Attachment 2
Response to Comments on Draft Environmental Assessment

Comments and Response to Comments Summary

We invited public comment on the Draft Environmental Assessment (DEA). In response, we received ten submissions: one from the applicant, one from the electric utility industry, three from nongovernmental organizations (NGOs), three from the public, and two from Native American tribes. One NGO comment letter combined comments from three different environmental groups. Our responses to the comments on the DEA are presented in this attachment (Attachment 2) of the FONSI.

In total, the comment letters contained approximately 35 individual comments. These comments generally fell under one of five main categories: (1) effects (addressing a variety of issues, including number of fatalities, local population effects, cumulative effects, other sources of fatalities, and overall population numbers); (2) advanced conservation practices (ACPs) (addressing a technical advisory committee, transparency of the process and future ACPs, project siting, and curtailment); (3) mitigation (addressing scientific basis for electric utility retrofits and location of retrofits); (4) monitoring and reporting (addressing project reporting and Tehachapi Wind Resource Area eagle mortality reporting); and (5) general comments about the permitting program (including comments opposing the issuance of an eagle take permit).

Overall, the comments raised issues regarding the opportunities and challenges associated with issuing eagle take permits. We made minor changes to three topic areas of the Final EA (FEA) based on these comments. First, we added information on our risk evaluation under the curtailment program. Second, we added more detailed information on the science behind the electric utility pole retrofit process for mitigation. Finally, we expanded our discussion about our National Fish and Wildlife Foundation Eagle Mitigation Account.

We made additional minor changes to the FEA to improve clarity. After considering the comments, and in light of the record, we determined that neither substantial revisions nor a new analysis are required for the FEA.

Detailed responses to specific comments are provided in attached Table 1. Comment letters follow Table 1.

The Applicant submitted an updated version of their comment letter and attached memorandum on March 4, 2016 in response to data requests from the Service. A copy of both the original letter submitted on December 23. 2015 and the updated letter are included.

Table 1: Response to Comments

Table 1. Alta East Wind Project Eagle Conservation Plan Environmental Assessment Response to Comments

Organization Type/Commenter Name	Comment #	Summary of Comment	Response
Applicant	**Applicant**		
Terra-Gen, LLC	1-1	Adopt curtailment alternative (Alternative 4) and account for existing curtailment program in the fatality prediction model.	We acknowledge the applicant's request to adopt EA Alternative 4. We updated Section 2.3.4 of the Final EA (FEA) in response to this comment/request. Specifically, we considered updating the risk predictions in three ways: (1) verifying the proposed method based on the curtailment program; (2) validating the effectiveness of he curtailment program with available mortality monitoring data; and (3) updating our risk model prediction using mortality data. First, we evaluated the applicant's proposed revised risk assessment submitted as an attachment to the commenter's letter. The applicant's proposed risk assessment requires accepting the following assumptions regarding the probability that an eagle is detected by an observer: (i) observers are able to detect eagles for 99 percent of daylight hours, and (ii) the detection probability, 0.84, from a study of golden eagles in California's oak savannah habitat (Wiens et al. 2015), is comparable at the Alta East project site. The Service disagrees with the assumption that a single observer is likely able to detect eagles 99 percent of the time. In addition, the Wiens et al. (2015) detection probability may not be appropriate as detection of eagles may vary in desert habitats compared to oak woodland-savannah habitats. A study underway at Boise State University may soon provide detection rates for eagles in a desert habitat more similar to the Alta East site than the values borrowed from the Wiens et al. 2015 study (M. Stuber/U.S. Fish and Wildlife Service, personal communication). The Service is willing to reexamine this approach in the future.

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			Next, we considered updating our risk assessment based on available mortality monitoring data and the first year's report. With adequate data, we may validate the effectiveness of curtailment, update the site-specific collision risk factor in our eagle risk model, and update the take prediction. We used the U.S. Geological Survey (USGS) Evidence of Absence software (Dalthorp et al. 2014) and determined that one year's data at the level of effort implemented does not allow us to validate the effectiveness of the curtailment program in a statistically meaningful way. Therefore, more information is needed to evaluate the effectiveness of the curtailment program and to refine take predictions for future permit terms. References: Wiens, J.D., Kolar, P.S., Fuller, M.R., Hunt, W.G., and Hunt, Teresa. 2015. Estimation of occupancy, breeding success, and predicted abundance of golden eagles (*Aquila chrysaetos*) in the Diablo Range, California, 2014. U.S. Geological Survey Open-File Report 2015-1039. http://dx.doi.org/10.3133/ofr20151039. Dalthorp, D.H., Huso, M., Dail, D., Kenyon, J. 2014. *Evidence of Absence Software User Guide.* U.S. Geological Survey USGS Data Series 881, p. 34.

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Organization Type/Commenter Name	Comment #	Summary of Comment	Response
	1-2	Accept revised model for Alternative 4 that includes curtailment of four ridgeline turbines as well as a reduction in eagle minutes.	As requested by the applicant, we evaluated risk using the informed curtailment data provided for Alta East and the project's first-year mortality monitoring study results. The Service agrees that a different method may be appropriate to analyze risk for this project that is implementing experimental advanced conservation practices (ACPs) to minimize and avoid eagle take. We determined that the available data do not allow us to validate the effectiveness of the curtailment program in a statistically meaningful way. More information is needed to refine take predictions under this program. We will work with Alta East to refine their mortality monitoring study design and better inform eagle risk for potential future permit renewals under the curtailment program, which we consider to be an experimental ACP.
	1-1	Based on proposed revision to eagle minutes, take estimate should be revised from 3 eagles/5 years to 1 eagle/5 years.	Please see response to Applicant comment 1-2, above.
Electric Utility Industry	**Utility**		
Avian Power Line Interaction Committee	1	Revise measure 2.4.5 to accurately reflect APLIC recommendations.	This comment addresses preconstruction measures included in the applicant's Eagle Conservation Plan (ECP). At the time of our NEPA analysis, the project is operational. Comment noted.

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Organization Type/Commenter Name	Comment #	Summary of Comment	Response
Nongovernmental Organization	**ORG**		
Audubon California, Natural Resources Defense Council, and Defenders of Wildlife	1-1	Urgent need for more comprehensive and fully transparent approach to eagle permitting—this includes meaningful analysis and management on a regional population scale, as well as guaranteed opportunities for the public to understand and influence monitoring, mitigation and adaptive management prescriptions throughout the life of the permit.	Comment noted. We are committed to providing a comprehensive and transparent approach to eagle permitting. We believe we are providing this approach beginning with the 2009 Final Rule and subsequent guidance notices and comment periods in the Federal Register. The Service is charged with protecting eagle populations and we will use our authority to ensure monitoring, mitigation, and adaptive management prescriptions are protective of eagle populations. We will keep the public informed through the CA-NV Golden Eagle Working Group and our Pacific Southwest Region's website: CA-NV Golden Eagle Working Group http://www.dfg.ca.gov/wildlife/nongame/GEWG/ Pacific Southwest Region's Website Eagle Page http://www.fws.gov/cno/conservation/MigratoryBirds/EaglePermits.html

Table 1. Alta East Wind Project Eagle Conservation Plan Environmental Assessment Response to Comments

Organization Type/Commenter Name	Comment #	Summary of Comment	Response
	1-2	Provide greater clarity on how to achieve a net benefit standard. Incorporate a net conservation benefit into the DEA analysis and permit terms, including adequate mechanisms for ensuring a sustained reduction in take throughout the life of the project as well as procedures for engaging in applied research activities to fill priority data gaps and identify more effective mitigation measures.	Eagle take permits may be issued only in compliance with the conservation standards of the Eagle Act. This means that the take must be compatible with the preservation of each species, defined (in USFWS 2009) as "consistent with the goal of stable or increasing breeding populations" or no-net-loss. The permit regulations standards do not require a net benefit. As described in our *Eagle Conservation Plan Guidance, Module 1 – Land-based Wind Energy* (ECP Guidance; Service 2013), implementation of experimental ACPs is designed to reduce take throughout the permit duration. We anticipate the applicant will request a permit renewal and seek eagle take coverage for the duration of the project. Requiring the applicant to engage in applied research, beyond what may be necessary to monitor the effectiveness of the experimental ACPs, is not required under our permit regulations. As part of the ECP Guidance (Service 2013), we have adopted an adaptive management framework predicated, in part, on the precautionary approach for consideration and issuance of programmatic eagle take permits. This framework consists of case-specific considerations applied within a national framework, and with the outcomes carefully monitored so that we maximize learning from each case. The knowledge gained through monitoring can then be used to update and refine the process for making future permitting decisions such that our ultimate conservation objectives are attained, and we will consider operational adjustments at individual projects at regular intervals where deemed necessary and appropriate. To this end, we will work to integrate data collected for subsequent experimental ACP implementation to help inform data gaps. Because take will be offset though compensatory mitigation, and implementation of experimental ACPs may reduce the amount of actual
	1-3	Revise the "Purpose and Need" section to explicitly reflect the statute's principal goal of conserving eagles. The DEA and all associated decision documents and analyses should reflect, guarantee and explain how permit issuance prioritizes the conservation of eagles.	We agree that the broad purpose of our regulations is to facilitate the preservation of eagles through issuance of permits that comply with the issuance criteria. However, the specific purpose of the EA is to disclose the environmental effects associated with this permit application and to evaluate whether it meets the issuance criteria, as is currently described in the purpose and need.

Table 1. Alta East Wind Project Eagle Conservation Plan Environmental Assessment Response to Comments

Organization Type/Commenter Name	Comment #	Summary of Comment	Response
	1-4	Set forth a specified timeline for completing and incorporating regional information, and/or demonstrate how specific conservation measures and/or new information justify that the issuance of this permit is compatible with the preservation standard. Explore opportunities to incentivize programmatic permits for multiple facilities affecting a local-area population.	We used the best available science and the analytical tools as described in our ECP Guidance (Service 2013) to assess local and regional impacts. Our assessment indicates that permit issuance will offset eagle population impacts caused by the operations of Alta East, helping us to manage for stable or increasing eagle populations. We will continue to factor in regional information when individual eagles are killed and adaptively manage this permit as described in the EA. Before considering reissuance of this permit once it expires after 5 years, new data would be considered in our permit evaluation. A broader analysis and review of sustainable harvest rates is beyond the scope of this project and EA. Incentivizing programmatic permits falls outside the scope of this EA.
	1-5	We urge FWS to include additional analysis of other sources of impacts to the local-area population of golden eagles in the final environmental analysis.	This comment is noted and will be retained in our administrative record. We provided a detailed and thorough cumulative impact analysis (see EA Section 4.3.6). For this analysis, we determined that the quality of data did not allow for reasonable extrapolations about other sources of mortality in the local-area population.
	1-6	Incorporate and analyze the first year of post-construction fatality and other data gathered at Alta East under the terms of the ECP, direct and indirect effects of "take" on recruitment of eagles to the local-area population, and cumulative impacts of eagle fatalities from all potential sources of take to properly determine this project's population-level impacts.	We evaluated available data from post-construction fatality monitoring, eagle use, and the curtailment program and considered updating our risk analysis in the FEA. Please see updated Section 2.3.4 and our response to Applicant comment 1-1 for additional details. The EA analyzed the direct, indirect, and cumulative effects, including population-level effects, on eagles (see EA Sections 4.3.1 and 4.3.6).

Table 1. Alta East Wind Project Eagle Conservation Plan Environmental Assessment Response to Comments

Organization Type/Commenter Name	Comment #	Summary of Comment	Response
	1-7	Establish a fully transparent and defined process for implementing an adaptive management framework and ACPs with guidance on effectiveness monitoring, opportunities for public input, incorporations of new and revised ACPs and measures that directly reduce eagle mortality. ACPs shall also be commensurate with triggers and shall incorporate curtailment and radar detection as upfront conservation measures.	Our National Eagle Programmatic Permit Implementation Team (EPPIT) will be involved in permit oversight and decision-making as appropriate. The EPPIT is composed of eagle permit coordinators and raptor biologists from each of our nine Service Regions. This team includes topical experts and scientists from the Service and the USGS as needed. The Service's Pacific Southwest Region will consider recommendations from the EPPIT, although we retain all decision-making authority over this permit and its adaptive management process. Therefore, a defined process cannot be established at this time because new information and data influence our decisions on an annual basis. The Service does not have the authority to establish a technical advisory committee and must ensure that the Service's actions do not violate the provisions of the Federal Advisory Committee Act, which specifies the terms under which federal agencies can establish, utilize, and participate in multi-stakeholder groups. We have provided a framework for the initial steps and have a team in place to ensure they will be effective. Updates will be provided to the public via the CA-NV Golden Eagle Working Group and our Pacific Southwest Region's website: CA-NV Golden Eagle Working Group http://www.dfg.ca.gov/wildlife/nongame/GEWG/ Pacific Southwest Region's Website Eagle Page http://www.fws.gov/cno/conservation/MigratoryBirds/EaglePermits.html

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Organization Type/Commenter Name	Comment #	Summary of Comment	Response
	1-8	We also fully support the concept of a technical advisory committee (TAC), including third-party scientists and members of the public, to oversee the adaptive management framework and implementation of the ACPs. This strategy has been used at other wind facilities and WRAs to guide implementation of management actions to minimize mortality. A TAC could be especially useful if take levels are higher than expected or ACPs are not effective. If a TAC is employed we suggested that they are tasked with specific goals and timelines outlined in the ECP, and proceedings are made be available for public review and comment.	Please see response to Nongovernmental Organization Comment 1-7, above.

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Organization Type/Commenter Name	Comment #	Summary of Comment	Response
	1-9	Incorporate detailed monitoring prescriptions and protocols, in the permit and the ECP, with reporting requirements and a process to ensure effectiveness of ACPs, mitigation measures and adaptive management—this should include eagle use surveys as well as BACI studies.	Alta East's ECP (EA Appendix A, Section 2.5) and Bird and Bat Conservation Strategy (EA Appendix B, Section 5.1) both describe the protocol currently being implemented for the project's post-construction monitoring study. Post-construction mortality monitoring commitments include four types of surveys: (1) general avian mortality and injury surveys consisting of transect surveys at 33 percent of the turbines twice per month; (2) eagle-specific surveys consisting of transect surveys at the remaining 67 percent of the wind turbine generators twice per year; (3) monthly visual inspection of the area around all turbines once per month; and (4) incidental fatality monitoring consisting of opportunistic discovery of fatalities. Annual post-construction monitoring is being conducted for 3 years from the initiation of power delivery, with the possibility of extending the monitoring period if results warrant such an extension. As outlined in Alternative 3, subsequent annual monitoring will be determined by the Service based on the results of the first year's intensive mortality monitoring. We will use the post-construction monitoring data to (1) assess whether compensatory mitigation is adequate, excessive, or deficient to offset observed mortality, and make adjustments accordingly; (2) evaluate effectiveness of curtailment program to reduce risk to eagles; and (3) explore adaptive management implementation or operational changes that might be warranted at a project after permitting to reduce observed mortality and meet permit requirements.
	1-10	We also recommend that FWS consider a reporting system to track information on eagle fatalities and avian use for the entire Tehachapi Wind Resource Area (WRA) and regular data review to ensure that cumulative take of eagles is not exceeding the anticipated level, as well as real-time publicly available monitoring results.	This comment is noted and will be retained in our administrative record. This request is beyond the scope of this analysis.

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Organization Type/Commenter Name	Comment #	Summary of Comment	Response
	1-11	Ensure that all data are collected correctly and reported accurately, and commit to providing all post-construction monitoring data to the public in real-time. Consider a reporting system to track eagle information across the entire wind resource area to ensure that cumulative take of eagles is not exceeding the anticipated level.	This comment is noted and will be retained in our administrative record. The permit will include a requirement to report findings to the Service; false or inaccurate data could trigger permit revocation.
	1-12	Clearly articulate additional mitigation options that would not only offset eagle mortality at wind projects but also provide a net conservation benefit to the species.	Please see response to Nongovernmental Organization comment 1-2, above.
	1-13	Develop a full suite of mitigation options that will fully offset take before it has occurred and ensure ongoing incorporation of new measures into permit terms and conditions. Provide a scientific basis for selecting specific power poles for retrofit and monitoring effectiveness, and ensure that information on retrofits is made publicly available.	Mitigation measures are described in DEA Appendix A (the applicant's ECP) and Appendix B (the applicant's Bird and Bat Conservation Strategy). In addition, the applicant previously agreed to mitigation measures described in the project's Environmental Impact Report/Environmental Impact Statement (EIR/EIS). The Service will work with the selected utility to identify appropriate power poles for retrofitting based on the type of electric equipment, risk of electrocution, local biology, habitat and geography. See our ECP Guidance (Service 2013) for more information regarding our compensatory mitigation policy. Section 2.3.5 of this EA has been updated to further discuss the scientific basis for selecting power pole retrofitting as compensatory mitigation. Permit mitigation information will be publicly available.
	1-14	FWS must take an active enforcement and oversight role in authorizations for programmatic eagle take, including other separate but related actions and a commitment to require and revise permit conditions as new information becomes available and dictates needed action to preserve golden eagle populations.	The Service is working to ensure compliance with the Eagle Act through encouraging wind companies to seek permits and through enforcement investigations and actions where appropriate.

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Organization Type/Commenter Name	Comment #	Summary of Comment	Response
Kern Chapter of the Audubon Society	2	We urge the USFWS to require something similar to the protections required at the Ocotillo Express site. They are equal to Alternative 5: Issue Permit for ECP with Radar Deployment, Curtailment When Eagles Detected, which appears to reduce the most risk to the birds. We support Alternative 5 for the operation of Alta East Wind Project. As the rest of the Tehachapi WRA wind projects age-out or are retrofitted with, hopefully, improved bird detection and less deadly equipment, the lesser requirements of Alternative 4, or even 3, could be substituted at Alta East.	Alta East currently employs a system that relies mostly on biological monitor observers located in a tower but also voluntarily utilizes a radar system to identify large targets such as condors or eagles. This system is similar to the detect and curtail system in use at the Ocotillo Express Wind Project site. Please see updated Section 2.3.4 and our response to Applicant comment 1-1 for additional details.
American Bird Conservancy	3	Cumulative impact assessment. The U.S. Fish and Wildlife Service's DEA and Eagle Conservation Plan is recommending that the incidental take permit for Golden Eagles set the limit at three eagles for the five-year permit period. While this may seem reasonable, there is still reason for caution, due largely to the difficulty of accurately assessing the cumulative impacts of all anthropogenic and natural causes of Bald and Golden Eagle mortality and the potential added impact of energy development, including wind, on their populations, locally, regionally, and nationally.	This comment is noted. We do not anticipate being able to directly detect population-level responses to individual projects because it is not currently feasible to monitor eagle populations at such a fine scale. However, with monitoring and assessment of cumulative impacts, we may be able to better predict the effects of authorized take. The applicant may implement additional conservation measures in the form of operational changes or compensatory mitigation if determined necessary.

Table 1. Alta East Wind Project Eagle Conservation Plan Environmental Assessment Response to Comments

Organization Type/Commenter Name	Comment #	Summary of Comment	Response
Public	**Public**		
Melko, Penelope	1	Recommends against issuing a permit.	This comment is noted and will be retained in our administrative record.
Nelson, Pam	2	Please accept my opposition to this project. The take of large predator birds such as golden eagles is not acceptable. Wind and solar projects should be placed only in areas that avoid bird migration paths and habitats. Energy production sited nearer to the user source should be a priority and a stated alternative to all remote energy "farms".	This comment is noted and will be retained in our administrative record.
Skeen, Joe	3	Why weren't proper impact evaluations completed before Alta East built right in the flight path or so many birds?	Prior environmental analysis was conducted for this project, including preparation of the DEA (http://www.fws.gov/cno/conservation/MigratoryBirds/EaglePermits.html), preparation of a BLM EIS (http://www.blm.gov/style/medialib/blm/ca/pdf/ridgecrest/altaeastwindfeis.Par.65217.File.dat/Vol5_BLM%20Alta%20East%20FEIS.pdf), and of a Kern County CEQA EIR (http://pcd.kerndsa.com/planning/environmental-documents/250-alta-east-wind-project). The introduction to this EA summarizes that the project was reduced by half to minimize eagle impacts. Additional information about the environmental analysis approach in this EA can be found in the ECP Guidance (Service 2013): https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf.

