

June 24, 2022

To: Albert Lopez

Planning Director, Alameda County Community Development Agency

From: Alameda County Wind Repowering Technical Advisory Committee

Re: Mulqueeney Ranch Micro-siting Recommendations (Summary Memorandum)

As required by permit conditions and mitigation measures referenced below, this memorandum summarizes recommendations of the Alameda County Wind Repowering Technical Advisory Committee (TAC)¹ regarding micro-siting and siting of several “high risk” proposed turbine locations for the Mulqueeney Ranch Wind Repowering Project (Project) located within the Altamont Pass Wind Resource Area (APWRA). Per guiding documents – i.e., Mulqueeney Ranch Wind Repowering Project Final Subsequent Environmental Impact Report (SEIR; ICF 2021), tiered off of the Altamont Pass Wind Resource Area Repowering Final Program Environmental Impact Report (PEIR [SCH# 2010082063]; Alameda County Community Development Agency 2014), and certified by adoption along with approval of Conditional Use Permit (CUP) PLN2019-00226 by the Alameda County Board of Supervisors on October 7, 2021 – risk is assessed here relative to potential impacts to the following focal species: golden eagle (federally protected by the Bald and Golden Eagle Protection Act [Eagle Act] and Migratory Bird Protection Act [MBTA], and a California Fully Protected Species), western burrowing owl (Federal Bird of Conservation Concern under MBTA and California Species of Special Concern), American kestrel (federally protected by the MBTA), red-tailed hawk (federally protected by the MBTA), and all bats.² Recommendations also are presented for tricolored blackbird (Federal Bird of Conservation Concern under MBTA and State Threatened species) and Swainson’s hawk (federally protected under the MBTA and State Threatened species), both at risk of significant impacts resulting from Project operations. Our recommendations include curtailment measures to further reduce risks at concerning turbines, in aim of facilitating County and Project compliance with adopted PEIR and SEIR mitigation measures designed to reduce the amount of anticipated and ongoing unavoidable significant impacts of wind energy projects on birds and bats at the Project site and within the APWRA as a whole to the maximum extent feasible. (See SEIR and PEIR for additional detail of Project and programmatic impacts.)

The Project currently proposes to install 24 new turbines of up to 4.2 megawatts (MW) in size for a maximum production capacity of 80 MW (SEIR; Estep 2020a,b, 2021). In line with the SEIR and PEIR and at the request of the County and the Project proponent, Brookfield Renewable (Proponent), the TAC has reviewed the micro-siting proposals of Estep Environmental Consulting (Estep 2020a,b, 2021) and other relevant documents and data in order to limit operational impacts of the Project on the aforementioned bird species and bats. Information considered is cited in the

¹ TAC member Doug Leslie did not participate in the drafting of this memo.

² Additional project background is provided in the PEIR, SEIR, and the *Draft Avian Protection Program for the County of Alameda Altamont Pass Wind Resource Area* (ICF 2013). See 2007 Audubon/County of Alameda Settlement Agreement for original designation of focal species (Settlement Agreement 2007).

TAC's *Supporting Documentation to the Mulqueeney Ranch Micro-siting Recommendations Report* (hereafter, Supporting Documentation), delivered in association with this memorandum. (See Section 3.1 of Supporting Documentation for list of information reviewed.)

The TAC provides these recommendations under the authority of PEIR and SEIR ("2020 Updated PEIR") Mitigation Measures BIO-8a, BIO-8b, BIO-11a, BIO-11b, BIO-11g, and BIO-14a, and CUP PLN2019-00226 Condition of Approval 35a. In particular, 2020 Updated PEIR Mitigation Measure BIO-11b provides that "[c]onsistent with past practice for previously approved repowering projects, the proponent shall submit the siting analysis for review and recommendations to the Alameda County Wind Repowering/Avian Protection Technical Advisory Committee, which includes representatives of the CDFW and the USFWS, prior to applying for any building or grading permit." (ICF 2021, p. 3.4-117). CUP PLN2019-00226 Condition No. 35a provides that "[u]pon determining that the information in the siting analysis is sufficiently detailed for Technical Advisory Committee (TAC) consideration and recommendations, the Planning Director shall schedule a meeting for TAC review of the Project's compliance with mitigation measures BIO-11a and BIO-11b." (See Appendix A of Supporting Documentation for full text of referenced mitigation measures and condition of approval.)

TAC Recommendations

Given ongoing concerns with cumulative avian and bat fatalities in the APWRA and anticipated avian and bat fatalities resulting from implementation of the Project³, the TAC recommends elimination and/or seasonal curtailment of certain high-risk Project turbines and implementation of a robust adaptive management program. In particular, Wind Turbine Generators (WTG) in the northwest portion of the property stand out as posing an exceptional hazard to focal raptor species. The turbines of highest concern are noted in the recommendations below with specific reference to micro-siting/siting hazards. (See Supporting Documentation for additional details of TAC review.)

