UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
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JUN 18 2012

Ruben Sánchez
Bureau of Land Management/Renewable Energy Coordination Office
Arizona State Office
One North Central Avenue, Suite 800
Phoenix, AZ 85004-4427

Subject: Draft Environmental Impact Statement for the Mojave County Wind Farm Project (CEQ #20120120)

Dear Mr. Sánchez:

The U.S. Environmental Protection Agency (EPA) has reviewed the April 2012 Draft Environmental Impact Statement for the proposed Mohave County Wind Farm Project, Mohave County, Arizona. Our review and comments are provided pursuant to the National Environmental Policy Act, the Council on Environmental Quality Regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

EPA supports increasing the development of renewable energy resources, as recommended in the National Energy Policy Act of 2005, in an expeditious and well planned manner. Using renewable energy resources such as wind power can help the nation meet its energy requirements while reducing greenhouse gas emissions. We encourage BLM to apply its land management and regulatory authorities in a manner that will promote a long-term sustainable balance between available energy supplies, energy demand, and protection of ecosystems and human health.

Based on our review of the DEIS and the updated estimate of impacts to jurisdictional waters described below, we have rated the action alternatives and the document as *Environmental Concerns – Insufficient Information* (EC-2). Please see the enclosed "Summary of EPA Rating Definitions." An "EC" signifies that EPA's review of the DEIS has identified. environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the proposal or application of mitigation measures that can reduce the environmental impact. A "2" rating signifies that the DEIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment.

The DEIS states that it is possible that up to 74 miles (93.8 acres) of waters of the U.S. could be affected by construction of the project due to the construction of access roads, grading, and placement of foundations for turbines. We understand that BLM views this as an unlikely, worst case estimate and that, because the jurisdictional delineation of waters of the United States has

not been finalized, the actual likely full extent of impacts has not been determined. As a result of our discussions with BLM and the U.S Army Corps of Engineers, it was suggested by USACE that BP Wind Energy update its estimate of potential waters impacts, based on refinements to project elements that were not available at the time of publication of the Draft EIS. Subsequently, in a memo dated June 8, 2012 (Enclosed), BP Wind Energy described the two tier method that it employs in the development of wind projects, and indicated that the current conservative estimate of potential impacts to the waters of the U.S. would be reduced to between 14.34 acres and 14.95 acres for Alternative A, between 12.79 acres and 13.39 acres for Alternative B, and between 12.92 acres and 13.49 acres for Alternative C. In addition, with micrositing of project structures, the impacts are expected to be further reduced. This new information is helpful and encouraging, and we appreciate BLM's responsiveness to our concerns regarding the magnitude of the potential impacts projected in the DEIS. It is unclear why this information was not included in the DEIS. We strongly recommend that, in the future, this sort of analysis be completed prior to the issuance of a DEIS, so that it can be incorporated into the document for public consideration during the comment period.

EPA is also concerned with the potential impacts to air quality, biological resources, and cultural resources. We believe that alternatives may be available that could avoid or significantly reduce the proposed project's adverse impacts. In the enclosed detailed comments, we provide specific recommendations regarding analyses and documentation needed to assist in assessing potential significant impacts from the proposed Project, and for minimizing adverse impacts.

We appreciate the opportunity to review this DEIS and are available to discuss our comments. Please send one hard copy and one CD ROM copy of the FEIS to the address above (mail code: CED-2) at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact me at (415) 972-3843, or Anne Ardillo, the lead reviewer for this project. Anne can be reached at (415) 947-4257 or ardillo.anne@epamail.epa.gov

Sincerely,

Enrique Manzanilla, Director
Communities and Ecosystem Division

Enclosures: EPA Summary of Rating Definitions
EPA Detailed Comments
BP Wind Mohave County Wind Farm DEIS - Preliminary Waters Impact Evaluation Memorandum

Cc: Bill Miller, U.S. Army Corps of Engineers
Bill Werner, US Fish and Wildlife
Angie McIntire, Arizona Game and Fish Department