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Organization Type/Commenter Name	Comment #	Summary of Comment	Response
Tribal	**Tribal**		
Pala Band of Mission Indians	1-1	The Pala Band of Mission Indians strongly opposes the take of any eagle on cultural and environmental grounds. The Tribe would prefer to see projects like the Alta Wind X, LLC project take the initial steps to avoid killing any eagles, rather than mitigate for those expected to be killed.	The Service understands that eagles are an important part of the Pala Band of Mission Indians' religious and cultural practices. It is our goal and mandate under the Eagle Act to provide for stable or increasing populations of eagles. Available data indicate golden eagle populations across the United States may be declining. Unauthorized sources of human-caused mortality are a significant factor affecting population trends and size for golden eagles. Our eagle take permit regulations provide an opportunity to bring many activities into compliance with the Eagle Act, and in doing so, secure avoidance, minimization, and compensatory mitigation measures to reduce and offset detrimental impacts to eagles. The Service provided technical assistance to BLM and Kern County regarding Alta East before the project was approved for construction. As a result, the proposed project was reduced by half and minimization and avoidance measures to reduce potential impacts to golden eagles were implemented (BLM 2013; Kern County 2012). References: Bureau of Land Management (BLM). 2013. *Alta East Wind Project - Proposed Plan Amendment and Final Environmental Impact Statement.* United States Department of the Interior. Case File Number: CACA 052537. February. Kern County. 2012. *Final Plan Amendment & Final Environmental Impact Statement / Final Environmental Impact Report for the Alta East Wind Project* . November.

Table 1. Alta East Wind Project Eagle Conservation Plan Environmental Assessment Response to Comments

Organization Type/Commenter Name	Comment #	Summary of Comment	Response
	1-2	The Tribe suggests better siting, GPS tracking, sound deterrents, varied turbine heights, painting turbines different colors, turning turbines off at certain times of day/year, and better turbine shapes could all be employed before the project begins to prevent eagle deaths.	The Service is actively engaged with researchers, other agencies, and industry to advance our knowledge and develop better tools to minimize and avoid eagle take as the Tribe suggests. Many of the methods the Tribe suggests are included as options within the Alta East ACP Adaptive Management Plan (see EA Table 2-1). Curtailment for eagles has been implemented voluntarily by the applicant since the project began operating and would continue as a requirement of our permit as analyzed in Alternatives 3 and 4.
	1-3	The Pala Band of Mission Indians is also concerned with the deaths of other biologically and culturally important animals due to wind turbines, including other birds and bats.	The Service acknowledges the Tribe's concern. The applicant is conducting a 3-year post-construction mortality monitoring study as previously required by Kern County and BLM. This study is designed to evaluate the projects impacts to bird and bats. The Service is willing to share these study results with the Tribe and coordinate further.
	1-4	The Tribe would also appreciate stronger compensatory mitigation efforts before the project begins, not just retrofitting power poles. The Tribe suggests the following mitigation efforts to further protect eagles: purchasing nesting, roosting, and hunting lands used by eagles; donations for the rehabilitation and rerelease of injured eagles; research funds used to scientifically plan better wind projects or turbine designs to prevent eagle deaths; and funding aimed at education for reducing the use of rodenticides in areas known to be home to eagles.	We acknowledge the Tribe's recommendations. The Service does not have the legal authority to require compensatory mitigation until we have made a permit decision. The additional mitigation efforts the Tribe proposes are good ideas. Currently, the Service relies primarily on retrofitting electric utility power poles as compensatory mitigation because the per eagle effects of high-risk power pole retrofitting are quantifiable and verifiable through accepted practices. Please see the updated Section 2.3.5 of this EA for more information. Other compensatory mitigation options (i.e., lead abatement, carcass removal off roads) are being experimentally evaluated. If data are available to quantify that a mitigation effort will offset authorized take, the Service will consider other options.
Moapa Band of Paiute	2-1	The Tribe supports Alternative A, the No-Action Alternative.	The Service acknowledges the Tribe's preference that the Service selects Alternative A. This comment will be retained in our administrative records for this EA.

Table 1. Alta East Wind Project Eagle Conservation Plan Environmental Assessment Response to Comments

Organization Type/Commenter Name	Comment #	Summary of Comment	Response
	2-2	Eagles are sacred animals and occupy an exalted place in Paiute culture and religion. The Tribe believes that allowing a private energy development to kill golden eagles is inherently wrong, and no such eagle take should ever be permitted.	The Service understands that eagles are an important part of the Paiute culture and religion. It is our goal to provide for stable or increasing breeding populations of eagles. While we are sensitive to the Tribes preference that we not authorize incidental take of eagles, the Service believes fewer eagles will be killed under an eagle take permit then if the project operates with out a permit. Please see our response to Tribal comment 1-1 for an expansion of this discussion.
	2-3	BLM's lack of meaningful consultation with the Tribe.	Differing approaches to tribal consultation and the distance an agency reaches out result from the unique actions and authorities of each agency. BLM's consultation for Alta East was predicated on the project's right-of-way (ROW) authorization and the discretion the bureau has on that action. The Service's consultation is limited to the specifics of eagles as important animals to the Tribe and what the issuance of take permit might mean for the Tribe. For the purposes of programmatic eagle take permits, the federal undertaking is issuance of the permit and associated conservation measures in order to maintain compliance with the permit. It is the Service's policy to reach out to all tribes within the natal dispersal distance (43 miles for bald eagles and 140 miles for golden eagles). Therefore, there is a difference in how BLM conducts tribal consultations for ROW grants compared to the Service's approach in considering Eagle Act take permits.
	2-4	The DEA relies on inadequate data regarding eagle use of the project area.	The Service agrees that a minimum of 2 to 3 years of survey data is preferable to better understand eagle use and breeding territory occupancy changes and interannual variation. Although the Alta East project conducted surveys before development of our ECP Guidance, the data collected were in alignment with our recommendations. Further, the ECP contains commitments to continue monitoring the project area breeding population. Please see responses to Nongovernmental Organization comments 1-2 and 1-4, above, for further discussion regarding our evaluation of the project's eagle data.

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	2-5	The DEA fails to explain how it concludes that the project results in "no net loss" to golden eagles under Alternatives B, C, and D. The Tribe fails to understand how FWS can permit any further take of golden eagles by wind projects in the Alta East Project area when FWS has already determined that the local golden eagle population cannot withstand any level of take, that annual take from existing wind projects already equals 8 percent (a conservative estimate), and there is no discussion of how the mitigation measures that supposedly result in "no net loss" of golden eagles by the project area supported by any science or data. There is inadequate discussion of what evidence, if any, exists to demonstrate that retrofitting power poles provides any compensation for eagle take sufficient to "offset the high level of cumulative impacts to golden eagle populations in the local area."	The Service's policy regarding assessing risk and permitting take follows an approach that is conservative in favor of protecting eagles. Please see our ECP Guidance (Service 2013) for more information on this approach. This is true with regard to assessing risk, determining compensatory mitigation requirements, and addressing cumulative impacts. Section 2.3.5 of this EA has been updated to further discuss the scientific basis for selecting power pole retrofitting as compensatory mitigation. Because Alta East will offset take through compensatory mitigation, and may reduce the amount of actual take (compared with our take estimates for the project) through the implementation of experimental ACPs (i.e., curtailment program), the Service believes issuance of a programmatic eagle take permit is compatible with the preservation of golden eagles. For every eagle predicted to be killed by the project, at least one less eagle will be electrocuted within the local-area population. We have determined there will be no-net-loss to the local-area population of eagles. We share the Tribe's concern about the ongoing cumulative impacts to eagles. To address this problem, we will require compensatory mitigation at a 1:1.5 ratio. By working with wind operators and issuing eagle take permits, we will provide a greater conservation benefit compared to allowing wind facilities to operate without eagle take permits. Please see responses to Nongovernmental Organization comments 1-2 and 1-4, above, for further discussion regarding our evaluation of the project's eagle data.

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	2-6	There is no discussion of whether mitigating for golden eagle deaths 40 miles away actually achieves "no net loss" to the golden eagle population local to the project site, other than the assumption that because the mitigation site is within the 140-mile radius of the project, the mitigation must offset take of golden eagles at the project site. The mitigation site is in BCR 32, while the project is in BCR 33.	The Service worked with an electric utility company to identify a location within that distance that was considered a high priority for retrofits. The location was chosen based on documented previous fatalities and nearby eagle population density, and because it had the number of poles needed. The mitigation area is located within Kern County, as is the Alta East project. Although the project is located in BCR 33, BCR 32, where the compensatory mitigation is proposed, comprises the largest portion (40 percent) of the local-area population for the project area. Please see our ECP Guidance (Service 2013) for more information.
	2-7	The Tribe believes that the applicant has not met the standards for permit approval as a matter of law. A permit approval ... is only appropriate where eagle take is "unavoidable even though advanced conservation practices are being implemented." We see no evidence that the ACPs suggested as part of the applicant's Eagle Conservation Plan, although labeled "ACP" by the applicant, have been approved by FWS as scientifically supportable measures to reduce eagle take to a level where any remaining take is unavoidable. Here, no advanced conservation measures are being implemented; the ECP contains only experimental conservation measures, which are not certain to actually work and do not meet the regulatory definition of ACP.	We understand the Tribe's concern. Because the best information currently available indicates that no conservation measures have been scientifically shown to reduce eagle disturbance and blade-strike mortality at wind projects, the Service has not currently approved any ACPs for wind energy projects. The process of developing ACPs for wind energy facilities has been delayed by the lack of standardized scientific study of potential ACPs. The Service has determined that the best way to obtain the needed scientific information is to work with industry to develop ACPs for wind projects as part of an adaptive-management regime and comprehensive research program tied to the programmatic-take-permit process. The Service considers the informed curtailment program implemented at the Alta East project to be an experimental ACP. Under a permit, we will require monitoring to provide statistically meaningful results and evaluate the effectiveness of this experimental ACP.
	2-8	The DEA's cumulative impacts analysis is inadequate.	Section 4.3.6 of the EA provides a detailed and thorough cumulative impact analysis. We respect the Tribe's opinion on this topic. Your comment is noted and will be retained in our administrative record.

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	2-9	The DEA fails to acknowledge invalidation of the 30-year permit rule.	The scope of analysis in the DEA does not include an alternative for a 30-year permit. Therefore, we did not include a summary of the 30-year rule invalidation nor the currently proposed changes to the Eagle Act permit regulations. Instead, our EA is focused on evaluation of the permit application in consideration of the Eagle Act 2009 permit regulations that are in place.

Comment Letters

Note:
This letter contains the Applicant's original comments submitted on December 23, 2015. The Response to Comments refers to the Applicant's second later, dated March 4, 2016.

TERRA-GEN

1095 Avenue of the Americas, 25th Floor, Suite A
New York, NY 10036

December 23, 2015

Heather Beeler
Migratory Bird Programs
U.S. Fish and Wildlife Service
Pacific Southwest Regional Office
2800 Cottage Way, W-2605
Sacramento, CA 95825

Subject: Alta East Eagle Permit Draft Comments
Federal Register Notice October 28, 2015

Dear Ms. Beeler:

On behalf of the Alta East Wind Project, the following comments are respectfully submitted.

In Appendix D of the Alta East Environmental Impact Statement the U.S. Fish and Wildlife Service (Service) presents three models that predict golden eagle fatalities at Alta East. Model 1, which approximates Alternative 2, includes 51 turbines, model 2, which approximates Alternative 4, includes 47 turbines based on the assumption that four ridge turbines would be curtailed throughout the year, and model 3 includes 97 turbines and is not discussed further. The Service presents results from the Bayesian collision risk model and predicted annual eagle fatalities with a range of confidence intervals. An important assumption included in the Service model of 47 turbines (Alternative 4) is that all minutes of eagle activity observed within an 800 meter radius plot and below 200 m (hereafter eagle minutes) are at risk of turbine collision throughout the project at other turbines. Thus, when the four turbines are removed, risk is removed only at those turbines (i.e., the number of turbines in the model is reduced) but the number of eagle minutes is unchanged (i.e., all eagle minutes are still at collision risk).

Since the submittal of the eagle permit application, a curtailment program was put in place at Alta East where an observer is stationed in a tower during all daylight hours scanning for eagles over the entire project. If the observer detects an eagle, a curtailment request is called into the project control center and the turbine or turbines are curtailed. Thus, curtailment in practice changes the collision risk significantly than that presented in the Service's model in that eagle minutes are removed from risk because curtailment is specific to eagle risk. Thus, if only turbines are removed from the model and not eagle minutes, the fatality prediction will be an overestimate because the model does not account for removal of risk to an eagle rather it accounts for removal of turbines and assumes eagles are at risk at other turbines.

To understand how observer informed curtailment over the entire project reduces risk to eagles, Terra-Gen, LLC contracted Western EcoSystems Technology, Inc. (WEST) to review data associated with the curtailment program and determine if the number of eagle minutes could be adjusted and not the number of turbines to reflect the curtailment program. As such, WEST has developed a model that uses two parameters: 1) the probability that an eagle is detected by an observer, and 2) the probability that a turbine is successfully curtailed when requested to calculate an adjustment to the number of eagle minutes. The result is the number of eagle minutes that an eagle could be at risk of collision. No changes to the Bayesian collision risk model have been made; rather, the input of eagle minutes is adjusted to account for curtailment using detailed site data recorded by full time observers. Similar to the Service's model, WEST's model uses assumptions, and this approach represents a starting point to begin to understand how informed curtailment reduces risk to eagles.

Thus, an alternative that incorporates curtailment is the environmentally superior alternative, but the fatality prediction model should account for the exiting curtailment program. By not accounting for a reduction in eagle minutes that an eagle could be at risk the model overestimates the predicted number of fatalities. Thus, based on the informed curtailment program, the 5-year take permit number in Alternative 4 in the Draft Environmental Assessment Section 2.2.4 should be changed to one golden eagle by rounding the upper 80th confidence interval of 0.898 to the nearest whole number. All sections referencing a 5-year take of three golden eagles should be updated to a 5-year take of one golden eagle and all associated mitigation should be revised to reflect a 5-year take of one golden eagle.

Thank you for your consideration regarding these comments.

Kevin A. Martin

Kevin Martin
Director Environmental Permitting

Attachment

DATE: 22 December 2015

TO: Kevin Martin, Director Environmental Permitting
Terra-Gen

FROM: Western EcoSystems Technology, Inc.

RE: Accounting for curtailment in predicting eagle fatalities

INTRODUCTION

The Alta East Wind Project (Project) is located in the Tehachapi region of southern California, and consists of 51 wind turbine generators with a 51.5 meter (m) rotor radius. The primary objective of this analysis is to quantify the effectiveness of an informed curtailment program in place at the Project and estimate the predicted number of eagle fatalities given the curtailment program. Briefly, a biologist experienced in eagle identification is staffed during all daylight hours in an observation tower approximately 20 feet above ground level (agl) in the Project. When an eagle is observed and determined to be at risk of turbine collision, the observer contacts the control center and requests curtailment of specific turbines. Data from May 21, 2015 to October 17, 2015 are used in this analysis.

How effective curtailment is at reducing collision risk consists of two components: 1) what is the probability that an eagle is detected and 2) what is the probability curtailment occurs when an eagle is at risk. The probability that an eagle is detected consists of several parameters including the proportion of daylight hours surveyed, the proportion of the area where an eagle could be at risk that is visible, and the probability that an eagle is observed if it is in the viewshed. The objective is to calculate the proportion of minutes of eagle activity where eagles are at risk of collision (i.e., risk minutes). Risk minutes could occur if eagles occur near turbines that are not visible or if curtailments are requested but not implemented.

As informed curtailment is part of Project operation, predicting the number of eagle fatalities based on the number of eagle minutes observed will overestimate risk. In this memo, the adjustment for 'risk minutes' is applied to the data used in the Appendix D of the Project Environmental Analysis (EA) and the results are compared to the output presented in Appendix D.

METHODS

Probability an Eagle is Detected

Based on survey protocol, it is assumed that 99% of daylight hours are surveyed. Although an observer is present all daylight, 99% is used to account for small amounts of time a surveyor might not be scanning for eagles (e.g., recording data). As the data collected during curtailment are not consistent with distance sampling methods, a detection probability could not be estimated due to violations of assumptions. Thus, as detection of eagles is not perfect (i.e., not every eagle is observed) a detection probability of 0.84 was used from a study of golden eagles in California where surveys were conducted in areas with a known history of golden eagle use (Wiens et al. 2015).

The proportion of the area where an eagle could be at risk needs to be calculated to account for areas that are not visible. A viewshed analysis was conducted using the observation tower as the height of the observer and the minimal observation height of 50 m agl. Fifty meters agl was selected as it is the lower

height of the turbine rotor and that if the lower height is visible, the area where eagles are at risk is visible. The viewshed analysis was conducted using two distance buffers around the turbines: 400 m and 1000 m. Four hundred meters is the effective distance at which a turbine can be curtailed, 1000 m is the distance used in the Eagle Conservation Plan Guidance to define the risk area around the turbines (USFWS 2013).

Probability a Curtailment Occurs when Requested

Each time a turbine is curtailment is requested, data is collected about the eagle observation and the curtailment. Each curtailment request was reviewed to determine if the curtailment was successfully implemented.

Bayesian Eagle Fatality Model

The USFWS uses a Bayesian approach to estimate the annual eagle fatality rate for a wind energy facility. This approach uses statistical models to define the relationship between eagle exposure, collision probability, and fatalities, and to account for uncertainty (USFWS 2013). The Bayesian model used in this analysis is the same model used by the USFWS in Appendix D of the Project EA.

Exposure

Exposure rate (λ) is the expected number of exposure events (eagle-minutes) per survey hour per square kilometer (hr $\cdot$ km^2). The USFWS prior distribution for exposure rate was derived from data from a range of projects under USFWS review and the projects from Whitfield (2009). The prior distribution is intended to model exposure rates for any wind energy facility. The USFWS defines the prior distribution for exposure rate as:

$\text{Prior } \lambda \sim \text{Gamma}(\alpha, \beta)$, with shape and rate parameters $\alpha = 0.97$ and $\beta = 2.76$.

Pre-construction eagle exposure data are used to update the prior distribution to estimate the parameters for the posterior distribution. By assuming the exposure minutes follow a Poisson distribution with rate parameter λ, the posterior distribution for exposure rate is:

$$\text{Posterior } \lambda \sim \text{Gamma}\left(\alpha + \sum_{i=1}^{n} k_i,\ \beta + n\right)$$

where $\sum k_i$ is the total observed eagle minutes, *n is* the number of trials, and α and β are from the prior distribution. The number of trials is the number of hr $\cdot$ km^2 that were conducted in the pre-construction survey.

Collision Probability

The collision probability, *C,* is the probability of an eagle colliding with a turbine given exposure in the hazardous area, where all collisions are considered to be fatal. The prior distribution presented by USFWS was estimated using results taken from the Whitfield (2009) study of avoidance rates. The *Beta* distribution is intended to model collision probabilities across all sites considered for prediction of annual eagle fatalities. The USFWS collision probability prior distribution is given as:

Prior $C \sim \text{Beta}(\nu, \nu')$, with parameters ν=2.31 and ν'=396.69

Predicted Annual Fatalities

The distribution of predicted annual fatalities can be estimated as the product of the expansion factor, the exposure rate posterior distribution, and the collision probability distribution:

$$F = \varepsilon \cdot \text{posterior } \lambda \cdot \text{prior } C.$$

The distribution of estimated annual fatalities is used to obtain statistics such as estimates for the mean, standard deviation, and 80th credible interval of annual fatalities.

