Environmental Setting* above) that provides habitat for western burrowing owls.

7) The compensatory mitigation program in the PEIR should be updated for this Project to reflect the best available scientific information regarding the nature and extent of unavoidable impacts of repowering projects on birds and bats. Compensatory mitigation should be designed to provide complete, quantified and effective compensation for all anticipated unavoidable impacts of the Project.

8) The updated analysis is very likely to necessitate a substantial increase in compensatory mitigation measures and fees than are currently provided in the PEIR. The type and amount of compensatory mitigation must be developed based on a quantifiable resource equivalency analysis or other formula, such as that provided in the 2010 Next Era Settlement, and specify the specific preferred measures to be implemented rather than just providing a range of possible future options as currently provided in the PEIR.

   The PEIR's adaptive management programs for birds and bats must be significantly strengthened for the Project to require more immediate, significant reductions in identified fatalities at offending turbines or, if necessary, Project-wide curtailment of turbines during certain times of the day or year if anticipated to significantly reduce unavoidable effects on focal raptor species and/or bats. More stringent adaptive management measures could include turbine curtailment or shut downs during specific times of the day/night or months of the year in addition to curtailment recommendations described in this letter; real-time turbine curtailment using the latest detection and deterrent technology (for example, identi-flight for golden eagle and acoustic deterrents for bats); implementing additional changes in turbine cut-in speed upon specified triggers, and other effective and legally-enforceable measures after one year of Project monitoring.

9) Updated and improved monitoring program based on the best available scientific information and monitoring for other projects since PEIR. This should include monitoring for more than three years, monitoring of all turbines on a weekly basis, use of scent detection dogs, etc.

10) An avian and bat protection plan must be included in the SEIR and not delayed to a later date as with past PEIR projects.

FILING FEES

Filling fees for CEQA documents are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final. (Cal. Code Regs., tit. 14, § 753.5; Fish and Game Code, § 711.4; Pub. Resources Code, § 21089).

CONCLUSION

CDFW appreciates the opportunity to comment on the proposed Project to assist Alameda County in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Ms. Marcia Grefsrud, Environmental Scientist, at (707) 644-2812 or Marcia.Grefsrud@wildlife.ca.gov; or Ms. Brenda Blinn, Senior Environmental Scientist (Supervisory), at (707) 944-5541.

Sincerely,

DocuSigned by:
Gregg Erickson
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Gregg Erickson
Regional Manager
Bay Delta Region

cc: State Clearinghouse
Heather Beeler, U.S. Fish and Wildlife Service – Heather_Beeler@fws.gov
Ryan Olah, U.S. Fish and Wildlife Service – Ryan_Olan@fws.gov

References

California Department of Fish and Wildlife [CDFW]. 2018. A status review of tricolored blackbird (*Agelaius tricolo*) in California. A Report to the Fish and Game Commission, Nongame Wildlife Program Report 2018, California Department of Fish and Game, Sacramento, CA, USA.

H.T. Harvey & Associates. 2020. Golden Hills Wind Energy Center Post-construction Fatality Monitoring Project: Final 3-Year Report. Prepared for Golden Hills Wind, LLC, Livermore, California. DRAFT – January 8, 2020.

Smallwood, S., and D. Bell. 2020. Effects of Wind Turbine Curtailment on Bird and Bat Fatalities. Journal of Wildlife Management 1–12.