- *Turbine Removal:* The TAC recommends removal of the turbines located on a ridge within the northwest corner of the Project – WTG-2, WTG-3, WTG-4, and WTG-6 – to reduce risk of raptor collisions. Multiple sources of available data indicate that these turbines present a high risk to golden eagles. These turbines also pose a moderate to high risk for burrowing owls, red-tailed hawks, and American kestrels. All four of these species are focal species subject to Project and APWRA-wide impact thresholds per the PEIR and SEIR. The TAC also has concerns regarding use of current IdentiFlight technology to fully mitigate these risks in the absence of additional siting considerations or turbine removal. (See Appendix B of Supporting Documentation.) *Given these concerns, while also acknowledging the burden of turbine elimination on the Proponent and the good faith efforts of the Proponent to adapt project design to date, as an alternative to this "Turbine*

³ See comments on Draft PEIR in Final PEIR (Alameda County Community Development Agency 2014: Appendix E), comments on Draft SEIR in Final SEIR (ICF 2021: Appendices H-1 and H-2), and documents related to Audubon appeal on County website: <http://acgov.org/cda/planning/landuseprojects/mulqueeney.htm>

Removal” recommendation, the TAC proposes a “Phased Approach for Turbine Approvals” recommendation below.

- *Phased Approach for Turbine Approvals:* The TAC recommends that the County consider a phased approach of turbine installation to potentially approve the turbines located in the northwest corner of the project (WTG-2, WTG-3, WTG-4, and WTG-6) at a later date. As discussed here and in Supporting Documentation, these are the turbines that pose the highest risk to the four focal raptor species. Appendix B of the Supporting Documentation, *TAC Comment on IdentiFlight*, summarizes the TAC’s review of the information and best scientific data available regarding use of IdentiFlight (IDF) technology in the Project location. The TAC acknowledges that IDF is a promising experimental technology that is hoped will become a helpful tool to reduce the number of eagles killed and injured by wind turbines in the future. The TAC is concerned, however, that IDF will not have the functional ability to detect eagles in time to curtail where turbines are proposed on ridge tops in eagle high-use areas, in part because of the IDF layout’s limited viewshed at these locations. To address these concerns, with TAC oversight and additional IDF camera systems installed below the ridgeline of concern, the Project could implement a scientific study that would evaluate IDF’s capabilities in this topography. If the augmented layout of the IDF system were to prove effective at detecting focal raptor species sufficient that real-time curtailment could be effective, the County then could consider approving installation of all or some of the high-risk turbines that the TAC currently recommends removing from the Project.
- *Turbine Re-siting:* Consistent with USFWS and CDFW comments #1-15 and #2-13 on the Draft SEIR (ICF 2021 Appendix H-2) and associated comments on the Notice of Preparation for the SEIR, turbines WTG-12, WTG-14, and WTG-15 should be re-sited outside of the 0.3-mile buffer zone surrounding Two Sisters Burrowing Owl Preserve (Preserve) which is encircled by the Project footprint. *As an alternative to re-siting, any turbines located within 0.3 mile of an active burrowing owl burrow, either within or outside the Preserve, should be curtailed until the burrow is no longer active. See burrowing owl curtailment recommendation below.*
- *Turbine Curtailment⁴:*
 - *Golden Eagle:* Consistent with USFWS recommendations to the Proponent in coordination of their Eagle Act incidental take permit application, daytime curtailment of turbines located within 1 mile of an active golden eagle nest should be implemented during the breeding season (January 1– July 15) until it is verified by a qualified biologist that a nest is not in use. If monitoring data validate that a nest is not in use at the end of the egg laying period (April 7), the daytime curtailment regime may conclude within 1 mile of a given nest site. Current turbines affected: WTG-12, WTG-14, WTG-15, WTG-16, WTG-17, WTG-20, WTG-21, and WTG-26.

⁴ To be effective, curtailment measures should tie to annual nesting and burrow-use surveys conducted by a qualified biologist at frequency and timing reflective of seasonal nesting periods and – for burrowing owls – overwintering use of burrows, as described in the Project-specific Avian and Bat Protection Plan and to be developed per guidance in PEIR Updated Mitigation Measure BIO-11a (ICF 2021; Supporting Documentation Appendix A).