RESULTS

Probability an Eagle is Detected

The probability an eagle is detected is defined as:
P(eagle detected if available to be observed) × P(daylight hours surveyed) × P(of an eagle occurring in an area where it is at risk that is visible).

The area within the 400 m buffer is 1,966 acres and 345 acres are not visible resulting in 82.5% of the area at 50 m agl or above is visible. The area within the 1000 m buffer is 4,592 acres and 1,302 are not visible resulting in 71.6% of the area at 50 m agl or above is visible.

Thus, the overall probability that an eagle is detected is:

400 m viewshed: 0.84 × 0.99 × 0.825 = 0.686
1000 m viewshed: 0.84 × 0.99 × 0.716 = 0.592

Probability a Turbine is Successfully Curtailed

Of the 564 curtailments requested, three were not implemented resulting in a 0.995 probability of a successful curtailment.

Eagle Minutes at Risk

Multiplying the probability of a successful curtailment request by the probability an eagle is detected results in the probability of curtailment of turbines when eagle are within the risk area.

<u>400 m buffer around the turbines:</u>

- P(curtailment of turbines when eagle are within the risk area) = P(curtailment of turbines when an eagle is at risk | eagle was detected) × P(eagle was detected) = 0.995 × 0.686 = 0.683
- 17 eagle minutes observed
- 17 × 0.683 = 11.61 minutes where eagles were not at risk
- 17 – 11.61 = 5.39 minutes where eagles were at risk

1,000 m buffer around the turbines:

- P(curtailment of turbines when eagle are within the risk area) = P(curtailment of turbines when an eagle is at risk | eagle was detected) × P(eagle was detected) = 0.995 × 0.592 = 0.589
- 17 eagle minutes observed
- 17 × 0.589 = 10.01 minutes where eagles were not at risk
- 17 - 10.01 = 6.99 minutes where eagles were at risk

Fatality Prediction

Table 1. Predicted eagle fatalities per year

Variable	USFWS Appendix D	400 m Viewshed Around Turbines	1,000 m Viewshed Around Turbines
Estimated annual eagle fatalities	0.341	0.121	0.151
Upper 80th Percentile	0.504	0.180	0.224
5-year annual prediction	2.51	0.898	1.121

When minutes where eagles were at risk are used for the two viewsheds, the upper 80th credible interval is reduced resulting in fewer eagle fatalities predicted over a 5-year period (Table 1).

CONCLUSIONS

Based on the data available, when an eagle is at risk there is a high probability (0.995) that a turbine is curtailed when requested. As not all eagles are expected to be observed and not all turbines are visible from the observation tower, some collision risk still exists. However, the value presented in Appendix D of the Project EA does not account for an informed curtailment program in place at the Project and thus overestimates collision risk.

REFERENCES

USFWS. 2013. Eagle Conservation Plan Guidance. Module 1 – Land-based Wind Energy. Version 2. April 2013. Available online at www.fws.gov/windenergy/eagle_guidance.html.

Wiens, J.D., Kolar, P.S., Fuller, M.R., Hunt, W.G., and Hunt, Teresa , 2015, Estimation of occupancy, breeding success, and predicted abundance of golden eagles (*Aquila chrysaetos*) in the Diablo Range, California, 2014: U.S. Geological Survey Open-File Report 2015-1039, 23 p., http://dx.doi.org/10.3133/ofr20151039.

TERRA-GEN

1095 Avenue of the Americas, 25th Floor, Suite A
New York, NY 10036

March 4, 2016

Heather Beeler
Migratory Bird Programs
U.S. Fish and Wildlife Service
Pacific Southwest Regional Office
2800 Cottage Way, W-2605
Sacramento, CA 95825

Subject: Alta East Eagle Permit Draft Comments
Federal Register Notice October 28, 2015

Dear Ms. Beeler:

Terra-Gen, LLC (Terra-Gen) has included additional data and updated the eagle collision risk model to account for turbine curtailment in predicting eagle fatalities. Data from January 1, 2014 to October 17, 2015 are used in this analysis.

To begin to understand how informed curtailment reduces risk to eagles, Terra-Gen contracted Western EcoSystems Technology, Inc. (WEST) to review data associated with the curtailment program and determine if the number of eagle minutes could be adjusted and not the number of turbines to reflect the curtailment program. As such, WEST has developed a model that uses two parameters – 1) the probability that an eagle is detected by an observer and 2) the probability that a turbine is successfully curtailed when requested to calculate an adjustment to the number of eagle minutes. The result is the number of eagle minutes that an eagle could be at risk of collision. No changes to the Bayesian collision risk model have been made; rather, the input of eagle minutes is adjusted to account for curtailment using detailed site data recorded by full time observers. Similar to the Service's model, WEST's model uses assumptions, and this approach represents a starting point to begin to understand how informed curtailment reduces risk to eagles.

Thus, we feel that an alternative that incorporates curtailment is the environmentally superior alternative, but the fatality prediction model should account for the exiting curtailment program. By not accounting for a reduction in eagle minutes that an eagle could be at risk the model overestimates the predicted number of fatalities. Thus, based on the informed curtailment program, the 5-year take permit number in Alternative 4 in the Draft Environmental Assessment Section 2.2.4 should be changed to one golden eagle by rounding the upper 80th confidence interval of 0.932 to the nearest whole number. All sections referencing a 5-year take of three golden eagles should be updated to a 5-year take of one golden eagle and all associated mitigation should be revised to reflect a 5-year take of one golden eagle.

Thank you for your consideration regarding these comments.

Kevin Martin
Director Environmental Permitting

Attachment

DATE: 4 March 2016

TO: Kevin Martin, Director Environmental Permitting
Terra-Gen

FROM: Western EcoSystems Technology, Inc.

RE: Accounting for curtailment in predicting eagle fatalities

INTRODUCTION

The Alta East Wind Project (Project) is located in the Tehachapi region of southern California, and consists of 51 wind turbine generators with a 51.5 meter (m) rotor radius. The primary objective of this analysis is to quantify the effectiveness of an informed curtailment program in place at the Project and estimate the predicted number of eagle fatalities given the curtailment program. Briefly, a biologist experienced in eagle identification is staffed during all daylight hours in an observation tower approximately 20 feet above ground level (agl) in the Project. When an eagle is observed and determined to be at risk of turbine collision, the observer contacts the control center and requests curtailment of specific turbines. Data from January 1, 2014 to October 17, 2015 are used in this analysis.

How effective curtailment is at reducing collision risk consists of two components: 1) what is the probability that an eagle is detected and 2) what is the probability curtailment occurs when an eagle is detected. The probability that an eagle is detected consists of several parameters including the proportion of daylight hours surveyed, the proportion of the area where an eagle could be at risk that is visible, and the probability that an eagle is observed if it is in the viewshed. The objective is to calculate the proportion of minutes of eagle activity where eagles are at risk of collision (i.e., risk minutes). Risk minutes could occur if eagles occur near turbines that are not visible or if curtailments are requested but not implemented.

As informed curtailment is part of Project operation, predicting the number of eagle fatalities based on the number of eagle minutes observed will overestimate risk. In this memo, the adjustment for 'risk minutes' is applied to the data used in the Appendix D of the Project Environmental Analysis (EA) and the results are compared to the output presented in Appendix D.

METHODS

Probability an Eagle is Detected

Based on survey protocol, it is assumed that 99% of daylight hours are surveyed. Although an observer is present all daylight, 99% is used to account for small amounts of time a surveyor might not be scanning for eagles (e.g., recording data). As the data collected during curtailment are not consistent with distance sampling methods, a detection probability could not be estimated due to violations of assumptions. Thus, as detection of eagles is not perfect (i.e., not every eagle is observed) a detection probability of 0.84 was used from a study of golden eagles in California where surveys were conducted in areas with a known history of golden eagle use (Wiens et al. 2015).

The proportion of the area where an eagle could be at risk needs to be calculated to account for areas that are not visible. A viewshed analysis was conducted using the observation tower as the height of the observer and the minimal observation height of 50 m agl. Fifty meters agl was selected as it is the lower

height of the turbine rotor and that if the lower height is visible, the area where eagles are at risk is visible. The viewshed analysis was conducted using two distance buffers around the turbines: 400 m and 1000 m. Four hundred meters is the effective distance at which a turbine can be curtailed, 1000 m is the distance used in the Eagle Conservation Plan Guidance to define the risk area around the turbines (USFWS 2013).

Probability a Curtailment Occurs when Requested

Each time an eagle is detected, data are collected about the eagle observation and the curtailment. Data collected on each eagle observation was reviewed to determine if the curtailment was successfully implemented if a curtailment was necessary. It is assumed that curtailments are not requested when eagles are not at risk of turbine collision and that curtailment requests are successful unless data specify that otherwise. A curtailment was defined as unsuccessful if it took five minutes or longer to implement the curtailment from the time that it was determine a curtailment was necessary. Additionally, the comments from the observer were reviewed and comments on unsuccessful curtailments were noted. Dividing the total number unsuccessful curtailments by the total number of eagle observations results in the probability that an eagle is at risk accounting for turbine curtailment given the eagle was detected.

Bayesian Eagle Fatality Model

The USFWS uses a Bayesian approach to estimate the annual eagle fatality rate for a wind energy facility. This approach uses statistical models to define the relationship between eagle exposure, collision probability, and fatalities, and to account for uncertainty (USFWS 2013). The Bayesian model used in this analysis is the same model used by the USFWS in Appendix D of the Project EA.

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$$\text{Prior } \lambda \sim \text{Gamma}(\alpha, \beta), \text{ with shape and rate parameters } \alpha = 0.97 \text{ and } \beta = 2.76.$$

Pre-construction eagle exposure data are used to update the prior distribution to estimate the parameters for the posterior distribution. By assuming the exposure minutes follow a Poisson distribution with rate parameter λ, the posterior distribution for exposure rate is:

$$\text{Posterior } \lambda \sim \text{Gamma}\left(\alpha + \sum_{i=1}^{n} k_i,\ \beta + n\right)$$

where $\sum k_i$ is the total observed eagle minutes, *n is* the number of trials, and α and β are from the prior distribution. The number of trials is the number of hr $\cdot$ km^2 that were conducted in the pre-construction survey.

Collision Rate

The collision rate, *C*, is the rate of an eagle colliding with a turbine per exposure in the hazardous area, where all collisions are considered to be fatal. The prior distribution presented by USFWS was estimated using results taken from the Whitfield (2009) study of avoidance rates. The *Beta* distribution is intended to model collision rate across all sites considered for prediction of annual eagle fatalities. The USFWS collision rate prior distribution is given as:

Prior $C \sim \text{Beta}(\nu, \nu')$, with parameters ν=2.31 and ν'=396.69

Predicted Annual Fatalities

The distribution of predicted annual fatalities can be estimated as the product of the expansion factor, the exposure rate posterior distribution, and the collision rate distribution:

$F = \varepsilon \cdot \text{posterior } \lambda \cdot \text{prior } C.$

The distribution of estimated annual fatalities is used to obtain statistics such as estimates for the mean, standard deviation, and 80th credible interval of annual fatalities.

RESULTS

Probability an Eagle is Detected

The probability an eagle is detected is defined as:
P(eagle detected if available to be observed) × P(daylight hours surveyed) × P(of an eagle occurring in an area where it is at risk that is visible).

The area within the 400 m buffer is 1,966 acres and 345 acres are not visible resulting in 82.5% of the area at 50 m agl or above is visible. The area within the 1000 m buffer is 4,592 acres and 1,302 are not visible resulting in 71.6% of the area at 50 m agl or above is visible.

Thus, the overall probability that an eagle is detected is:

400 m viewshed: 0.84 × 0.99 × 0.825 = 0.686
1000 m viewshed: 0.84 × 0.99 × 0.716 = 0.592

Probability a Golden Eagle is at Risk Accounting for Turbine Curtailment

Of the 512 golden eagle observations, thirteen curtailments were not implemented resulting in a 0.975 probability that an eagle is not ask risk accounting for turbine curtailment.

Eagle Minutes at Risk

Multiplying the probability of a successful curtailment request by the probability an eagle is detected results in the probability of curtailment of turbines when eagle are within the risk area.

<u>400 m buffer around the turbines:</u>

- P(curtailment of turbines when eagle are within the risk area) = P(curtailment of turbines when an eagle is at risk | eagle was detected) × P(eagle was detected) = 0.975 × 0.686 = 0.669
- 17 eagle minutes observed
- 17 × 0.669 = 11.37 minutes where eagles were not at risk
- 17 – 11.37 = 5.63 minutes where eagles were at risk

1,000 m buffer around the turbines:

- P(curtailment of turbines when eagle are within the risk area) = P(curtailment of turbines when an eagle is at risk | eagle was detected) × P(eagle was detected) = 0.975 × 0.592 = 0.577
- 17 eagle minutes observed
- 17 × 0.577 = 9.81 minutes where eagles were not at risk
- 17 – 9.81 = 7.19 minutes where eagles were at risk

Fatality Prediction

Table 1. Predicted eagle fatalities per year

Variable	USFWS Appendix D	400 m Viewshed Around Turbines	1,000 m Viewshed Around Turbines
Estimated annual eagle fatalities	0.341	0.125	0.155
Upper 80th Percentile	0.504	0.186	0.230
5-year annual prediction	2.51	0.932	1.151

When minutes where eagles were at risk are used for the two viewsheds, the upper 80th credible interval is reduced resulting in fewer eagle fatalities predicted over a 5-year period (Table 1).

CONCLUSIONS

Based on the data available, when an eagle is at risk there is a high probability (0.975) that a turbine is curtailed when requested. As not all eagles are expected to be observed and not all turbines are visible from the observation tower, some collision risk still exists. However, the value presented in Appendix D of the Project EA does not account for an informed curtailment program in place at the Project and thus overestimates collision risk.

REFERENCES

USFWS. 2013. Eagle Conservation Plan Guidance. Module 1 – Land-based Wind Energy. Version 2. April 2013. Available online at www.fws.gov/windenergy/eagle_guidance.html.

Wiens, J.D., Kolar, P.S., Fuller, M.R., Hunt, W.G., and Hunt, Teresa. 2015. Estimation of occupancy, breeding success, and predicted abundance of golden eagles (*Aquila chrysaetos*) in the Diablo Range, California, 2014: U.S. Geological Survey Open-File Report 2015-1039, 23 p., http://dx.doi.org/10.3133/ofr20151039.

Utility 1

December 28, 2015

Filed electronically to the attention of:

Ms. Heather Beeler
Migratory Bird Program
U.S. Fish and Wildlife Service
Pacific Southwest Regional Office
2800 Cottage Way, W-2605
Sacramento, CA 95825

Re: Comments on Draft Environmental Assessment for a 5-year programmatic golden eagle take permit in response to an application from Alta Wind X, LLC. (80 FR 66032 66032-66033 (October 28, 2015) Docket No. FWS-R8-MB-2015-N183 FF08M00000-FXMB12310800000-145 2015-27240)

Dear Ms. Beeler:

The Avian Power Line Interaction Committee (APLIC) is pleased to submit comments on the US Fish and Wildlife Service's (FWS) Notice of Availability (NOA) of the Draft Environmental Assessment (DEA) evaluating the effects of issuing a programmatic eagle take permit for the Alta East Wind Project. APLIC leads the electric utility industry in protecting avian resources while ensuring reliable energy delivery. We work in partnership with utilities, resources agencies and the public to: develop and provide educational resources; identify and fund research; develop and provide cost-effective management options; and serve as the focal point for electric utility avian interaction issues.

Since its inception in 1989, APLIC has addressed a variety of avian power line interactions including electrocutions, collisions, and nests. At present, APLIC membership includes over 60 electric utilities, the Edison Electric Institute (EEI), FWS, National Rural Electrical Cooperative Association (NRECA), and Rural Utilities Service (RUS). Although a member of APLIC, the FWS did not participate in the preparation of

these comments. APLIC has developed guidance documents identifying causes and minimization methods for avian electrocutions and collisions, and released national Avian Protection Plan (APP) Guidelines in conjunction with the FWS in 2005. In partnership with the FWS, APLIC presents APP training courses throughout the US, and funds national and international research related to avian power line interactions and conservation.

APLIC member utilities are likely to be contacted as sources of compensatory mitigation of eagle take, APLIC members have a direct interest in eagle permitting and how it will be implemented. APLIC respectfully submits the following comments.

1. In Section 2.0 Eagle Conservation Plan Development, under 2.4.5 Minimizing Potential Collision and Direct Disturbance, the FWS requires perch deterrents: "Permanent meteorological towers, remaining transmission towers, and other facility structures will be designed to discourage eagles and other birds from perching or nesting on them (for example, non-lattice towers, follow APLIC [2006, 2012] standards)." Please revise this measure to accurately reflect APLIC recommendations in the referenced manuals. The APLIC manuals are not standards, but provide guidance in designing avian-safe electric facilities. In addition, APLIC does not recommend the use of non-lattice towers to reduce perching or nesting. Several APLIC member utilities have evidence non-lattice towers do not prevent perching or nesting and no study has been done to suggest non-lattice towers even reduce perching or nesting. Finally, APLIC does not recommend using perch deterrents to eliminate perching on structures, but rather as a method to move perching to a safer location. Perch deterrents have not been shown to be effective at eliminating perching and in some cases can encourage nesting and may increase electrocution risk.

If you have questions regarding these comments, please contact Mike Best, of Pacific Gas & Electric and APLIC Chair, MBB8@pge.com, or Rick Loughery, rloughery@eei.org.

Sincerely,

Mike Best
Chair, Avian Power Line Interaction Committee
Mailing address:
PG&E
P.O. Box K
Victor, CA 95253

Audubon California * Natural Resources Defense Council * Defenders of Wildlife

December 28, 2015

Heather Beeler, Migratory Bird Program
U.S. Fish and Wildlife Service, Pacific Southwest Region
2800 Cottage Way, W–2605
Sacramento, CA 95825

Re: Golden Eagles; Programmatic Take Permit Application; Draft Environmental Assessment; Alta East Wind Project Eagle Permit (Docket No. FWS-R8-MB-2015-N183)

Submitted by email to: *fw8_eagle_nepa@fws.gov*

Dear Heather:

On behalf of Audubon California, Natural Resources Defense Council, Defenders of Wildlife, and our millions of members and supporters, please accept and fully consider these comments on the Draft Environmental Assessment (DEA) and programmatic eagle take permit application for the Alta East Wind Project (Docket No. FWS-R8-MB-2015-N183). We appreciate the opportunity to comment on this docket and the important issues it raises concerning the obligations imposed by the Bald and Golden Eagle Protection Act (BGEPA).

For many years, our organizations have been deeply engaged in efforts to protect the publicly-owned resources under the jurisdiction of the Department of the Interior and animals and plants, such as bald and golden eagles, protected by federal law. Our organizations also strongly support responsibly sited, developed, operated and effectively mitigated renewable energy projects, including wind generation projects, to meet the challenge of climate change by reducing greenhouse gas emissions. However, renewable energy development is not appropriate everywhere and must be managed in such a way that, to the maximum extent possible, protects wildlife, wild lands and other natural resources and ensures full compliance with all applicable laws.

Pursuant to its statutory authority, the U.S. Fish and Wildlife Service (FWS) has a vital role to play on private and public lands in ensuring that wind projects are sited and operated responsibly and properly mitigated. FWS must also safeguard against what are potentially unmitigable impacts, especially in the face of noted scientific uncertainty. Consideration of a permit for programmatic take of golden eagles under BGEPA, requested in conjunction with the continued operation of the Alta East Wind Project, represents a significant and positive prospective step forward in this regard. The response to this application will likely set a standard for all permits to follow and we therefore believe that the FWS must approach development and issuance of this permit with extreme caution and with due regard to the unprecedented nature, acknowledged uncertainty and wide potential reach of the proposed action.