Charles Wood, Chairman, Chemehuevi Indian Tribe
Tom Pradetto, Environmental Director, Chemehuevi Indian Tribe
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Tommy Siyuja Sr., Environmental Director, Havasupai Tribe
Louise Benson, Chairman, Hualapai Tribal Council
Don Bay, Environmental Director, Hualapai Tribal Council
Manuel Savala, Chairman, Kaibab Band Of Paiute
LeAnn Skrzynski, Environmental Director, Kaibab Band Of Paiute
Tonia Means, Chairperson, Las Vegas Tribal Council
Stephen Gill, Chief Financial Officer, Las Vegas Tribal Council
William Anderson, Chairman, Moapa Tribal Council
Darren Daboda, Environmental Director, Moapa Tribal Council
Lee Choe, Acting Chairman, San Juan Paiute Tribal Council
Leroy Shingoitewa, Chairman, The Hopi Tribe
Gayl Honanie, Environmental Director, The Hopi Tribe
Ernie Jones, Sr., President, Yavapai-Prescott
Amber Tyson, Environmental Director, Yavapai-Prescott
David Kwail, Chairperson, Yavapai Apache Nation
David Lewis, Environmental Specialist, Yavapai Apache Nation

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

US EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED MOHAVE COUNTY WIND FARM PROJECT, MOHAVE COUNTY, ARIZONA, JUNE 18, 2012.

Water Resources

Clean Water Act (CWA) Section 404 Jurisdictional Determination
The DEIS states that a preliminary jurisdictional delineation consisting of ephemeral waters was completed in December 2011, which indicated the presence of about 93.8 acres of potential jurisdictional waters within the anticipated disturbance areas within the Project Area (p. 3-24). According to the Preliminary Jurisdictional Delineation Report, the areas surveyed within the project limits only included the proposed 500-foot-wide turbine corridors, the proposed 40-foot-wide roads and the proposed locations for the supporting facilities and construction areas. The U.S. Army Corps of Engineers has not verified this jurisdictional delineation (p. 3-24).

> *Recommendations:*
> EPA recommends that the FEIS: (1) include the findings of a Corps' verified jurisdictional delineation for the project site, and (2) provide a table in the EIS identifying the acreage of jurisdictional waters for each project feature for each alternative. This table should describe each type of water and include the direct/indirect permanent and temporary impacts to waters.

Substantial Potential Impacts to Waters of the U.S.
The alternatives proposed in the DEIS encompass between 34,720 and 47,059 acres divided among three watersheds: Lower Detrital Wash, Middle Detrital Wash and Trail Rapids Wash - Lower Colorado River. Detrital Wash and Trail Rapids Wash convey runoff into Lake Mead which is part of the Colorado River. The majority of the proposed project would be located within the Lower Detrital Wash watershed (p. 3-23). The waters on the project site provide sediment transport and deposition downstream, energy dissipation, ground water recharge, hydrologic connectivity, geochemical connectivity and ecosystem connectivity to the Colorado River.

The DEIS states that it is possible that up to 74 miles (93.8 acres) of waters could be affected by construction of the project due to the construction of access roads, grading, and placement of foundations for turbines, but the anticipated actual disturbance would be less, once final technology and turbines locations are identified (p. 4-16). Based on the DEIS, it is not clear how much less disturbance is expected. According to updated information provided by BP Wind Energy, EPA believes that project modifications or other feasible alternatives may be available that would avoid or substantially reduce this level of impact.

> *Recommendations:*
> The FEIS should incorporate sensitive design criteria into the project description, such as: reducing the fill footprint; locating all turbines out of waters; locating substations and transmission towers out of waters and designing turbine pads to minimize erosion and sedimentation off pads into waters. Additional avoidance and minimization measures,

such as bridging and the use of at-grade crossings or Arizona crossings for roads, should also be considered.

Eligibility for Nationwide Permit
According to the DEIS, the applicant intends to comply with the conditions of the USACE Nationwide Permit 51 to avoid the necessity of submitting a pre-construction notification. The DEIS also asserts that NWP 51 requires impacts of less than 0.1 acre to any single jurisdictional water (p. 4-16). This is incorrect.