- *Burrowing Owl*: Consistent with USFWS and CDFW comments #1-15, #2-3, and #2-13 on Draft SEIR (ICF 2021 Appendix H-2), all turbines should be curtailed within 0.3 mile of burrowing owl conservation properties during the breeding season (February 1 through August 31), and/or within 0.3 mile of a known active burrowing owl burrow during the breeding season and overwintering period (February 1 through August 31 and September 1 through January 31, respectively) until it is verified by a qualified biologist that the burrow is not in use. A qualified biologist should monitor each active burrowing owl burrow within the 0.3-mile buffer area until it is verified by a qualified biologist that the burrow is not in use. Adjacent conservation lands for burrowing owl include the previously mentioned Preserve encircled by the Project footprint, Haera Mitigation Bank and Jess Ranch Mitigation Site to the north, and proposed mitigation lands (by Proponent and neighboring private entity) to the south and west, including a southwestern corner of Mulqueeney property itself (ICF 2021; B. Gursoy and B. Norton, personal communication, 24 May 2022). Current turbines affected: WTG-12, WTG-14, and WTG-15.
- *Tricolored Blackbird*: Consistent with CDFW's coordination with the Proponent on their Incidental Take Permit (ITP) application (Draft ITP #2081-2021-006-03) and CDFW comment #2-15 on the Draft SEIR (ICF 2021 Appendix H-2), all turbines should be curtailed during daylight and crepuscular hours within 0.5 mile of known active tricolored blackbird nesting colonies during the breeding season (March 1 through August 15). A qualified biologist should monitor each active tricolored blackbird colony within the 0.5-mile buffer area on a weekly basis until young have fledged and are foraging independently, or the colony is deemed to be abandoned. Note: As recently as spring 2020, tricolored blackbirds displaying territorial behavior were documented on site (ICF 2020b).
- *Swainson's Hawk*: Consistent with CDFW comment #2-15 on Draft SEIR (ICF 2021 Appendix H-2), all turbines should be curtailed during daylight and crepuscular hours within 1.0 mile of a known active Swainson's hawk nest or communal roosting area during the breeding season (March 1 to September 15). A qualified biologist should monitor each active Swainson's hawk nest/roost within the 1.0-mile buffer area until young have fledged and are foraging independently, or the nest/roost is deemed to be abandoned. Note: In May 2022, an active Swainson's hawk nest was observed approximately 2 miles east of the Project footprint, off of Patterson Pass Road. During ICF surveys in spring 2020, a separate active Swainson's hawk nest was observed within the Project footprint (ICF 2020a,b, 2021).
- *Red-tailed Hawk*: Because the Project-specific red-tailed hawk thresholds have been exceeded for adjacent the Golden Hills Wind Energy Facility Repowering Project (Golden Hills), and the combined total from Golden Hills and the Golden Hills North Wind Energy Project indicate that the County is on track to exceed cumulative red-tailed hawk take thresholds across the APWRA per the PEIR, the TAC recommends that the County consider the following minimization measures

for the Project's inclusion in its Avian and Bat Protection Plan (to be developed per guidance in PEIR Updated Mitigation Measure BIO-11a): Annual surveys to locate active red-tailed hawk nests and consideration of seasonal curtailment of turbines within 0.25-0.5 miles of active red-tailed hawk nests. This measure may be further evaluated in coordination with the TAC, pending results of future monitoring and status of non-compliance with the PEIR mortality threshold within the APWRA.

Note: Two red-tailed hawk pairs were observed nesting in spring 2020 within 0.5 mile of WTG-9, WTG-10, WTG-20, and WTG-26 (ICF 2020a,b, 2021).

- *Other Raptors*: Consistent with CDFW comment on Draft SEIR #2-15 (ICF 2021 Appendix H-2), we recommend the above curtailment measures also be considered for other sensitive raptor species and be included in the Project's Avian and Bat Protection Plan (per PEIR/SEIR Mitigation Measure BIO-11a). Of note, as recently as May 27, 2022, an active prairie falcon nest was documented on the Project site within 0.5 mile of WTG-15; a prairie falcon also was observed in this vicinity in June 2021 (Bell 2022).
- *Bats*: Consistent with TAC recommendation to the County for other APWRA projects, seasonal nighttime curtailments should be implemented at all Project turbines from sunset to sunrise to minimize impacts to bat species. Curtailment should be implemented during a four-month period between May 1 and September 30, with the specific timeframe adding up to four months to be determined by the Proponent.
- *Distance from Rotor to Ground*: Consistent with the Draft Avian Protection Program submitted with the PEIR (ICF 2013 and supporting data within), turbines should be sited to ensure that the distance of the lowest point of the turbine rotor (i.e., the tip of any blade at the 6:00 position) is no less than 29 meters (95 feet) from the ground surface. Per ICF (2013, p. 45), "[t]his design characteristic addresses the finding that roughly 74% of all bird observations (54% of raptor 28 observations) occurred at heights less than 30 meters in a prior implemented project (Curry and Kerlinger 2009)" and aims to reduce potential impact to sensitive species (i.e., USFWS comments #1-9 and 1-10 on Draft SEIR; ICF 2021 Appendix H-2).
- *Decommissioned Turbine Removal*: The TAC also recommends that the County remove the non-operational (decommissioned) turbines of the Patterson Pass Wind Project (adjacent property) prior to construction of the Mulqueeney Ranch Wind Project. The TAC understands this removal was required to have been completed by December 2015 under the now-expired CUP for that project. The presence of these structures creates an unnecessary attractive hazard proximate to both the proposed Project and the operational project at Golden Hills. American kestrels and other birds are known to nest inside the old, non-operational wind towers. American kestrels, golden eagles, and other birds reportedly perch on the old towers regularly. To minimize risk to the focal raptor species and other birds, the TAC urges the County to remove the old Patterson Pass Wind Project turbines as soon as possible.

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