Our groups have a strong history of coming together to provide joint comments on eagle conservation concerns, and particularly as related to renewable energy development. We have raised many of the issues described below in prior comments and rather than restate them in full here, we incorporate by reference our joint comments on the Draft Eagle Conservation Plan Guidance, the proposed revisions and changes in the regulations governing eagle permitting, wind energy in the Desert Renewable Energy Conservation Plan (DRECP), and the eagle take permit application for the Shiloh IV Wind Project.[1]

From the onset, we must reiterate the urgent need for a more comprehensive and fully transparent approach to eagle permitting—this includes meaningful analysis and management on a regional population scale, as well as guaranteed opportunities for the public to understand and influence monitoring, mitigation and adaptive management prescriptions throughout the life of the permit. Our concerns continue to center on the need for a legally sound and scientifically credible framework for authorizing programmatic take of eagles at wind facilities. We believe the following issues are fundamental to a successful permit for currently operating or repowered facilities, and note that projects in the development stage may have different opportunities and requirements for avoidance, minimization and mitigation of impacts to eagles. 1-1

Our overarching recommendations can be summarized with respect to this particular DEA, Eagle Conservation Plan (ECP) and permit as:

- Ensure the statute's principal goal of conserving eagles will be met:
    - Incorporate a net conservation benefit into the DEA and permit terms;
    - Revise the "Purpose and Need" section;
    - Utilize a regional framework for permit issuance including a strategy for decreasing the local area population annual take.
- Remedy data inadequacies in DEA by analyzing and incorporating:
    - All post-construction and any other eagle use and fatality data since the project has been operational;
    - Direct and indirect effects of "take" on recruitment of eagles to the local area population;
    - Cumulative impacts from all sources of take in the local area population.
- Establish a fully transparent and defined process for implementing an adaptive management framework and ACPs:
    - Clarify effectiveness monitoring, opportunities for public input, and incorporation of new and revised ACPs and measures that directly reduce eagle mortality;
    - Incorporate curtailment and radar detection as upfront conservation

1 Audubon, et al., Joint Comments on the Draft Eagle Conservation Plan Guidance (May 19, 2011); Audubon, et al., Joint Comments on Advance Notice of Proposed Rulemaking, Docket No. FWS-R9-MB-2011-0094 (July 12, 2012); Defenders of Wildlife, et al., Joint Recommendations on Wind Energy Development in DRECP (August 24, 2012); Audubon California, et al., Joint Comments on the eagle take permit application for the Shiloh IV Wind Project, Docket No. FWS-R8-MB-2013-N138 (November 29, 2013); National Audubon Society, Natural Resources Defense Council, Sierra Club, Joint Comments on Eagle Management and Permitting, Docket No. FWS-R9-MB-2011-0094 (September 22, 2014).

measures in ACPs.

- Add detailed monitoring prescriptions and protocols with reporting requirements as well as a process to ensure effectiveness of ACPs, mitigation measures and adaptive management—including eagle use surveys as well as BACI studies.
- Ensure that all data is collected correctly and reported accurately, and commit to providing all post-construction monitoring data to the public in real-time.
- Consider a full suite of compensatory mitigation options and ensure ongoing incorporation of new measures into permit terms:
    - Provide a scientific basis for selecting specific power poles for retrofit and monitoring effectiveness;
    - Ensure that information on retrofits is made publicly available.
- Take an active enforcement and oversight role in authorizations for programmatic eagle take, including other separate but related actions and a commitment to require and revise permit conditions as new information becomes available.

Conservation of Eagles is the Overarching Priority

In 1940, confronted with the potential extinction of our national symbol, Congress acted to avert this threat and singled out preservation of the bald eagle as a "ward of the National Government" by enacting the Eagle Act.[2] In 1962, Congress extended the protections of the Eagle Act to golden eagles, both because the golden eagle population was in decline and to afford greater protection for the bald eagle.[3] It is against this backdrop, of a singular statutory purpose to conserve eagles, that we must examine any authorizations that affect these iconic, culturally and biologically significant species.

We appreciate and recognize the significant effort that FWS and the applicant have made by moving forward with a programmatic eagle take permit application. Our recommendations for improving the ECP, DEA and action alternatives in these comments are made with a goal of addressing our most immediate conservation concerns and creating a means to move forward despite serious data gaps and uncertainty. The overarching purpose and frame for this action, however, must not be lost. Conserving eagles is the top priority for any authorization under BGEPA and absent this outcome, any "take" authorization is inappropriate. This goal must be clearly articulated and accounted for throughout all decision documents and the analysis that follows.

Incorporation of a Net Benefit Standard

FWS is bound by the preservation standard set forth in BGEPA,[4] which endeavors to achieve and maintain stable or increasing breeding populations of bald and golden eagles and thus ensure the conservation of the species. With respect to programmatic permits in

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[2] H.R. Rep. No. 2104, 76th Cong., 3d Sess. 1 (1940).
[3] Pub. L. No. 87-884, 76 Stat. 1246.
[4] 16 U.S.C. § 668a. In compliance with the preservation standard, unless permitted, BGEPA prohibits the "take" of any eagle—part, nest, or egg thereof—where "take" also includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb. 16 U.S.C. § 668c.

particular, the 2009 final rule states that, "programmatic permits are designed to provide a net benefit to eagles by reducing ongoing unauthorized take."[5] Yet, there is little discussion of this concept in the DEA. We believe that in issuing programmatic permits for the lethal take of eagles, FWS must address and provide scientific assurances that permit issuance will produce a net conservation benefit to affected eagle populations. Because population data and impacts to eagle populations are extremely uncertain, requiring a net conservation benefit and/or setting take limits at rates that at least allow for population growth, is the only way to ensure that there is no net loss to eagle populations.

FWS must provide greater clarity on expectations for reaching a net benefit and ongoing management actions to ensure that a sustained reduction[6] in eagle take is occurring throughout the life of the project, especially considering the current uncertainty surrounding fatality models, baseline data, ACPs and mitigation measures. As part of this net benefit calculation, we recommend established requirements and procedures for engaging in applied research activities to leverage permit issuance and help us fill priority data gaps, identify more effective mitigation measures, and generally inform our limited toolbox for addressing eagle interactions at wind farms. We also support the increased mitigation ratio in Alternative 3 of the DEA to ensure that conservation measures required to offset take result in a net conservation benefit for golden eagles. This is particularly important given the role this DEA and associated analysis and decision document may have in informing subsequent permits. 1-2

Recommendation: *Clearly incorporate a net conservation benefit into the DEA analysis and permit terms, including adequate mechanisms for ensuring a sustained reduction in take throughout the life of the project and mitigation ratios greater than 1:1, as well as procedures for engaging in applied research activities to fill priority data gaps.*

Revise the "Purpose and Need"

We appreciate the changes that FWS has made to the DEA for this eagle permit compared to the DEA for the Shiloh IV eagle permit. However, the "Purpose and Need" statement still suggests that permit issuance is the purpose, rather than conservation of eagles. Conservation of eagles, first and foremost, should drive the permitting process and the analysis. We suggest that the "Purpose and Need" statement be revised to state, "the purpose of the federal action is to facilitate the preservation of eagles through issuance of a permit that ensures consistency with our Eagle Act regulations, and in this particular case, may enable Alta East to continue to generate renewable energy in compliance with the Eagle Act."

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[5] Eagle Permits; Take Necessary To Protect Interests in Particular Localities; Final Rules, 74 Fed. Reg. at 46842.

[6] FWS assumes that permit issuance will equate to a reduction in take and thereby increase the likelihood of a stable or increasing population; however, especially considering the possibility of declining populations, FWS must clearly articulate a regulatory plan and specific assurances to guarantee that the project is meeting "no net loss" for permit issuance, at a minimum, and ensuring zero net take of eagles over the life of the project. This statutory requirement is in addition to incorporating a net benefit.

Recommendation: *Revise the "Purpose and Need" section to explicitly reflect the statute's principal goal of conserving eagles. The DEA and all associated decision documents and analyses should reflect, guarantee and explain how permit issuance prioritizes the conservation of eagles.*

1-3

Fundamental Need for a Regional Conservation Framework

BGEPA's preservation standard ensures the continued protection of the species while allowing some impacts to individual eagles. In its 2009 regulations, FWS stated that it would not issue permits for take within a regional eagle population without sufficient data indicating that the take would not result in a population decline.[7] The issuance criteria for individual programmatic eagle take permits further includes identifying the project-level effects together with cumulative effects of other permitted take and additional factors affecting eagle populations, as well as identifying whether the permit issuance will preclude higher priority permit issuance.[8] FWS cannot reasonably make these determinations without first examining the authorization and affected eagle population within a regional context, including up-to-date baseline regional population information, threats to eagles from all sources, efficacy of avoidance, minimization and compensatory mitigation measures, appropriateness of regional take caps, and conservation goals and objectives that ensure the stability of local and regional eagle populations. As stated in previous comments,[9] establishing a regional conservation framework is a prerequisite to sound mitigation regimes and proper estimation of cumulative impacts.

This type of regional analysis ultimately informs whether take is compatible with the preservation of eagles and whether take may be approaching levels that are unsustainable or which cannot reasonably be offset through compensatory mitigation. In this particular case, the DEA acknowledges that the current local area eagle population estimated annual take from wind energy generation is 8%—higher than FWS' previously identified sustainable take rate between 1% and 5%.[10] This is an unacceptable level of take and especially considering it is only the take from wind energy development and does not account for other sources of take. A regional conservation framework is needed to set forth a clear explanation of what will be done to reduce take and account for all sources of threats to the local area population. Without going one step further to demonstrate that the level of take is at least compatible with the preservation of the regional population, it

[7] 74 FR 46841.
[8] 50 CFR 22.26(f)(1–6).
[9] Eagle Conservation Plan Guidance Comments, submitted to FWS May 19, 2011, by National Audubon Society, Defenders of Wildlife, Natural Resources Defense Council, National Wildlife Federation, The Wilderness Society, Sierra Club, and numerous Audubon Chapters and Friends.
[10] The Eagle Conservation Plan Guidance states, "The Service considered several alternatives for benchmark harvest rates at the local-area population scale, and after comparative evaluation identified take rates of between 1% and 5% of the estimated total eagle population size at this scale as significant, with 5% being at the upper end of what might be appropriate under the BGEPA preservation standard, whether offset by compensatory mitigation or not." (italics added for emphasis).

seems clear that a take rate more than the sustainable harvest rate would not meet the preservation standard.

Lack of a regional conservation framework is a fatal flaw in the fundamental basis for programmatic permit issuance, without which we will continue to hit significant biological and legal barriers in the piecemeal project-by-project approach. Relying on a regional framework for eagle permit issuance would not only provide requisite conservation assurances for issuing individual permits, as mandated by BGEPA, but it would also afford an essential bridge as we work together to fill the critical gaps in knowledge surrounding overall impacts to eagle populations. A regional conservation framework could also provide an opportunity to examine and address cumulative impacts to eagles across a wind resource area. FWS should incentivize and examine opportunities for multiple facilities within a wind resource area, in this case Kern County, to apply for a programmatic permit that address impacts from all planned and operating wind projects affecting the local area population. This type of strategy would provide the greatest conservation assurances as well as decrease the administrative burden for the FWS.

Recommendation: *Set forth a specified timeline for completing and incorporating regional information, and/or demonstrate how specific conservation measures and/or new information justify that the issuance of this permit is compatible with the preservation standard. Explore opportunities to incentivize programmatic permits for multiple facilities affecting a local area population.*

1-4

Inadequacies in the DEA Data and Analyses

It is clear that the agencies and applicant have undertaken significant coordination and effort throughout the project permitting and development phase to address potential impacts to eagles—especially noteworthy is the commitment to macro-siting and adjustments to the overall project footprint based on projected impacts to eagles. We commend this early engagement and effort, and consider this type of engagement cornerstone to the appropriate application of the first step—avoidance—in the mitigation hierarchy. Given that project construction is complete and operations have begun, the monitoring requirements under the ECP should be well underway. We consider it a significant oversight to omit this information in the DEA and permit application. All post-construction eagle use and fatality data, as well as updates on the efficacy of ACPs are critical for the consideration of this permit application. We suggest that FWS immediately make this information publicly available and incorporate its analysis in the DEA.

We appreciate the additional analysis provided in the DEA that acknowledges the values of different ages, sexes, breeders, floaters, migratory or resident eagles in calculating the population level effects. However, the DEA fails to analyze the direct and indirect effects of the permit on breeding and recruitment of eagles over time and how the compensatory mitigation of power pole retrofits in the first year will offset a decline. "The breeding and recruitment rates of golden eagles are naturally slow, increasing their susceptibility to

decline as a result of mortality influences."[11] This type of information is necessary to understand the true impacts of projected eagle fatalities.

The DEA also declines to address and quantify other threats to golden eagles and merely states that data is unavailable. However, FWS should use "best available science" to calculate cumulative annual mortality estimates and population-level impact of additional mortality other than from collision with turbines, such as lead and rodenticide poisoning, road kill, hunting and disturbance, in order to provide an informed discussion of environmental impacts of the proposed action.[12] In contrast, the DEA does appear to rely on "best available" information in calculating estimated take from the Pacheco Pass wind projects. We urge FWS to include additional analysis of other sources of impacts to the local area population of golden eagles in the final environmental analysis. 1-5

Recommendation: *Incorporate and analyze the first year of post-construction fatality and other data gathered at Alta East under the terms of the ECP, direct and indirect effects of "take" on recruitment of eagles to the local area population, and cumulative impacts of eagle fatalities from all potential sources of take to properly determine this project's population level impacts*. 1-6

Adaptive Management and Advanced Conservation Practices (ACPs)

While the FWS recognizes that the Alta East wind facility requires an adaptive management approach, the framework provided in the DEA relies solely on implementation of loosely-defined ACPs without providing a fully transparent and established process that includes public input for monitoring the effectiveness of the ACPs and future revisions of the ACPs where warranted. While the concept of ACPs is a key element of an adaptive management framework, it needs to be developed more fully to include a clear process for effectiveness monitoring of measures to ensure that take is in fact "unavoidable" and especially as ACPs continue to be experimental. ACPs also should be commensurate with the trigger or threshold being surpassed—in this case, increasing eagle fatalities.

Unfortunately, the ACPs identified in steps 1 and 2 are little more than an assessment of the take occurrence, as opposed to concrete measure to avoid and minimize take. For example, the only requirement associated with Step 1 is: "Assess eagle fatality to determine if cause or risk factor can be determined (e.g., season, time of day, weather, presence of prey/carrion, fire, or other event) and management response is warranted. Coordinate with Service."[13] We would urge FWS to consider a step-wise process that also incorporates ACPs that directly decreases impacts, such as those identified in Step 4—biological monitoring in conjunction with curtailment, radar-detection, behavior studies and effectiveness monitoring—at the first trigger, or take of an eagle.

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[11] Predatory Bird Research Group et al, A Pilot Golden Eagle Population Study in the Altamont Pass Wind Resource Area California, National Renewable Energy Laboratory, May 1995.
[12] Audubon California, et al., Joint Comments on the eagle take permit application for the Shiloh IV Wind Project, Docket No. FWS-R8-MB-2013-N138 (November 29, 2013).
[13] See DEA Table 2.1, page 2-2.

Minimization strategies include seasonal curtailment during known periods of high avian use, as well as observation-based or mechanically-triggered temporary shutdown of turbines when a golden eagle is within a specified distance of a wind turbine. Observer-triggered or mechanically-triggered temporary turbine shutdown measures have already shown promise in reducing eagle mortality at other wind project facilities and should be implemented as an upfront conservation measure. Seasonal curtailment of turbines, based on results from monitoring both seasonal avian use and trends in mortalities throughout the year, is another minimization measure that could potentially reduce eagle mortality. This practice has been implemented at Altamont and results from effectiveness analysis suggesting that this practice reduces overall mortality.[14] Considering the historic mortality near this project site, implementing temporary shutdown measures is clearly appropriate and it is for this reason that we support Alternative 5 as a preferred alternative.

We also fully support the concept of a technical advisory committee (TAC), including third party scientists and members of the public, to oversee the adaptive management framework and implementation of the ACPs. This strategy has been used at other wind facilities and WRAs to guide implementation of management actions to minimize mortality. A TAC could be especially useful if take levels are higher than expected or ACPs are not effective. If a TAC is employed we suggested that they are tasked with specific goals and timelines outlined in the ECP, and proceedings are made be available for public review and comment. 1-8

Recommendation: *Establish a fully transparent and defined process for implementing an adaptive management framework and ACPs with guidance on effectiveness monitoring, opportunities for public input, incorporations of new and revised ACPs and measures that directly reduce eagle mortality. ACPs shall also be commensurate with triggers and shall incorporate curtailment and radar detection as upfront conservation measures.* 1-7

Monitoring and Reporting

The ECP and DEA outline the monitoring and reporting requirements for Alta East, which includes fatality monitoring for the first three years post-construction and nesting/breeding monitoring for three years following permit issuance. We fully support intensive monitoring during the initial years of operation and therefore are also supportive of the monitoring requirements set forth in Alternative 3. However, we also believe that such monitoring should continue to include eagle use surveys, in addition to the identified fatality and nesting monitoring, and a minimum requirement that monitoring shall continue for the life of the project—the intensity of which shall be determined in coordination with FWS and/or a TAC and subject to public input.

We also recommend that FWS incorporate detailed monitoring prescriptions and protocols in the permit and the ECP, including reporting requirements to ensure effectiveness of ACPs, mitigation measures and adaptive management. Although monitoring will be used to

[14] Leslie et al, ICF, Altamont Pass Wind Resource Area Bird Fatality Study, Bird Years 2005-2009.

determine the effectiveness of mitigation measures, there is little clarity on how that process will work and what types of reporting systems will be in place. One of the main reasons why many of the ACPs are still experimental is due to the lack of before-after-control-impact studies (BACI) that are designed to specifically look at conservation practices and their effect on eagle mortalities. The DEA lacks specific information on how these studies will be conducted at the Alta East wind facility. FWS should incorporate specific guidelines in the eagle permit for designing BACI studies before and after a certain conservation practice is implemented.

Recommendation: *Incorporate detailed monitoring prescriptions and protocols, in the permit and the ECP, with reporting requirements and a process to ensure effectiveness of ACPs, mitigation measures and adaptive management—this should include eagle use surveys as well as BACI studies.* 1-9

Golden eagles, other avian species and wildlife, in general, all belong to the public trust. Impacts to wildlife at wind facilities should be documented and reported in the most accurate, honest and transparent manner to agencies and the public. Given the paucity of data about eagles and the interaction between eagles and wind development, is in the public's best interest to ensure that all the data at wind facilities is collected correctly and reported accurately. This information can be used to inform future permitting decisions. FWS should establish a system whereby post-construction monitoring is conducted by third-party qualified biologists and observers that report information directly to the FWS. Permit terms should require the full submission of any raw data collected on-site.

We also recommend that FWS consider a reporting system to track information on eagle fatalities and avian use for the entire Tehachapi Wind Resource Area (WRA) and regular data review to ensure that cumulative take of eagles is not exceeding the anticipated level, as well as real-time publicly available monitoring results. Each of these measures would allow FWS and the public to better understand and track eagle fatalities at the landscape-scale instead of just on a project-scale. At periodic, standardized intervals, this data could be reviewed to ensure that cumulative take of eagles is not exceeding the anticipated level and resulting in a net loss of golden eagles. At a minimum, in order to provide greater transparency and public engagement, FWS should create and maintain a wildlife incidental reporting system that would include incidental reporting of eagle fatalities and occurrence on the project site. All post-construction monitoring data for Alta East should be publicly available in real time. 1-10

Recommendation: *Ensure that all data is collected correctly and reported accurately, and commit to providing all post-constructing monitoring data to the public in real-time. Consider a reporting system to track eagle information across the entire wind resource area to ensure that cumulative take of eagles is not exceeding the anticipated level.* 1-11

Expanding the Mitigation Menu

As the FWS seeks to identify new mitigation options for eagle conservation, emphasis should be given to incorporation of additional operational mitigation and site avoidance

measures. The preservation benefits of avoidance and operational mitigation are more assuredly matched to the take threats at a site than are compensatory mitigation measures. Hence, the FWS's preservation obligations are more conclusively achieved when the best available avoidance and operational mitigation are employed. We must underscore this primary emphasis on measures to avoid and minimize take, as such a requirement is cornerstone to the well-accepted mitigation hierarchy[15] and is necessary to meet the regulatory standard of "unavoidable" take. We place extreme importance on continuing to incorporate sound, smart from the start planning and siting, which include avoidance measures and the best available minimization measures, prior to addressing the standard for and requirements stemming from the actual "take" of the species.