NWP 51 authorizes discharges of dredged or fill material into non-tidal waters for the construction, expansion or modification of land-based renewable energy production facilities (33 CFR Part 330). The discharge may not cause the loss of greater than 0.5-acre of non-tidal waters, including the loss of no more than 300 linear feet of stream bed, unless the district engineer waives the 300 linear foot limitation based on a determination the discharge would result in minimal adverse effects. Contrary to the statement made in the DEIS, a pre-construction notification to the Corps is required for the use of NWP 51. If NWP 51 is used in combination with other NWPs, such as NWP 12 and 14 to cover transmission lines and site access roads, the cumulative impacts of each separate "single and complete project" must be considered when determining whether the project qualifies for NWP authorization. Although utility lines and roads are generally considered to be separate and complete linear projects, the Corps notes in the regulations that crossings of waters have to be at separate and distant locations for each to be considered a single and complete project. Crossings that are close together would not be considered separate single and complete projects (33 CFR Part 330 Final Notice, Discussion of Comments Nationwide Permits p. 10233).

The DEIS states that the materials source for access road aggregate and for mixing concrete for foundations would be from the existing Detrital Wash Materials Pit (Materials Source) which will impact the Detrital Wash. New mining activity would expand the existing mine to the north. Impacts would occur as sand and gravel is excavated from the banks and channel of Detrital Wash; deepening and widening the stream channel (p. 4-17). The extent of impacts to waters from sand and gravel mining has not been disclosed in the DEIS. Although NWP 51 includes attendant features, EPA believes sand and gravel mining within waters for use in the construction of the proposed project would not be considered an attendant feature.

EPA believes that the potential impacts to waters described in the DEIS and updated analysis are more than minimal and warrant evaluation through a Corps individual permit process. If a Section 404 permit is required, EPA will review the proposed project for compliance with the Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials (40 CFR 230), promulgated pursuant to Section 404(b)(1) of the CWA (Guidelines). Pursuant to the Guidelines, any permitted discharge into waters must be the Least Environmentally Damaging Practicable Alternative (LEDPA) available to achieve the project purpose. No discharge can be permitted if it will cause or contribute to significant degradation of waters.

If impacts to aquatic resources cannot be avoided, alternatives that minimize impacts must be fully considered. With projects such as transmission lines, substations and wind turbines, there

are opportunities to avoid and minimize direct, indirect, and cumulative impacts to potential jurisdictional waters by applying sensitive design criteria, as recommended above.

Recommendations:
The FEIS should:

- Provide corrected information regarding NWP 51, as discussed above.
- Describe, in detail, the direct, indirect and temporary impacts to waters, quantify these impacts in a table, as recommended above, and discuss steps that would be taken to avoid and minimize impacts for each of the project alternatives.
- Identify the LEDPA, if applicable, and describe how the project would comply with the 404(b)(1) Guidelines. The location of ephemeral waters and other sensitive habitats and species should be considered during development of the LEDPA.

Compensatory Mitigation for Losses of Aquatic Resources
The Compensatory Mitigation for Losses of Aquatic Resources Final Rule (Department of Defense [33 CFR parts 325 and 332], Environmental Protection Agency [40 CFR Part 230], April 10, 2008) established standards and criteria for the use of all types of compensatory mitigation to offset unavoidable impacts to waters of the United States authorized through issuance of permits by the Corps pursuant to section 404 of the CWA. Under Section 230.93(a)(2), compensatory mitigation may be performed using the methods of restoration, enhancement, establishment, and, in certain circumstances, preservation. If an individual permit is required by the Corps, the regulations at Section 230.93(b)(1) and 230.94(c) require a final approved mitigation plan prior to permit issuance. If the Project would be covered by a Nationwide Permit (NWP) and the Corps determines the applicant needs mitigation, the Corps can issue an NWP based on a conceptual mitigation plan; but the applicant cannot commence work without a final Corps approved plan (230.94 (c)(1)(ii)).

Recommendation:
Include, in the FEIS, compensatory mitigation measures for potential impacts to waters, as appropriate, pursuant to the Compensatory Mitigation for the Loss of Aquatic Resources Final Rule, 33CFR 325 and 332, April 10, 2008.