That being said, we also believe that FWS must take the lead in developing appropriate new compensatory mitigation measures. Other options are urgently needed, as power pole retrofits currently represent the only quantified and verifiable form of golden eagle mortality mitigation. Power pole retrofits are an inappropriate long-term mitigation strategy for wind projects because they are not additive—they are preventing electrocutions at power poles but not directly addressing take from wind projects, and it should be noted that FWS has the authority to compel owners of power poles to retrofit them if eagle mortality has occurred.

FWS must clearly articulate additional mitigation options that would not only offset eagle mortality at wind projects but also provide a net conservation benefit to the species. FWS should examine the viability of habitat improvements or protective measures for foraging and nesting habitat, carcass removal, additional wind project operational controls or curtailment, funding for habitat restoration or minimizing activities with a demonstrated negative effect on golden eagle populations or lead abatement programs if accompanied by a scientifically defensible analysis of the population benefits to eagle populations in the local or regional area of the mortality. As an example, FWS could use a Resource Equivalency Analysis (REA) of permanent protection of nesting and foraging habitat for the local population of eagles in the project area through conservation easement or other landscape level conservation effort. 1-12

Treatment of Compensatory Mitigation in the DEA

As noted in the DEA, upfront mitigation through distribution pole retrofits has been committed to by the applicant. Upfront mitigation is a positive step that paves the way for net conservation benefit; mitigation for mortality should provide benefits in advance of any mortality they compensate for, and increases in mitigation should be automatically triggered as needed. Further, we support the implementation of a compensatory mitigation ratio of 1:1.5 as provided for in Alternative 3. This ratio helps ensure that the permit terms result in a net conservation benefit for golden eagles, which is particularly important in this region given the current level of cumulative impacts. However, it must also be made clear

[15] Outlined in FWS' official mitigation policy as a tiered approach for first incorporating avoidance, then minimization measures and finally requiring compensatory mitigation for large-scale impacts with greater, unavoidable impacts. U.S. Fish and Wildlife Service Manual (501 FW 2). *See also* 74 Fed. Reg. at 46852 and 46 Fed. Reg. 7656 (Feb. 24, 1993).

in the permit terms that the applicant shall be required to incorporate any new mitigation measures that are recommended by FWS to address mortality based on the latest science.

We appreciate the detailed information included in the DEA on selection of the mitigation site and coordination with PG&E regarding power pole retrofits. Concerns remain regarding the criteria, or lack thereof, for choosing power poles to retrofit that may be "high risk" to Golden Eagles. We therefore request that FWS provide a scientific basis for selecting specific power poles for retrofit and monitoring effectiveness. Overall, the exclusive use of retrofits for compensatory mitigation and continued lack of a true basis for defining equivalency for those retrofits[16] provides little certainty that impacts are truly being compensated for. Recognizing that this is one of few methods for moving forward, we recommend that information on these retrofits and effectiveness monitoring—including Before-and-Control-Impact (BACI) comparisons—be made publicly available for the life of the permit.

Recommendation: *Develop a full suite of mitigation options that will fully offset take before it has occurred and ensure ongoing incorporation of new measures into permit terms and conditions. Provide a scientific basis for selecting specific power poles for retrofit and monitoring effectiveness, and ensure that information on retrofits is made publicly available.*

1-13

Active Enforcement and Oversight

Finally, given the unprecedented nature of this action and continued lack of comprehensive framework for programmatic permit issuance, as well as significant biological uncertainty, it cannot be stressed enough that FWS must commit to take an active enforcement and oversight role in the issuance of authorizations for programmatic eagle take. We urge FWS to acknowledge that eagle conservation actions cannot be considered in isolation, on an arbitrary project-by-project basis. Enforcement and oversight must begin to address similar activities within the local and regional population boundary.

It should also be noted that the eagle take permit regulations include specific authorization for FWS to: "amend, suspend, or revoke a programmatic permit issued under this section if new information indicates that revised permit conditions are necessary, or that suspension or revocation is necessary, to safeguard local or regional eagle populations."[17] Processes

[16] As discussed in the DEA, retrofits are the form of mitigation for which equivalency is most clear cut; in the case of lead abatement, habitat enhancement, or reducing other sources of collision mortality (e.g. roadside carcass removal), the population benefit is more ambiguous than retrofits, which remove risk at a point location where an eagle could otherwise, eventually, get killed. However, estimates of retrofit equivalency continue to appear speculative. The relative productivity of mitigating risk at a single pole recommended in ECP guidance (FWS, Migratory Birds; Eagle Conservation Plan Guidance: Module 1—Land-Based Wind Energy, Version 2. http://www.fws.gov/windenergy/PDF/Eagle%20Conservation%20Plan%20Guidance-Module%201.pdf, 2013) defined as 0.0036 electrocutions/pole/year, was taken from a 2001-2003 golden eagle study in the service area of a single Rural Electric Utility in Northeast Utah and Northwestern Colorado. This study, which searched randomly selected distribution segments, was hampered by the inability to conclusively verify that the cause of death on decomposed carcasses; even when search intervals were shortened, cause of death could only be determined in 40% of cases. In addition, there were variations in sampling and analysis between the three regions sampled and other inconsistencies in the study that make it an insufficient basis for establishing retrofit equivalency for golden eagles across their range in the western U.S.

[17] 50 C.F.R. § 22.26(c)(7).

for such action should be clearly delineated within the final environmental assessment, consistent with the aforementioned principles. FWS should further consider and ensure increased agency capacity to administer eagle take permits, through program and enforcement staff as well as dedicated resources targeted for golden eagle conservation; this would be a prospective step to address a foreseeable area of much expected need.

Recommendation: *FWS must take an active enforcement and oversight role in authorizations for programmatic eagle take, including other separate but related actions and a commitment to require and revise permit conditions as new information becomes available and dictates needed action to preserve golden eagle populations.*

1-14

Conclusion

The lack of an overarching conservation framework for the eagle permitting program continues to hinder permit issuance and authorization. While we share a strong urgency for finding a path forward for the rapid and responsible deployment of renewable energy, this need must also be counterbalanced by recognition that information to comprehensively forecast eagle mortality, evaluate impacts on local or regional populations, and define meaningful mitigation is still deficient.

Fully addressing this issue is impossible absent an overarching eagle conservation framework. We have, however, set forth the aforementioned recommendations that we believe must accompany an authorization for eagle take—without which would forgo meaningful opportunities to facilitate and further promote the conservation of golden eagle populations. We further acknowledge the cooperative and proactive efforts of the applicant, and underscore that promoting the no action alternative would significantly set back the clock on promising solutions that could potentially benefit wind development and golden eagles alike.

Thank you for your consideration of these comments.

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The Kern Chapter of the Audubon Society appreciates the opportunity to comment on the Draft Environmental Assessment of the Alta X Wind, LLC for a 5 year programmatic take permit for golden eagles, *Aquila chrysaetos,* at its Alta East Wind Project, located in our county.

We appreciate all of the requirements agreed to for the Alta Wind Project and thank Alta X Wind, LLC. We urge the wind industry to adopt these actions as their model.

However, since in Section 4-7, Conclusion, it is stated, "Based on our assessment, fatalities at the Tehachapi WRA have the largest overall impact on the eagle population", we urge the USFWS to require something similar to the protections required at the Ocotillo Express site. They are equal to Alternative 5: Issue Permit for ECP with Radar Deployment, Curtailment When Eagles Detected, which appears to reduce the most risk to the birds. We support Alternative 5 for the operation of Alta East Wind Project. As the rest of the Tehachapi WRA wind projects age-out or are retrofitted with, hopefully, improved bird detection and less deadly equipment, the lesser requirements of Alternative 4, or even 3, could be substituted at Alta East.

Our goal is, of course, zero dead golden eagles.

Sincerely,

Lucy G. Clark

Lucy G. Clark
Conservation Committee member
Kern Audubon Society

AMERICAN BIRD CONSERVANCY

Shaping the future for birds

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November 12, 2015

Comments on Programmatic Eagle Take Permit and Draft Environmental Assessment for the Alta East Wind Energy Project, Kern County, California (FWS-R8-MB-2015-N183)

Thank you for the opportunity to comment on the Programmatic Golden Eagle Take Permit and Draft Environmental Assessment (DEA) for the Alta East Wind Project, Kern County, CA. The American Bird Conservancy (ABC) is a 501(c) (3) not-for-profit membership organization whose mission is to conserve native birds and their habitats throughout the Americas. ABC acts by safeguarding the rarest species, conserving and restoring habitats, and reducing threats, while building capacity in the bird conservation movement.

ABC supports the development of clean, renewable sources of energy such as wind power, but also believes that it must be done responsibly and with minimal impact on our public trust resources, including native species of birds and bats, and particularly threatened, endangered and other protected species, such as Bald and Golden Eagles.

ABC supports Bird Smart Wind Energy, which is described in some detail on our web site (ABC 2010). In the case of wind turbines, and their associated power lines and towers, careful siting and effective mitigation is crucial in preventing the unintended impacts to America's native bird and bat species. This risk to birds (and bats), including eagles, can be substantial, depending on the circumstances (Smallwood 2013, Loss et al. 2013), including not only direct mortality, but disturbance leading to displacement and reproductive failure (LeBeau et al, 2014, Kirol et al. 2015, Shaffer and Buhl 2015, Shirk et al. 2015, Winder et al. 2015).

ABC has the following comments:

It is our understanding that the Alta East Wind Energy Project (WEP) is an operational facility consisting of 48 large (400 foot plus tall), commercial wind turbines and associated infrastructure, including power lines and towers, roads, and communication towers. We also understand that this 2,600-acre project is located within and adjacent to the Tehachapi Wind Resource Area, with several wind farms containing 5,000 additional utility-scale wind turbines. Many of the wind turbines in this area are being decommissioned and replaced with newer generation turbines that are presumably less dangerous for birds and bats, but testing of their efficacy in reducing bird kill has been minimal (Curry 2015).

The U.S. Fish and Wildlife Service's (FWS') DEA and Eagle Conservation Plan is recommending that the incidental take permit for Golden Eagles set the limit at three eagles for the five-year

permit period. While this may seem reasonable, there is still reason for caution. In its original comments on FWS' Eagle Guidelines, ABC argued for a refinement of the regulatory standard of a "stable or increasing population", noting that population stabilization can occur at dangerously low population levels and, furthermore, that it was inconsistent with the statutory standard of "eagle preservation" in the Bald and Golden Eagle Protection Act (BGEPA). One of the biggest challenges ABC sees in this regard is the assessment of the *cumulative impacts* of all anthropogenic and natural causes of Bald and Golden Eagle mortality to obtain an accurate picture of the potential added impact of energy development, including wind, on their populations, locally, regionally and nationally (Katzner et al. 2012).

Although the FWS clearly recognizes this need, ABC questions whether anyone currently has the methodology and information to make such complex assessments, and to do them with reasonable accuracy. Indeed, ABC recently requested an accounting from the FWS, under the Freedom of Information Act (FOIA), of all eagles killed by the wind industry in the United States from June 2012-present (after Pagel et al., 2012). After more than a year of waiting, we were informed that Service had records of only 11 eagles killed by wind turbines during 2013 and 2014. No data were provided for the last half of 2012 or for 2015. We questioned that conclusion citing an average of 60 plus eagles reportedly killed at the Altamont Pass Wind Energy Reserve annually (Golden Gate Audubon Society 2015) and the Pacificorp legal settlement that had involved a total of 38 dead eagles (Associated Press 2014). FWS subsequently disclosed it has no national or regional databases on eagle mortality. We also contacted the U.S. Eagle Repository and asked if they maintained data on reasons for mortality, and were told that they did not, even though some 3,000 eagles were deposited in the repository during the past year or so. We can only conclude that this information does not currently exist, even though it would seem critical to the FWS' efforts to reach their goal of "no net loss or increasing eagle populations." In a recent meeting with FWS Migratory Birds, we were told that the new eagle management guidelines will include provisions for such a database, which we hope can happen as soon as possible.

In its comments on FWS' eagle guidelines, ABC agreed that the FWS should base its eagle management objectives on newer, improved information on "eagle movements, population size, and natal dispersal distances…to revise the Eagle Management Units (EMUs), set explicit numerical population objectives in each EMU, and refine the area we consider on the local scale." We also agreed that the FWS should "adopt an explicit level of risk tolerance relative to how much take to allow based on uncertainty in the population size estimates." To FWS' credit, it seems as if there has been a detailed assessment of the local eagle population, including a survey of active nests, and the results are included in the DEA. Based on this analysis, the FWS conducted an independent risk assessment using a Bayesian model, which reportedly corroborated the applicant's assessment. The results indicated a predicted loss of 0.5 eagles annually, rounded up to 3 eagles during the five-year life of the permit. There is reason for caution nonetheless. In our discussions with federal agency personnel, it has become quite clear that the models used for these predictive assessments are still largely untested, thus

making the maximum limits established by incidental take permits highly questionable. We realize that in the absence of information some adaptive management may be necessary, but, in the meantime, this approach is largely experimental.

This makes it even more critical that the public and interested non-governmental organizations (NGOs) have access to bird kill data at operational facilities like Alta East. In terms of the EA itself, however, ABC hopes that this level of cumulative impact analysis will be required for every eagle take permit where a substantial risk to eagles is evident. This is the kind of science-based management needed to ensure that rapid development of wind energy does not harm our iconic national symbol and a species of great spiritual importance to Native Americans.

In addition, the President's recent memo on mitigation from development on public lands (The White House 2015), states: "Agencies' mitigation policies should establish a net benefit goal, or at least a no net loss for natural resources the agency manages that are important." However, reaching that laudable goal (which is also reiterated in the eagle guidelines) will require credible, accurate, long-term monitoring of wildlife populations and mortality due to the development in question. ABC once again recommends monitoring not be done by the industry being regulated, as that is a direct conflict of interest.

Furthermore, if the FWS is counting on largely untested mitigation methods to resolve high levels of eagle (and other avian and bat) mortality post-construction, then we also find this problematic. ABC strongly agrees with the Department of Energy's (Energy Efficiency & Renewable Energy's) recent statement that "…technologies to minimize impacts at operational [wind energy] facilities for most species are either in early stages of development or simply do not exist" (DOE EERE 2014). ABC has been saying this for some time, while the wind industry and its trade organization, the American Wind Energy Association (AWEA), has been incorrectly touting the industry's current ability to effectively mitigate the impact of wind energy on birds and bats, at the same time that hundreds of thousands of birds and bats are being killed annually, many of them federally-protected species (Smallwood, 2013, Loss et al. 2013,). Note also that these analyses do not include birds killed at associated transmission towers and lines, which could substantially increase annual mortality estimates (Manville 2005, Loss et al. 2015) caused by wind energy into the millions.

Furthermore, the DES is unclear about what precisely will happen if and when a given wind energy site, like Alta East, greatly exceeds its kill limits under an incidental take permit and does so for a number of years in succession, despite ongoing mitigation efforts? This is especially concerning given the fact that no wind energy facility has ever been shut down post-construction, even if high levels of bird and bat mortality have been confirmed, including federally-protected species. In addition, to date, only two wind energy companies (i.e., Duke Energy and Pacificorp) have so far been prosecuted for killing large numbers of federally-protected birds (Cappiello 2013, Associated Press 2014). Unfortunately, one likely outcome of these penalties is a reduction of self-reporting of mortality, especially of federally-protected

species. In summary, the BGEPA, ESA and MBTA are simply not being enforced to their proper extent when it comes to wind energy development (Clarke 2014b), and we hope this will change.

Accurate, credible data on avian and bat mortality at operational wind energy sites is critical for determining appropriate levels of mitigation and compensation for unavoidable bird (and bat) mortality post-construction. ABC believes that methods for collecting post-construction bird kill data should be standardized and automated using new technologies that can deliver independent, real-time, accurate data on the numbers of bird (and bat) strikes and kills at wind energy turbines and also at the associated transmission lines and towers. ABC has become aware of new, cost-effective technologies involving high-resolution digital photography, paired with change-detection software and thermal imaging paired with audio-recording devices that could provide this data in the near future. These technologies, once tested, could be extremely valuable to collecting accurate, independent, real time data on bird kills associated with wind energy development, and wind energy companies should be required to use them as a condition of receiving an incidental take permit under the Endangered Species Act (ESA) and Bald and Golden Eagle Protection Act (BGEPA). ABC also hopes that the FWS moves forward quickly to develop an effective permitting system under the Migratory Bird Treaty Act (MBTA), as requested in our 2014 petition for rulemaking (ABC 2014).

Currently all reporting of bird (and bat) mortality is self-reporting by industry and thus a serious conflict of interest (Clarke 2014a). At the very least, ABC would like to see independent third party mortality studies and reporting directly to FWS, with independent consultants hired by the FWS or a trusted contractor and paid for by industry. We understand that the Bureau of Land Management (BLM) is now hiring its own independent consultants to monitor the work of industry paid consultants when conducting pre-construction risk assessments and post-construction mortality studies for wind energy projects on public lands. This is a step in the right direction. However, once automated, real time data collection on bird (and bat) strikes can be perfected, then it can take over the job. All of this would make it less likely that bad players, hoping to avoid substantial fines, obligatory, expensive mitigation, or prosecution, would alter their data—something that is entirely possible under the current self-monitoring and self-reporting system.

While ABC believes that appropriate siting is the best and most effective form of mitigation, there are currently several other mitigation methods—though largely untested--that the wind industry has inappropriately promoted as “effective” ways to reduce bird and bat mortality at existing facilities (AWEA 2015), including use of radar to detect birds, combined with temporary or seasonal shutdowns or curtailment to reduce collisions (e.g., during migration), lighting adjustments to reduce attraction, deterrents (e.g., audio deterrents for bats), habitat management (e.g., removal of standing water and vegetation under turbines), prey population management (e.g., for raptorial birds), and retrofitting of the associated transmission lines and

towers to reduce the risk of collisions and electrocution. This, of course, can also include burying the lines, which is likely the most effective type of mitigation.

All of these mitigation techniques have potential--under the right circumstances--to reduce bird and bat kills at wind energy sites. However, as the DOE EERE recently pointed out, before various methods can be promoted as "effective", they must be tested experimentally using scientifically valid methods. ABC also believes that mitigation methods should be systematically tested for their efficacy under a wide range of circumstances, including in different seasons, time of day, landscapes and weather conditions before their efficacy can be appropriately evaluated. For example, it is well known that weather conditions, such as cloud cover and strong wind, can significantly alter the migratory pathways of birds and also influence how often they come to the ground and at what height they fly. All of these factors can influence the risk of wind energy development to federally-protected birds and bats.

ABC strongly agrees with the Department of Energy EERE's recent statement that: "More research, development, field testing, and validation of impact minimization will therefore be needed in order for the industry to grow while managing the impacts that increased wind energy development may cause to sensitive wildlife" (DOE EERE 2014). ABC is aware that some of this research is being undertaken now by USGS scientists and others in academia and this work should be rapidly expanded and targeted to fill current gaps in our knowledge before it is too late. Thousands of turbines may be constructed in areas that pose grave dangers to federally-protected bird (and bat) populations, including eagles, before such analyses are completed.

ABC believes that mitigation methods that have proven effective through independent scientific studies, such as auditory deterrents for bats, transmission tower and line retrofitting and habitat management should be mandatory, not voluntary, as a condition for receiving an incidental take permit for federally-protected birds, including eagles. In this case, the developer has agreed to retrofit 133 power poles within a year to reduce the probability of eagle deaths from electrocution. Whether this mitigation alone is enough to offset the predicted losses remains to be seen. In addition, we wonder whether the monitoring of eagle deaths at the site will include the power line right-of-way? It is ABC's opinion that power lines are essential parts of the infrastructure of any wind energy facility (Magill 2005), and one that can take a tremendous toll on birds (Manville 2005, Loss et al. 2015), so that any bird deaths at those associated power lines should be counted against the facility, not just those that occur at or around the turbines.

In addition, when public trust resources are taken incidentally after all of these safeguards are in place, then any losses of federally-protected birds and bats should be compensated. This could involve a wind energy company supporting needed conservation research, purchasing and setting aside habitat elsewhere and other appropriate compensatory actions, such as directly addressing other anthropogenic causes of bird and bat mortality, including feral cats,

pesticides, and building collisions. In this particular case, it would seem that the only compensatory mitigation involves the retrofitting of power lines and poles, something that should be mandatory for any wind energy development. ABC believes that additional forms of compensation should be considered, especially if the applicant exceeds the take limit.

ABC believes strongly that effectiveness of the FWS' permitting system could be greatly increased if accountability is improved. More specifically, information on bird (and bat) mortality at specific wind energy sites must be transparent. At present, these data are being treated as "proprietary information" (Cappiello 2014). These are public trust resources that are being taken and the public has a right to know, so it can be an informed partner in mortality avoidance and minimization discussions. The President's recent memorandum on mitigating impacts on natural resources from development (The White House 2015) specifically states, "Agencies should take action to increase public transparency in the implementation of their mitigation policies and guidance…" and "…should set measurable performance standards at the project and program level to assess whether mitigation is effective." This implies that the public will and should have access to bird and bat kill data at wind energy projects post-construction. Otherwise, how will the public and concerned NGOs be able to assess the efficacy of mitigation, or the appropriateness of compensation?

Thanks again for the opportunity to comment. Please do not hesitate to contact us if you need any further information. ABC stands ready to assist FWS as it moves forward to effectively balance the development of alternative energy with the risks posed to our nation's wildlife and their habitats. You can contact me by phone at 202-888-7485 or by e-mail at mhutchins@abcbirds.org.

Thank you for your consideration.

Sincerely,

Michael Hutchins, Ph.D.
National Coordinator, Bird Smart Wind Energy Campaign

Cc: D. Ashe, C. Morris, B. Millsap, J. Ford

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December 27, 2015

SENT BY EMAIL
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Heather Beeler, Migratory Bird Program
U.S. Fish and Wildlife Servicepacific
Pacific Southwest Regional Office
2800 Cottage Way, W-2605
Sacramento, CA 95825

SUBJECT: Alta East Eagle Permit Draft EA Comments
Golden Eagles; Programmatic Take Permit Application; Draft Environmental Assessment; Alta East Wind Project, Kern County, California
A Notice by the Fish and Wildlife Service on 10/28/2015

Dear Ladies and Gentleman,

This correspondence represents my **OPPOSITION** to granting Alta East Energy a 5 year programmatic permit to kill Golden Eagles. The Golden Eagle is federally protected under the Bald Eagle Protection Act of 1962. The weasel words embodied in the text of the permit stating "This permit authorizes take only where the take cannot practicably be avoided in the course of an otherwise lawful activity " avoids the fact that Alta East wind energy project was made legal by Kern County Planning Commission and Kern County Board of Supervisors, solely motivated by money into the pockets of the County over recognition that protection of species is essential. Those politicians lack a shred of respect for the role of nature in providing a healthy environment for man.

All parties were fully aware, under intense opposition, of known protected raptor habitats including the Golden Eagle inhabiting the southern Sierras. Therefore, it should be interpreted that Alta East intentionally and knowingly installed lethal equipment into these habitats and is not an innocent party as they portray their company to be in this matter.

Prior to approving this permit, due diligence mandates a thorough investigation to determine if Alta East Energy implemented and fulfilled each of the commitments in their state approved Environmental Impact Report pertaining to California Condors including telemetry equipment, endowments, feeding programs and Condor Monitoring System in place and if currently fully functional. Future conduct can be readily assessed by a company's adherence to past commitments. Attachment 1 provides the links to Alta East's Environmental Impact Report and the locations of their legal commitments to be performed for investigative purposes.

Approval of a permit to TAKE Golden Eagles will allow Alta East to disturb, harrass, remove nests and kill these raptors during grading, excavation, construction and operation. Attachment 2 describes the scope of the proposed Permit request.

Of critical importance, when a Golden Eagle is struck by a turbine blade it is indiscrimate as to the raptor's age, male or female, loss of the female's clutch or live chicks that may be in a nest. A single strike can represent the deaths of up to 5 Golden Eagles.

The economic value of Golden Eagles is significant to our farming community as natural pest control. The diet of Golden Eagles is mostly small mammals. Typically they prey on mammals ranging in size from ground squirrels up to prairie-dogs, marmots, and jackrabbits. They may take smaller rodents (voles and mice) or larger animals such as foxes, young pronghorns, or young deer on occasion. They also eat birds, mostly gamebirds such as grouse but rarely birds as large as cranes or as small as sparrows. They also eat some snakes, lizards, large insects and will feed on carrion, including dead fish.

My input is unique because I represent a local citizen living in Tehachapi, California for 11 years. My location is below Tomo Kahni State Cultural Park off of Sand Canyon Road and the 58 freeway. I can see hundreds of wind turbine generators from my property.

Until thousands of wind farms were installed and operational I frequently observed pairs of Golden Eagles, Kites, Red Tail Hawks, Coopers Hawks, Burrowing Owls, owls, turkey vultures, a California condor, songbirds, cranes and other migratory birds like Grosbeaks and finch type birds along with large numbers of bats.

The skies are now void of birds and bats leaving only some sparrows, scrub jays and ravens. Why? Because massive numbers of birds and bats have struck wind turbine blades and transmission lines to the point of near extinction locally.

Installing lethal equipment into areas with massive numbers of birds in established foraging, breeding and nesting areas by Alta East energy is a callous, illegal act and irreconcilably irresponsible on the part of the U.S. Fish and Wildlife Services and the Alta East corporate owners, investors and Board of Directors to even consider issuing a permit to kill protected Golden Eagles. Alta East was granted a permit by USFWS – Daniel Ashe, Director, to TAKE one or more California condors. Now Alta East Energy is back at their doorstep seeking federal approval to indiscriminately wipe out the remaining local Golden Eagles in the southern Sierra Mountains.

It is my opinion that Daniel Ashe should be recused from any involvement in the final decision in this matter. He is an avid hunter and not objective or neutral. He granted TAKE Permits for California condors, one of the most endangered raptors on our planet, for both Alta East and Tejon Ranch development company. His involvement in the decision process relating to Alta East's request is like putting the proverbial fox in charge of guarding the hen house.

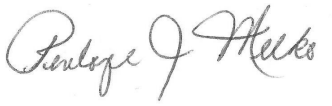
The Migratory Bird Act was enacted specifically to protect these birds and prevent them from facing the threat of extinction at the hands of man. The world has lost 52 percent of its biodiversity since 1970, the World Wildlife Fund (WWF) announced in a study released on the state of our planet. According to the Living Planet Report 2014, "the number of mammals, birds, reptiles, amphibians and fish across the globe is, on average, about half the size it was 40 years ago. This is a much bigger decrease than has been reported previously, as a result of a new methodology which aims to be more representative of global biodiversity."

Based on the massive loss of biodiversity it is imperative to **DENY** this permit from Alta East. **FORCE** Alta East and other wind energy developers to retrofit their wind turbine generators with protective grills and incentivize the wind energy industry to develop “bird friendly and non-lethal” models of wind turbine generators or pay the hefty fines.

Maintaining strict adherence to the Migratory Bird Act without exception is the only rational method of protecting the Golden Eagles. If a federal permit is approved for Alta East, it will open the floodgates for every wind energy company in the United States to request similar permits from US Fish and Wildlife Services.

Thank you for taking the time to consider my recommendations and personal opinions during your decision process.

Sincerely,



Penelope J. Melko
21848 Ferncuko Street
Tehachapi, California 93561

ATTACHMENT 1.

Alta East Wind Project
$188,100 (12 units) + Endowment $163,200

Environmental Impact Report, June 2012
Wind Turbines
 Proposed Action – **106 Wind Turbine Generators** (Alternative A);
 Revised Site Layout Alternative – 106 Wind Turbine Generators (Alternative B);
 Reduced Project North Alternative – 97 Wind Turbine Generators (Alternative C);
 Reduced Project Southwest Alternative – 87 Wind Turbine Generators (Alternative D)
http://www.co.kern.ca.us/planning/pdfs/eirs/AltaEast/Index.htm

Note: Mitigation Measures are identified in 2 locations in the EIR.

Location 1.
Volume 1
Executive Summary, Mitigation Monitoring and Reporting Program
http://www.co.kern.ca.us/planning/pdfs/eirs/AltaEast/Body/MMRP.pdf

Mitigation Monitoring Program For Alta East Wind Project Environmental Impact Report

Document page 46 & 47 of 51 d.
d. Funding for conservation measures such as radio telemetry, condor feeding programs, or other such measures as deemed appropriate shall be provided to the California Condor Recovery Program. Funding shall be calculated at six (6) units per one hundred (100) turbines installed as part of the project. Prior to the issuance of any building or grading permits for the first (1st) turbine, the project proponent shall fund six telemetry units in the amount of $188,100 ($4,150 per unit plus an "endowment" of $163,200to be used for tracking data over an eight-year period). Prior to the issuance of any building or grading permits for the one-hundred-and-first (101st) turbine, the project proponent shall fund six additional telemetry units in the amount of $188,100 ($4,150 per unit plus an endowment of $163,200 to be used for tracking data over an eight year period). The total funding to be provided shall not exceed $376,200.

Document page 48 to 49.
MM 4.21-9 Minimize Avian and Bat Turbine Strikes. Prior to turbine commissioning or other turbine operations or issuance of approval for final occupancy by Kern County, the project proponent shall submit written documentation to the BLM and Kern County Planning and Community Development Department, the California Department of Fish and Game (CDFG), and the United States Fish and Wildlife Service (USFWS) showing that the following measures to reduce avian and bat impacts from turbine activities have been implemented:

1. Wherever feasible, turbines shall not be sited on or immediately adjacent to the upwind sides of ridge crests.
2. Turbine construction shall minimize cutting into hill slopes in an attempt to achieve smooth rounded terrain, rather than sudden berms or cuts, to reduce prey abundance.
3. Rocks unearthed during the excavation process shall be used during construction of foundations or hauled off site and disposed of properly, and not be left in piles near turbines to avoid providing cover

for prey.
4. Discourage small mammals and reptiles from burrowing under or near turbine bases by placing gravel at least 5 feet around each tower foundation.
5. The wind component developer shall not participate in rodent control programs on leased lands and will discourage landowners from using poisoning for rodent control in the vicinity of the project.
6. All meteorological towers shall be un-guyed, unless evidence is provided that topography, safety, access and/or climate conditions prohibit free standing towers. Any proposed temporary meteorological towers which utilize guy wires will require review and authorization by Kern County on a case-by-case basis and shall require use of bird deterrents. Temporary MET towers shall only be permitted for three years.
7. Prior to turbine commissioning or any turbine operation, the project proponent, in consultation with the BLM (on federal lands) and/or Kern County Planning and Community Development Department (on private lands) shall implement one of the following options for reducing impacts to the California Condors:

A) The project proponent shall provide a plan to the BLM, the CDFG, and the USFWS for review and approval for implementing full-time human observation, during daylight hours, for condor activities on the project site and a sufficient buffer outside the project to ensure that if a condor is sighted turbines may be safely shut down prior to a condor reaching the strike hazard. This distance will be determined in close coordination with USFWS and CDFG, defined as the turbine operation area (TOA), for the term of the grant. The condor observation site(s) within the TOA will be identified in the plan and shall be staffed by a qualified avian biologist who is approved by the BLM, the CDFG, and the USFWS. The observation sites will provide 100% coverage of the project area plus buffer to ensure that a condor could not visually be missed should it be flying in the area. Observation shall be conducted year-round during all daylight hours of operations, including 30 minutes prior to sunrise and 30 minutes after sunset. By accessing the project's SCADA system, each approved observer will have the authority to curtail all turbine operations in the TOA if a condor enters this area. These protocols could be adapted, with approval from FWS and CDFG, if future data collection and analyses demonstrate the newly proposed protocols would meet a 100% avoidance criteria.
or

B) The project proponent shall submit for review and approval a Condor Monitoring and Avoidance Plan utilizing a reliable Condor Monitoring System (CMS) that will detect VHF-tagged condors. The purpose of this plan is to outline the procedures and compliance steps undertaken by the project proponent to implement focused curtailment of proposed wind turbine generators when a California Condor is detected with a range of up to, but not exceeding 16 miles away.

The placement of any such CMS will be approved by Kern County in consultation with USFWS, CDFG, BLM and shall include at a minimum the following components:
- **Receiver with datalogger**
- **Antenna switchbox with amplifier**
- **Omnidirectional antenna**
- **PC with Internet connection**
- **Transmitter for receiver qualification testing, as well as for use as a sentinel signal once permanently deployed.**

The system shall be active during daytime hours, which includes 30 minutes prior to sunrise and

30 minutes after sunset, for a period of 3 years. During this initial testing period, the project proponent shall submit quarterly reports to Kern County, USFWS, CDFG, and BLM regarding the system's findings and curtailment activities. After a period of 3 years, the system will be evaluated by Kern County, BLM, USFWS, and CDFG for overall effectiveness in detecting and implementing focused curtailment related to reducing impacts to the California condor. If after a period of 3 years it is determined by the reviewing agencies that additional measures or modifications to the system are necessary to ensure the system is effective in detecting and implementing focused curtailment measures.

3. Affected Environment (Environmental Settings and Regulatory Settings)
http://www.co.kern.ca.us/planning/pdfs/eirs/AltaEast/Body/Section3/3-21_WildlifeResources.pdf
Table 3.21-1. Special-Status Animals Present or With Potential to Occur at the AEWP Site
Document page: 3.21-11
Pdf Page 11

4. Environmental Consequences
Table 4.21-2. Estimated Impacts to Special-Status Wildlife Species Associated with Foreseeable

http://www.co.kern.ca.us/planning/pdfs/eirs/AltaEast/Body/Section4/4-21_WildlifeResources.pdf
See 4.21-4.
See 4.21-6.
See Cumulative Projects.
Page 4.21-36.
Condor and cumulative project risks – high.

Location 2.
http://www.co.kern.ca.us/planning/pdfs/eirs/AltaEast/Body/Section4/4-21_WildlifeResources.pdf
4.21 Wildlife Resources
MM 4.21.5
5. d
Document pages: 4.21-52 – 53
Pdf pages: 52 - 53

5. The project proponent shall provide written documentation to the Kern County Planning and Community Development Department and the Bureau of Land Management showing implementation of the following additional measures:
a. Bird flight diverters shall be installed on all temporary meteorological tower guy wires constructed as part of the project. All permanent meteorological towers shall be free-standing and not contain guy wires.
b. During periods of livestock grazing, a full-time monitor shall be present to ensure immediate removal of carcasses on the project site. These practices shall include a full-time monitor during periods of livestock grazing that will be present to ensure immediate removal of carcasses from the project site to an off-site location far enough from wind developments so as not to present a risk to condors foraging on the carcasses. The monitor shall also assist in designating an area for burial of carcasses or, alternatively, assist the rancher in removing the carcasses to the nearest County landfill site that accepts dead livestock. The project proponent shall also ensure that the monitor is verifying that all watering troughs are inaccessible to wildlife (covered, empty, etc.) during periods when grazing

is not occurring.
c. The applicant shall work together with the area grazing permittees to develop Best Management Practices to minimize attraction of condors to the project area
d. Funding for conservation measures such as radio telemetry, condor feeding programs, or other such measures as deemed appropriate shall be provided to the California Condor Recovery Program. Funding shall be calculated at six (6) units per one hundred (100) turbines installed as part of the project. Prior to the issuance of any building or grading permits for the first (1st) turbine, the project proponent shall fund six telemetry units in the amount of $188,100 ($4,150 per unit plus an "endowment" of $163,200 to be used for tracking data over an eight year period). Prior to the issuance of any building or grading permits for the one hundred-and-first (101st) turbine, the project proponent shall fund six additional telemetry units in the amount of $188,100 ($4,150 per unit plus an endowment of $163,200 to be used for tracking data over an eight year period). The total funding to be provided shall not exceed $376,200.

ATTACHMENT 2.

WHAT YOU SHOULD KNOW ABOUT A FEDERAL PERMIT FOR EAGLE TAKE NECESSARY TO PROTECT AN INTEREST IN A PARTICULAR LOCALITY

A Federal permit for non-purposeful take of eagles authorizes disturbance or other take of eagles where the take is not the purpose of the activity and is necessary to protect an interest in a particular locality. You should review Title 50 Parts 10, 13, and 22.26 of the Code of Federal Regulations (CFR). **You are responsible for reviewing and understanding these regulations before you request and accept a permit.** These regulations can be found on our website at http://www.fws.gov/permits/ltr/ltr.html. Below are questions and answers regarding some of the fundamentals of an eagle non-purposeful take permit.

1. What is meant by "take" of eagles?

Under the Bald and Golden Eagle Protection Act, "take" is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest or disturb." Most take authorized under this permit will be in the form of disturbance. "Disturb" is defined in regulations as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

2. Can this permit be used for intentional take of eagles for any purposes?

No. This permit authorizes take only where the take cannot practicably be avoided in the course of an otherwise lawful activity.

3. What species of eagles can be disturbed or otherwise taken under this permit?

This permit may authorize take of either species of eagles protected by the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d): the bald eagle (*Haliaeetus leucocephalus*) and the golden eagle (*Aquila chrysaetos*).

4. Under what circumstances can eagles be taken under this type of permit?

The Eagle Act authorizes the Secretary to permit take of eagles "necessary for the protection of… other interests in any particular locality." This statutory language accommodates a broad spectrum of public and private interests (such as utility infrastructure development and maintenance, road construction, operation of airports, commercial or residential construction, resource recovery, recreational use, etc.) that might "take" eagles as defined under the Eagle Act. However, in all cases, the take must be *necessary* to protect the interest, meaning that the interest cannot be protected without taking eagles despite implementation of all practicable measures to avoid and minimize the impact to eagles.

5. Is a person who follows the National Bald Eagle Management Guidelines exempt from the requirement to obtain this permit?

No. The Guidelines are basic recommendations the Service has provided to help minimize the potential for disturbing bald eagles. However, those recommendations are fairly generalized and do not address every type of activity. Furthermore, variable on-site conditions, the temperament of individual eagles, and other factors, make it impossible to predict outcomes with certainty. Each situation is different. An activity that is generally assessed as likely to disturb eagles will not always disturb them, and the presence of a number of variables may affect the likelihood that take will occur. Because the Eagle Act requires a that permit be issued in order for any Bald Eagle take to be authorized, the Service cannot "exempt" any

activity that meets the definition of a "take." In addition, because the Management Guidelines were developed primarily to reduce disturbance, they contain few measures for avoiding or reducing injury or mortality.

6. Are post-activity monitoring and reporting required?
Depending on the magnitude of the potential impacts to eagles, permittees may be required to monitor for up to 3 years following completion of the activity for which the permit was issued. Unless the activity is covered by a management plan that contains separate, adequate monitoring protocols, permittees must submit an annual report containing all the information required by Service Form 3-202-15.

7. What will the Service do with information gathered from the permittee monitoring?
The Service can use the information to help assess whether future activities may result in loss of one or more eagles, a decrease in productivity of bald or golden eagles, and/or the permanent abandonment or loss of a nest site, communal roost site, or important foraging area. This information will allow the Service to refine permit conditions and recommendations in future versions of eagle management guidelines to minimize take of eagles.

8. What is a programmatic permit and when is it required?
Programmatic take is generally defined as take that is recurring and not in a specific, identifiable time frame and/or location. The specific regulatory definition is "take that (1) is recurring, but not caused solely by indirect effects, and (2) occurs over the long-term and/or in a location or locations that cannot be specifically identified."

Programmatic take permits may be issued to entities, such as electric utilities or transportation providers, that may currently take eagles in the course of otherwise lawful activities but can work with the Service to develop and implement additional, exceptionally comprehensive measures ("advanced conservation practices" or "ACPs") to reduce take to the level where any remaining take is essentially unavoidable. A programmatic take permit may also be issued to State and Federal agencies that take eagles in the course of their routine operations if they adopt such advanced conservation measures. There is no requirement that a permit be programmatic; it is an option that is available in some circumstances. A programmatic permit can, and often will, cover other take in addition to programmatic take.

9. Will mitigation measures be required?
All permittees will be required to avoid and minimize the potential for take to the degree practicable, and for programmatic permits, to the point where take is unavoidable. Additional compensatory mitigation i required for: (a) programmatic take and other multiple take authorizations; (b) disturbance associated with the permanent loss of a breeding territory or important traditional communal roost site; or (c) as necessary to off-set impacts to the local area population.

10. How long is an eagle non-purposeful take permit valid?
The duration of each permit depends on the nature and duration of the activity that is being conducted. Permits for short-term disturbance or other take from a short-term activity will be issued can be issued for up to 5 years. Programmatic take permits can be issued for up to 30 years.

***11. How will the Service ensure adequate protection for eagles during the lifespans of longer-term permits*?**
The rule enables the Service to incorporate ACPs and other conservation measures the permit holder is required to implement if take exceeds predicted levels or if new information indicates that such measures are necessary to meet the preservation standard. Permits for periods longer than five years will be available only to applicants who commit to implementing these adaptive measures if monitoring shows these measures are needed and likely to be effective. Any required adaptive

management measures will be negotiated with the permittee and specified in the terms and conditions of the permit.

12. Does this permit authorize possession of eagles for any purpose?
No. This permit does not authorize collection of live or dead eagles. You must promptly notify the Service of any eagle(s) found injured or dead at the activity site, regardless of whether the injury or death resulted from your activity. The Service will determine the disposition of such eagles.

13. Do I need additional authorization to take eagles from my State or tribal government?
State, tribal and local governments may have their own regulations protecting eagles. Your federal permit is not valid unless you obtain and comply with all permits, licenses, or other authorizations required by these jurisdictions that apply to your activity with respect to eagles.

14. How much are permit application processing fees for this permit?
For standard permits, the application processing fee is $500. For programmatic permits, the application processing fee is $36,000. For programmatic permits with durations longer than 5 years, there is an additional permit administration fee, based on the duration of the permits, to recover the Service costs for monitoring and working with the permittees throughout the lives of the permits. The permit administration fee is $2,600 for each five-year period the permit is in effect. The application processing fee for programmatic permits for low-risk projects that are expected to have relatively low effects on eagles is $8,000.

15. How long does it take to get a permit for non-purposeful take of eagles?
The time needed by the Service to process a permit application depends on the complexity and scope of the activity and associated take, whether tribal consultation is warranted, what other environmental analyses may be required and other factors. In general, applicants may expect the following approximate permit processing times from the time we receive a complete application:

Standard permit	90 days
Standard or programmatic permit requiring an environmental assessment	4 to 6 months
Standard or programmatic permit with EIS	18 to 24 months

16. How do I renew my permit?
Except for programmatic permits, this type of permit should not typically be subject to renewal considerations, because, in general, standard permits issued under these regulations authorize a limited amount of take, resulting from a specific activity that occurs in an identifiable time-frame. However, a renewal letter or form and annual report form will be sent to you at least 60 days prior to the expiration of your permit (partially as a reminder that your permit is due to expire). If you wish to renew your permit, you must return the completed renewal to your Regional Migratory Bird Permit Office at least 30 days prior to the expiration of your permit and include copies of any other permits required by your State, tribe, or other jurisdiction. If we receive your renewal request at least 30 days prior to the expiration of your permit, your permit will remain valid beyond the expiration date for the activity authorized on your permit until a decision on your renewal is made. If we receive your renewal request fewer than 30 days prior to expiration of your permit and we are unable to process your request before the expiration date, your permit will expire and you will no longer be covered for your activity. If you allow your permit to expire before requesting renewal, you may be required to submit a new application. (See 50 CFR 13.22 and 13.11(c)).

Department of the Interior
U.S. Fish and Wildlife Service

OMB Control No. 1018 - 0022
Expires 5/31/2017

Federal Fish and Wildlife Permit Application Form

Click here for addresses.

Return to: U.S. Fish and Wildlife Service (USFWS)

Type of Activity: **Eagle Take – Associated With But Not the Purpose of an Activity**

☐ **New Application**
☐ **Requesting Renewal or Amendment of Permit # _____**

Complete Sections A or B, and C, D, and E of this application. U.S. address may be required in Section C, see instructions for details.
See attached instruction pages for information on how to make your application complete and help avoid unnecessary delays.

A. Complete if applying as an individual

1.a. Last name	1.b. First name	1.c. Middle name or initial	1.d. Suffix

2. Date of birth (mm/dd/yyyy)	3. Social Security No.	4. Occupation	5. Affiliation/ Doing business as (see instructions)

6.a. Telephone number	6.b. Alternate telephone number	6.c. Fax number	6.d. E-mail address

B. Complete if applying on behalf of a business, corporation, public agency, Tribe, or institution

1.a. Name of business, agency, tribe, or institution	1.b. Doing business as (dba)

2. Tax identification no.	3. Description of business, agency, or institution

4.a. Principal officer Last name	4.b. Principal officer First name	4.c. Principal officer Middle name/ initial	4.d. Suffix

5. Principal officer title	6. Primary contact name

7.a. Business telephone number	7.b. Alternate telephone number	7.c. Business fax number	7.d. Business e-mail address

C. All applicants complete address information

1.a. Physical address (Street address; Apartment #, Suite #, or Room #; no P.O. Boxes)				
1.b. City	**1.c. State**	**1.d. Zip code/Postal code:**	**1.e. County/Province**	**1.f. Country**
2.a. Mailing Address (include if different than physical address; include name of contact person if applicable)				
2.b. City	**2.c. State**	**2.d. Zip code/Postal code:**	**2.e. County/Province**	**2.f. Country**

D. All applicants MUST complete

1. Attach check or money order payable to the U.S. FISH AND WILDLIFE SERVICE **in the amount of (see attached fee schedule)** nonrefundable processing fee. Federal, Tribal, State, and local government agencies, and those acting on behalf of such agencies, are exempt from the processing fee – ***attach documentation of fee exempt status as outlined in instructions.*** (50 CFR 13.11(d))

2. Do you currently have or have you ever had any Federal Fish and Wildlife permits?
Yes ☐ If yes, list the number of the most current permit you have held or that you are applying to renew/re-issue: _____ No ☐

3. Certification: I hereby certify that I have read and am familiar with the regulations contained in ***Title 50, Part 13 of the Code of Federal Regulations*** and the other ***applicable parts in subchapter B of Chapter I of Title 50***, and I certify that the information submitted in this application for a permit is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. 1001.

_____
Signature (**in blue ink**) of applicant/person responsible for permit (No photocopied or stamped signatures) Date of signature (mm/dd/yyyy)

Please continue to next page

SECTION E. EAGLE TAKE – ASSOCIATED WITH BUT NOT THE PURPOSE OF AN ACTIVITY (EAGLE NON-PURPOSEFUL TAKE)

(Bald and Golden Eagle Protection Act, 50 CFR 22.26)

Note: ***A Federal eagle non-purposeful take permit authorizes the disturbance or other take of eagles where the take results from but is not the purpose of an otherwise lawful activity. Permits are available to individuals, agencies, businesses, and other organizations. This permit does not authorize possession of any eagle, eagle parts, or eagle nests. Please read "What You Should Know About a Federal Permit for Non-Purposeful Eagle Take" and the pertinent regulations at 50 CFR 22.26 before you sign and submit your application.***

Please provide the information requested below on a separate sheet of paper. You should be as thorough and specific as possible in your responses. Incomplete applications will be returned, delayed or abandoned. Processing time depends on the complexity of the request and completeness of the application.

Although you may submit supplemental documents that contain the required information, you must respond to each application requirement below specifically in a single attachment that includes all and only the information required by the application. Enumerate each response in accordance with the question numbers below. Please do not send pages that are over 8.5" x 11" or DVDs.

1. The name and contact information for any U.S. Fish and Wildlife Service employee(s) who has provided technical assistance or worked with you on this project.
2. The species and number of eagles that are likely to be taken and the likely form of that take (e.g., disturbance, other take).
3. The dates the activity will start and is projected to end. If the project has begun, describe the stage of progress.
4. A detailed description of the activity that will likely cause the disturbance or other take of eagles.
5. An explanation of why the take of eagles is necessary, including what interests will be protected by the project or activity.
6. Maps, digital photographs, county/city information, and latitude/longitude geographic coordinates of the proposed activity.
7. Maps, digital photographs, county/city information, and latitude/longitude geographic coordinates of eagle-use areas in the vicinity of the activity, including nest site(s), roost areas, foraging areas, and known migration paths. Provide the specific distance and locations of nests and other eagle-use areas from the project footprint.
8. If the projected take of eagles is in the form of disturbance, answer the following two questions:
   a. Will the activity be visible to eagles in the eagle-use areas, or are there visual buffers such as screening vegetation or topography that blocks the view?
   b. What is the extent of existing activities in the vicinity that are similar in nature, size, and use to your activity, and if so, what is the distance between those activities and the important eagle use areas
9. A detailed description of all avoidance and minimization measures that you have incorporated into your planning for the activity that you will implement to reduce the likelihood of take of eagles.
10. You must retain records relating to the activities conducted under your permit for at least 5 years from the date of expiration of the permit. Please provide the address where these records will be kept.
11. Any permit issued as a result of this application is not valid unless you also have any required State or Tribal permits associated with the activity. Have you obtained all required State or Tribal permits or approvals to conduct this activity? Indicate "Yes," Have applied," or None Required." If "Yes," attach a copy of the approval(s). If "Have applied," submit a copy when issued.
12. If you have received technical assistance for your project from your State wildlife agency, please provide the name and contact information for the individual(s).
13. **Disqualification factor**. A conviction, or entry of a plea of guilty or nolo contendere, for a felony violation of the Lacey Act, the Migratory Bird Treaty Act, or the Bald and Golden Eagle Protection Act disqualifies any such person from receiving or exercising the privileges of a permit, unless such disqualification has been expressly waived by the Service Director in response to a written petition. (50 CFR 13.21(c)) Have you or any of the owners of the business, if applying as a business, been convicted, or entered a plea of guilty or nolo contendere, forfeited collateral, or are currently under charges for any violations of the laws mentioned above? Indicate "Yes" or "No." If you answered "Yes" provide: a) the individual's name, b) date of charge, c) charge(s), d) location of incident, e) court, and f) action taken for each violation.

Fee Schedule for Eagle Take – Associated with but not the purpose of an Activity

Type of Permit	Permit Application Fee	Administration Fee[1]	Amendment Fee
Eagle Take—Associated With But Not the Purpose of an Activity	$500		$150
Eagle Take—Associated With But Not the Purpose of an Activity—Programmatic, low-risk projects, 5- to 30-year tenure[1]	$8,000	$500	$1,000
Eagle Take—Associated With But Not the Purpose of an Activity—Programmatic, up to 5-year tenure	$36,000	$2,600	$1,000
Eagle Take—Associated With But Not the Purpose of an Activity—Programmatic, over 5-year to 10-year tenure	$36,000	$5,200[2]	$1,000
Eagle Take—Associated With But Not the Purpose of an Activity—Programmatic, over 10-year to 15-year tenure	$36,000	$7,800[2]	$1,000
Eagle Take—Associated With But Not the Purpose of an Activity—Programmatic, over 15-year to 20-year tenure	$36,000	$10,400[2]	$1,000
Eagle Take—Associated With But Not the Purpose of an Activity—Programmatic, over 20-year to 25-year tenure	$36,000	$13,000[2]	$1,000
Eagle Take—Associated With But Not the Purpose of an Activity—Programmatic, over 25-year to 30-year tenure	$36,000	$15,600[2]	$1,000
Eagle Take—Associated With But Not the Purpose of an Activity—Transfer of a programmatic permit	$1,000		

[1] "Low-risk" means a project or activity is unlikely to take an eagle over a 30-year period and the applicant for a permit for the project or activity has provided the Service with sufficient data obtained through Service-approved models and/or predictive tools to verify that the take is likely to be less than 0.03 eagles per year.
[2] $2,600 assessed upon approval of permit, and for each 5-year review.

PERMIT APPLICATION FORM INSTRUCTIONS

The following instructions pertain to an application for a U.S. Fish and Wildlife Service or CITES permit. The General Permit Procedures in 50 CFR 13 address the permitting process. For simplicity, all licenses, permits, registrations, and certificates are referred to as a permit.

GENERAL INSTRUCTIONS:

- Complete all blocks/lines/questions in Sections A or B, and C, D, and E.
- **An incomplete application may cause delays in processing or may be returned to the applicant. Be sure you are filling in the appropriate application form for the proposed activity.**
- Print clearly or type in the information. Illegible applications may cause delays.
- Sign the application in blue ink. Faxes or copies of the original signature will not be accepted.
- Mail the original application to the address at the top of page one of the application or if applicable on the attached address list.
- **Keep a copy of your completed application.**
- **Please plan ahead. Allow at least 60 days for your application to be processed. Some applications may take longer than 90 days to process. (50 CFR 13.11)**
- Applications are processed in the order they are received.
- Additional forms and instructions are available from http://permits.fws.gov/.

COMPLETE EITHER SECTION A OR SECTION B:

Section A. **Complete if applying as an individual:**

- Enter the complete name of the responsible individual who will be the permittee if a permit is issued. Enter personal information that identifies the applicant. ***Fax and e-mail are not required if not available.***
- If you are applying on behalf of a client, the personal information must pertain to the client, and a document evidencing power of attorney must be included with the application.
- **Affiliation/ Doing business as (dba)**: business, agency, organizational, or institutional affiliation *directly* related to the activity requested in the application (e.g., a taxidermist is an individual whose business can *directly* relate to the requested activity). The Division of Management Authority (DMA) will **not** accept *doing business as* affiliations for individuals.

Section B. **Complete if applying as a business, corporation, public agency, Tribe, or institution:**

- Enter the complete name of the business, agency, Tribe, or institution that will be the permittee if a permit is issued. Give a brief description of the type of business the applicant is engaged in. Provide contact phone number(s) of the business.
- **Principal Officer** is the person in charge of the listed business, corporation, public agency, Tribe, or institution. The principal officer is the person responsible for the application and any permitted activities. Often the principal officer is a Director or President. **Primary Contact** is the person at the business, corporation, public agency, Tribe, or institution who will be available to answer questions about the application or permitted activities. Often this is the preparer of the application.

ALL APPLICANTS COMPLETE SECTION C:

- For all applications submitted to the Division of Management Authority (DMA) a physical U.S. address is **required**. Province and Country blocks are provided for those USFWS programs which use foreign addresses and are not required by DMA.
- **Mailing address** is address where communications from USFWS should be mailed if different than applicant's physical address.

ALL APPLICANTS COMPLETE SECTION D:

Section D.1 **Application processing fee:**

- An application processing fee is required at the time of application; unless exempted under 50 CFR13.11(d)(3). The application processing fee is assessed to partially cover the cost of processing a request. **The fee does not guarantee the issuance of a permit. Fees will not be refunded for applications that are approved, abandoned, or denied**. We may return fees for withdrawn applications prior to any significant processing occurring.
- **Documentation of fee exempt status is not required for Federal, Tribal, State, or local government agencies; but must be supplied by those applicants acting on behalf of such agencies**. Those applicants acting on behalf of such agencies must submit a letter on agency letterhead and signed by the head of the unit of government for which the applicant is acting on behalf, confirming that the applicant will be carrying out the permitted activity for the agency.

Section D.2 **Federal Fish and Wildlife permits:**

- List the number(s) of your most current FWS or CITES permit or the number of the most recent permit if none are currently valid. If applying for re-issuance of a CITES permit, the original permit must be returned with this application.

Section D.3 **CERTIFICATION:**

- **The individual identified in Section A, the principal officer named in Section B, or person with a valid power of attorney (documentation must be included in the application) must sign and date the application in blue ink.** This signature binds the applicant to the statement of certification. This means that you certify that you have read and understand the regulations that apply to the permit. You also certify that everything included in the application is true to the best of your knowledge. Be sure to read the statement and re-read the application and your answers before signing.

ALL APPLICANTS COMPLETE SECTION E.

Please continue to next page

APPLICATION FOR A FEDERAL FISH AND WILDLIFE PERMIT
Paperwork Reduction Act, Privacy Act, and Freedom of Information Act – Notices

In accordance with the Paperwork Reduction Act of 1995 (44 U.S.C. 3501, *et seq.*) and the Privacy Act of 1974 (5 U.S.C. 552a), please be advised:

1. The gathering of information on fish and wildlife is authorized by:
(Authorizing statutes can be found at: http://www.gpoaccess.gov/cfr/index.html and http://www.fws.gov/permits/ltr/ltr.html.)

   a. Bald and Golden Eagle Protection Act (16 U.S.C. 668), 50 CFR 22;
   b. Endangered Species Act of 1973 (16 U.S.C. 1531-1544), 50CFR 17;
   c. Migratory Bird Treaty Act (16 U.S.C. 703-712), 50 CFR 21;
   d. Marine Mammal Protection Act of 1972 (16 U.S.C. 1361, *et. seq.*), 50 CFR 18;
   e. Wild Bird Conservation Act (16 U.S.C. 4901-4916), 50 CFR 15;
   f. Lacey Act: Injurious Wildlife (18 U.S.C. 42), 50 CFR 16;
   g. Convention on International Trade in Endangered Species of Wild Fauna and Flora (TIAS 8249), http://www.cites.org/ , 50 CFR 23;
   h. General Provisions, 50 CFR 10;
   i. General Permit Procedures, 50 CFR 13; and
   j. Wildlife Provisions (Import/export/transport), 50 CFR 14.

2. Information requested in this form is purely voluntary. However, submission of requested information is required in order to process applications for permits authorized under the above laws. Failure to provide all requested information may be sufficient cause for the U.S. Fish and Wildlife Service to deny the request. We may not conduct or sponsor and you are not required to respond to a collection of information unless it displays a currently valid OMB control number.

3. Certain applications for permits authorized under the Endangered Species Act of 1973 (16 U.S.C. 1539) and the Marine Mammal Protection Act of 1972 (16 U.S.C. 1374) will be published in the **Federal Register** as required by the two laws.

4. Disclosures outside the Department of the Interior may be made without the consent of an individual under the routine uses listed below, if the disclosure is compatible with the purposes for which the record was collected. (Ref. 68 FR 52611, September 4, 2003)

   a. Routine disclosure to subject matter experts, and Federal, Tribal, State, local, and foreign agencies, for the purpose of obtaining advice relevant to making a decision on an application for a permit or when necessary to accomplish an FWS function related to this system of records.
   b. Routine disclosure to the public as a result of publishing **Federal Register** notices announcing the receipt of permit applications for public comment or notice of the decision on a permit application.
   c. Routine disclosure to Federal, Tribal, State, local, or foreign wildlife and plant agencies for the exchange of information on permits granted or denied to assure compliance with all applicable permitting requirements.
   d. Routine disclosure to Captive-bred Wildlife registrants under the Endangered Species Act for the exchange of authorized species, and to share information on the captive breeding of these species.
   e. Routine disclosure to Federal, Tribal, State, and local authorities who need to know who is permitted to receive and rehabilitate sick, orphaned, and injured birds under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act; federally permitted rehabilitators; individuals seeking a permitted rehabilitator with whom to place a bird in need of care; and licensed veterinarians who receive, treat, or diagnose sick, orphaned, and injured birds.
   f. Routine disclosure to the Department of Justice, or a court, adjudicative, or other administrative body or to a party in litigation before a court or adjudicative or administrative body, under certain circumstances.
   g. Routine disclosure to the appropriate Federal, Tribal, State, local, or foreign governmental agency responsible for investigating, prosecuting, enforcing, or implementing statutes, rules, or licenses, when we become aware of a violation or potential violation of such statutes, rules, or licenses, or when we need to monitor activities associated with a permit or regulated use.
   h. Routine disclosure to a congressional office in response to an inquiry to the office by the individual to whom the record pertains.
   i. Routine disclosure to the Government Accountability Office or Congress when the information is required for the evaluation of the permit programs.
   j. Routine disclosure to provide addresses obtained from the Internal Revenue Service to debt collection agencies for purposes of locating a debtor to collect or compromise a Federal claim against the debtor or to consumer reporting agencies to prepare a commercial credit report for use by the FWS.

5. For individuals, personal information such as home address and telephone number, financial data, and personal identifiers (social security number, birth date, etc.) will be removed prior to any release of the application.

6. The public reporting burden on the applicant for information collection varies depending on the activity for which a permit is requested. The relevant burden for an Eagle Non-Purposeful Take (standard) permit application is 16 hours, and 6 hours for a standard amendment. For an Eagle Non-Purposeful Take (programmatic) permit application, the relevant burden is 452 hours and70 hours for an amendment. This burden estimate includes time for reviewing instructions, gathering and maintaining data and completing and reviewing the form. You may direct comments regarding the burden estimate or any other aspect of the form to the Service Information Clearance Officer, U.S. Fish and Wildlife Service, Mail Stop 222, Arlington Square, U.S. Department of the Interior, 1849 C Street, NW, Washington D.C. 20240.

Freedom of Information Act – Notice

For organizations, businesses, or individuals operating as a business (i.e., permittees not covered by the Privacy Act), we request that you identify any information that should be considered privileged and confidential business information to allow the Service to meet its responsibilities under FOIA. Confidential business information must be clearly marked "Business Confidential" at the top of the letter or page and each succeeding page and must be accompanied by a non-confidential summary of the confidential information. The non-confidential summary and remaining documents may be made available to the public under FOIA [43 CFR 2.26 – 2.33].

U.S. Fish & Wildlife Service

Migratory Bird Regional Permit Offices

FWS REGION	AREA OF RESPONSIBILITY	MAILING ADDRESS	CONTACT INFORMATION
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Region 8	**California, Nevada**	2800 Cottage Way Room W-2606 Sacramento, CA 95825	Tel. (916) 978-6183 Fax (916) 414-6486 Email*permitsR8MB@fws.gov*

From: Pam Nelson
To: fw8_eagle_nepa@fws.gov
Subject: Alta East Eagle Permit draft EA Comments
Date: Thursday, November 05, 2015 2:04:50 PM

Please accept my opposition to this project. The take of large predator birds such as golden eagles is not acceptable. Wind and solar projects should be placed only in areas that avoid bird migration paths and habitats. Energy production sited nearer to the user source should be a priority and a stated alternative to all remote energy "farms".

Pam Nelson
Warner Springs, CA 92086

From: Joe Skeen
To: fw8_eagle_nepa@fws.gov
Subject: “Alta East Eagle Permit draft EA Comments
Date: Tuesday, November 03, 2015 11:05:36 PM

Why weren't proper impact evaluations completed before Alta East built right in the flight path or so many birds?

PALA ENVIRONMENTAL DEPARTMENT
PALA BAND OF MISSION INDIANS
PMB 50, 35008 Pala Temecula Road | Pala, CA 92059
Phone 760-891-3510 | Fax 760-742-3189
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To Whom It May Concern at the Migratory Bird Program,

The Pala Band of Mission Indians strongly opposes the take of any eagle (golden eagles or bald eagles) on cultural and environmental grounds. The Tribe would prefer to see projects like the Alta Wind X, LLC project take the initial steps to avoid killing any eagles, rather than mitigate for those expected to be killed. Better siting, GPS tracking, sound deterrents, varied turbine heights, painting turbines different colors, turning turbines off at certain times of day/year, and better turbine shapes could all be employed before the project begins to prevent eagle deaths. The Pala Band of Mission Indians is also concerned with the deaths of other biologically and culturally important animals due to wind turbines, including other birds and bats. The Tribe would also appreciate stronger compensatory mitigation efforts before the project begins, not just retrofitting power poles. The Tribe suggests the following mitigation efforts to further protect eagles: purchasing nesting, roosting, and hunting lands used by eagles; donations for the rehabilitation and rerelease of injured eagles; research funds used to scientifically plan better wind projects or turbine designs to prevent eagle deaths; and funding aimed at education for reducing the use of rodenticides in areas known to be home to eagles.

1-1

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1-4

While the Pala Band of Mission Indians appreciates the need for take permits and mitigation to protect our shared natural heritage, greater efforts can be taken to reduce the need to kill or injure eagles before the start of this and other wind projects. Take permits such as this that include mitigation are certainly better than issues in the past where these kinds of projects were indiscriminately killing raptors and often times failing to report or be fined, much can be done to protect this vital cultural and biological resource.

Sincerely,

Shasta Gaughen, PhD
Pala Band of Mission Indians
Environmental Director / Tribal Historic Preservation Officer

Tribal 2

MOAPA BAND OF PAIUTES

MOAPA RIVER INDIAN RESERVATION
BOX 340
MOAPA, NEVADA 89025
TELEPHONE (702) 865-2787
FAX (702) 865-2875

Via Facsimile
December 17, 2015

Heather Beeler
Migratory Bird Program
U.S. Fish and Wildlife Service
Pacific Southwest Regional Office
2800 Cottage Way, W-2605
Sacramento, CA 95825
Facsimile: 916-414-6486

RE: Alta East Wind Project DEA Comments

Dear Ms. Beeler,

The Moapa Band of Paiute Indians ("Tribe") hereby submits this comment on the U.S. Fish and Wildlife Service's ("FWS") draft environmental assessment ("DEA") for the issuance of a 5-year programmatic permit to the Alta East Wind Project ("Project") allowing take of three golden eagles under the Bald and Golden Eagle Protection Act ("Eagle Act") and the Migratory Bird Treaty Act ("MBTA").

The Tribe supports Alternative A, the No-Action alternative, set forth in the DEA. The Tribe believes that the DEA insufficiently analyzes cumulative impacts to the Mojave golden eagle population, relies on incomplete and inadequate data and modeling, and fails to demonstrate that the applicant has, as a matter of law, satisfied the requirements for issuance of a permit to take golden eagles. The Tribe also believes that the failure of BLM and FWS to consult with the Tribe before BLM's issuance of the Project right-of-way grant fails to satisfy the agencies' tribal consultation obligations. | 2-1

I. Lack of Meaningful Consultation with the Tribe.

Eagles are sacred animals and occupy an exalted place in Paiute culture and religion. The Tribe believes that allowing a private energy development to kill golden eagles is inherently wrong, and no such eagle take should ever be permitted. | 2-2

The Tribe realizes that the No-Action alternative won't stop the Alta East Wind Project from taking golden eagles. We realize that the Project is already built and operational and that the only apparent difference resulting from the No-Action alternative is that the Project's owners could be prosecuted under 16 U.S.C. § 668 and/or 16 U.S.C. § 707 for such take while implementing less

mitigation measures. *See* DEA at 2-1. Prevention of all take, which is the Tribe's strong preference, is apparently off the table.

Department of Interior policy is "to demonstrate a meaningful commitment to consultation by identifying and involving Tribal representatives in a meaningful way early in the planning process." Secretarial Order No. 3317, § 4a. (Dec. 1, 2011) (emphasis added). Thus, why was the Tribe not consulted during the NEPA process conducted by BLM before BLM issued a right-of-way grant for the Project? The FEIS for the Project indicates that "local tribes" were contacted for consultation, *see* Alta East Wind Project FEIS at p. 5-5, but the Tribe has no record that it was contacted or consulted before the Project was constructed. The Tribe's input would have been appropriate and meaningful before BLM permitted the Project's construction. However, at this time, the Project will inevitably kill golden eagles and the only issue is whether FWS will permit such take or not. Such a result is clearly contrary to the President's directive that executive agencies "engag[e] in regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications . . . ." Presidential Memorandum on Tribal Consultation (Nov. 5, 2009). The lack of timely and meaningful consultation with the Tribe on this Project is deeply troubling to the Tribe. 2-3

II. The DEA Relies on Inadequate Data Regarding Eagle Use of the Project Area.

As a result of the shortcomings in the consultation process, the federal agencies involved in permitting the Project have not had the benefit of the Tribe's traditional ecological knowledge. The Tribe disagrees with the DEA's assessment of the local population and nest survey results. The Tribe's traditional ecological knowledge includes intimate knowledge of this and nearby Mojave areas that were used by the Tribe since time immemorial as part of their traditional, seasonal foraging area and for cultural purposes. Observing eagle behavior and knowing the location of eagle use areas is important to Paiutes not only because of the eagle's spiritual role in Paiute traditions, but also because eagles serve as beacons that can be used to locate certain resources important to Paiute subsistence. Because of that traditional knowledge, the Tribe believes that this area of the Mojave functions as a nursery for eagles, and is an area that young eagles frequent throughout the year. 2-4

The failure of the short-term observations and surveys to reveal such information leads to an incomplete picture of how eagles use the Project area and surrounding environs, which casts doubt on the entire analysis undertaken by FWS. It appears that the observational and nest surveys on which the DEA relies for its golden eagle data were limited to 2009 through 2011. Have any surveys been conducted since? Furthermore, there is no discussion of climate or other local factors that provide context to the data from those years; for example, if one of the survey years was particularly dry or wet, it could give a skewed picture of eagle use of the area. Golden eagles are long-lived, highly mobile animals; thus it is arbitrary to rely on a mere two years of short-term observational and survey data (which hasn't been updated or added to in the last four years) to determine how golden eagles use the Project area. Given that the model used to predict eagle fatalities at the Project depends almost entirely on the data collected during 2009 through

2011, DEA at 2-5, whether that data paints an accurate picture of long-term eagle use of the Project site is a necessary part of the FWS's analysis. 2-4 cont'd

III. The DEA Fails to Explain How it Concludes that the Project Results in "No Net Loss" to Golden Eagles Under Alternatives B, C and D.

The Tribe fails to understand how FWS can permit any further take of golden eagles by wind projects in the Alta East Project area when FWS has already determined that the local golden eagle population cannot withstand any level of take, that annual take from existing wind projects already equals 8% (a conservative estimate), and there is no discussion of how the so-called "mitigation" measures that supposedly result in "no net loss" of golden eagles by the Project are supported by any science or data. The whole exercise is fraught with uncertainty, as FWS acknowledged in its 2009 EA on the revised Eagle Permit Rule ("2009 EEA") and the 2013 Eagle Conservation Plan Guidance, at pp. xi, 28.[1] FWS does little in this DEA to address that uncertainty or explain why its determination is well-reasoned and supported by the evidence. For example, leading researchers in the field have determined that there is limited data on eagle fatalities at wind facilities and that many projects are likely underestimating fatalities, both pre- and post-construction.[2] This suggests that any predictions resulting from FWS modeling may be inadequate to support a permit decision. *See* 2009 EEA at 32 ("If we have inadequate data to run our modeling and no other means of assessing the status of the population where the take will occur, we may not be able to determine that the take is compatible with the preservation of the species, and if we determine that take is not compatible, we will not authorize it."). 2-5

There is inadequate discussion of what evidence, if any, exists to demonstrate that retrofitting power poles provides any compensation for eagle take sufficient to "offset the high level of cumulative impacts to golden eagle populations in the local area." *See* DEA at 2-3; *cf.* 2013 ECPG at 21 ("[T]here needs to be a credible analysis that supports the conclusion that implementing the compensatory mitigation action will achieve the desired beneficial offset in mortality . . ."). Given that FWS is likely prohibited from issuing a permit without the compensatory mitigation, greater discussion of how likely the proposed mitigation is to result in the anticipated benefits, and the evidence for such conclusions, is needed.

Furthermore, the location of the proposed mitigation area, PG&E's Tejon 1102 circuit, *see* DEA at 2-1, appears to be at least 40 air miles from the Project site, *see* DEA Figure 1-2. There is no discussion of whether mitigating for golden eagle deaths 40 miles away actually achieves "no net loss" to the golden eagle population local to the Project site, other than the assumption that because the mitigation site is within the 140-mile radius of the Project, the mitigation must offset take of golden eagles at the Project site. The mitigation site is located in Bird Conservation 2-6

[1] We note that all of the Internet website addresses given for locating the 2013 Eagle Conservation Plan Guidance ("ECPG") and related documents are dead links; as such, the information from the 2013 ECPG and 2012 Technical Appendices is not available online.

[2] Joel E. Pagel et al., Presentation to the CA-NV Golden Eagle Working Group, *Bald Eagle and Golden Eagle Mortalities at wind energy facilities in the contiguous US*, Slide 44 (Jan. 27, 2014), *available at* https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=80643&inline=true

Region ("BCR") 32, while the Project is located in BCR 33. *See* DEA Figure 1-2. According to the DEA, these BCRs have very different metrics associated with the respective golden eagle populations, BCR size, eagle density, percent of BCR within the 140-mile Project radius, and estimated local-area population. *See* DEA at Table 4-1. As a result, FWS finds that "acceptable" take from BCR 33 is 7 golden eagles per year, while acceptable take from BCR 32 is nearly three times as much (19 per year). *Id.* Thus, FWS needs to explain how reducing golden eagle fatalities in BCR 32 mitigates for golden eagle fatalities at the Project in BCR 33, given that the two BCRs seem to have very different population dynamics. This is especially true given that FWS's approach assumes that eagle density is uniform across BCRs, which tends to "under protect [eagles] in areas of low density." 2013 ECPG at 81, and BCR 33 has a relatively low density compared to other BCRs, 2013 ECPG at 83, Table F-2. 2-6 cont'd

The DEA also fails to address results from a 2013 survey of the golden eagle population for the Desert Renewable Energy Conservation Plan (DRECP) area, which is ~40% of the U.S. portion of BCR 33, that showed an unexpectedly low number of golden eagles within the survey area.[3] Has this data been finalized and what impact does it have on FWS's analysis?

IV. The Take Permit Cannot Issue as a Matter of Law.

Regardless of the data infirmities, the Tribe believes that the applicant has not met the standards for permit approval as a matter of law. A permit approval under 50 C.F.R. § 22.26(a)(2) is only appropriate where eagle take is "unavoidable even though advanced conservation practices are being implemented." Advanced conservation practices, or ACPs, are "scientifically supportable measures that are approved by [FWS] and represent the best available techniques to reduce eagle disturbance and ongoing mortalities to a level where remaining take is unavoidable." 50 C.F.R. § 22.2. We see no evidence that the ACPs suggested as part of the applicant's Eagle Conservation Plan ("ECP"), although labeled "ACP" by the applicant, have been approved by FWS as scientifically supportable measures to reduce eagle take to a level where any remaining take is unavoidable. *See* DEA App. A, p. 2-28 through 2-32. The 2013 ECP Guidance recognizes the current lack of ACPs: 2-7

> Because the best information currently available indicates there are no conservation measures that have been scientifically shown to reduce eagle disturbance and blade-strike mortality at wind projects, the Service has not currently approved any ACPs for wind energy projects.
>
> The process of developing ACPs for wind energy facilities has been hampered by the lack of standardized scientific study of potential ACPs. The Service has determined that the best way to obtain the needed scientific information is to work with industry to develop ACPs for wind projects as part of an adaptive management regime and comprehensive research program tied to the programmatic-take-permit process. In this

[3] Joel Thompson, Presentation to the CA-NV Golden Eagle Working Group, *Estimating Abundance of Golden Eagles in the DRECP Area 2013*, Slide 16 (Jan. 27, 2014), *available at* https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=80649&inline=true

scenario. ACPs will be implemented at operating wind facilities with an eagle take permit on an "experimental" basis (the ACPs are considered experimental because they would not currently meet the definition of an ACP in the eagle permit regulation). The experimental ACPs would be scientifically evaluated for their effectiveness, as described in detail in this document, and based on the results of these studies, could be modified in an adaptive management regime. This approach will provide the needed scientific information for the future establishment of formal ACPs, while enabling wind energy facilities to move forward in the interim.

2-7 cont'd

2013 ECP Guidance at v. The DEA fails to address how implementation of such "experimental ACPs," which are experimental precisely because they are not yet "scientifically supportable," *id.* at 10, meet the requirements of permit issuance under 50 C.F.R. § 22.26, which requires that "take is unavoidable even though advanced conservation measures are being implemented." Here, no advanced conservation measures are being implemented; the ECP contains only experimental conservation measures, which are not certain to actually work and do not meet the regulatory definition of ACP.[4] In addition, some of the ACPs listed in the applicant's ECP are not going to be "implemented" at all unless specific eagle take triggers occur, *see* DEA App. A, p. 3-1, Table 6; DEA. Table 2-1; *accord* 78 Fed. Reg. 73706 ("Unless we determine that there is a reasonable scientific basis to implement such experimental ACPs, such potentially costly measures will be deferred until such time as a predefined trigger, such as a threshold of eagle use of a defined area or an eagle fatality, in the permit is reached."). Thus, the DEA fails to explain exactly how the requirements of permit issuance under 50 C.F.R. § 22.26 will be met by Alternatives B, C, or D when none of those alternatives involves implementation of advanced conservation measures prior to "unavoidable" take of golden eagles.

V. The DEA's Cumulative Impacts Analysis is Inadequate.

FWS's analysis also fails to demonstrate that take attributable to the Project is compatible with the preservation of the golden eagle. FWS's assessment of cumulative impacts to the Alta East local population is limited solely to golden eagle take resulting from wind project operation and does not include "other sources of fatalities, such as vehicle strikes, illegal hunting, and poisoning," DEA at 4-4, despite acknowledging that such sources are "major threats" to golden eagles resulting in, cumulatively, 48% of human-caused eagle deaths according to one study. DEA at 3-8. Cumulative impacts, at least in the NEPA context, includes "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes other such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7. In the DEA, FWS determines that wind projects alone take at least 8% of the local area golden eagle population per year; again, that estimate does not include take attributable to other human causes, which the DEA acknowledges are major sources of eagle mortality. FWS's cumulative impacts analysis should reasonably include this mortality, which is

2-8

[4] The 2013 ECPG gives separate definitions for "advanced conservation measures" and "experimental ACPs," at pp. 34 and 35, further highlighting that they are not one and the same.

at least an "additional factor[] affecting eagle population," 2013 ECPG at 27 (describing cumulative effects analysis for wind project take permits). How can FWS determine that the loss of three (or apparently four, *see* Table 2-1) golden eagles over five years does not result in significant adverse cumulative impacts, *see* DEA at 4-8, when even that take estimate is likely too conservative, the offset mitigation is not adequately explained or reasonably certain to result in the projected benefits, and additional major sources of mortality are not included in the models? 2-8 cont'd

VI. The DEA Fails to Acknowledge Invalidation of the 30-Year Permit Rule.

The DEA fails to acknowledge that the 30-year programmatic take permit rule published at 78 Fed. Reg. 73704 (Dec. 9, 2013), was set aside by a Federal court in August 2015. *See Shearwater v. Ashe*, No. 14-CV-02830-LHK, 2015 U.S. Dist. LEXIS 106277 at *81 (N.D. Cal. Aug. 11, 2015). The DEA at page 1-5 should be updated to reflect this change in the permitting regulations. Furthermore, FWS should explain what impact, if any, rescission of the 2013 permit rule has on its interpretation of "advanced conservation measures," given that the 2013 rule contained some interpretation of that term. 2-9

* * *

The Tribe appreciates the opportunity to provide these comments to FWS on the DEA. We look forward to continued participation in this and other NEPA processes within the Southwest and Great Basin that involve impacts to golden and bald eagles, and request that FWS include the Tribe on its contact list for such projects.

Sincerely,

MOAPA BUSINESS COUNCIL

BY: _____
Robert Tom, Chairman