Aquatic Resources
EPA is concerned with the scope of direct and indirect impacts to all natural washes and site hydrology, regardless of their jurisdictional status. Natural washes perform a diversity of hydrologic, biochemical, and geochemical functions that directly affect the integrity and functional condition of higher-order waters downstream. Healthy ephemeral waters with characteristic plant communities control rates of sediment deposition and dissipate the energy associated with flood flows. Ephemeral washes also provide habitat for breeding, shelter, foraging, and movement of wildlife. Many plant populations are dependent on these aquatic ecosystems and adapted to their unique conditions. The potential damage that could result from disturbance of flat-bottomed washes includes alterations to the hydrological functions that natural channels provide in arid ecosystems, such as adequate capacity for flood control, energy dissipation, and sediment movement; as well as impacts to valuable habitat for desert species.

The DEIS provides minimal information on the direct and indirect impacts to waters as a result of the proposed project and fails to consider the up and downstream reach and extent of waters or their importance in this landscape.

Recommendations:
The FEIS should characterize the functions of aquatic features, such as washes, on the proposed Project site and discuss how the project would protect and maintain those functions.

To avoid and minimize direct and indirect impacts to desert washes (such as erosion, migration of channels, and local scour):

- Avoid placing turbine support structures in aquatic features to the maximum extent practicable.
- Use natural washes, in their present location and natural form and including adequate natural buffers, for flood control to the maximum extent practicable.
- Describe how the proposed Project layout, roads, and drainage channels have been configured to avoid ephemeral washes, including desert dry wash woodlands within the proposed Project's footprint, to the maximum extent practicable.
- Include a functional assessment of the waters on the proposed Project site and describe the changes to the function of those waters that would result from the proposed Project.
- Minimize the number of road crossings over waters and design necessary crossings to provide adequate flow-through during storm events to the maximum extent practicable.

Fencing
The DEIS does not provide information about fencing nor the effects of fencing on drainage systems. By entraining debris and sediment, fencing can interfere with natural flow patterns. Fence design should address hydrologic criteria, as well as security performance criteria.

Recommendations:
In the FEIS, describe where permanent fencing will be used and the potential effects of fencing on drainage systems. Ensure that the fencing proposed for this project will meet appropriate hydrologic performance standards.

Review the National Park Service's published article[1] on the effects of the international boundary pedestrian fence on drainage systems and infrastructure, and ensure that such issues are adequately addressed with this project.

[1] National Park Service, August 2008, Effects of the International Boundary Pedestrian Fence in the Vicinity of Lukeville, Arizona, on Drainage Systems and Infrastructure, Organ Pipe Cactus National Monument, Arizona,

Floodplain Hazards
Executive Order 11988 Floodplain Management requires federal agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of floodplains. According to the DEIS, the nearest designated 100-year floodplain is located around Detrital Wash, which is anticipated to supply materials for the Project's construction. The DEIS acknowledges that floodplain impacts would occur as sand and gravel is excavated from the banks and channel of Detrital Wash. The excavations would temporarily decrease the floodplain capacity of the wash by widening and deepening the stream channel (p. 4-17).

In addition, a FEMA-designated floodplain Zone D abuts the northwestern- and the northeastern-most boundaries of the Project Area. The Zone D designation is described as an Undetermined Flood Hazard by FEMA, which means no analysis of flood hazards has been conducted (p. 3-26).

> *Recommendations:*
> The FEIS should demonstrate the project's compliance with Executive Order 11988.
>
> The FEIS should provide a detailed description of the current FEMA floodplain.
>
> The results of consultation with FEMA, if appropriate, should be included in the FEIS.

Water Supply
The DEIS states that water requirements for Project construction would be met using groundwater from three off-site wells at the Materials Source located along the access road from US 93. Any water demands that surpass what well 531378 supplies would be met using the other permitted industrial water supply wells at the Materials Source (p. 4-18). However, EPA understands that, currently, there is no final agreement between the applicant and the private owner of Materials Source.

In addition, there is contradicting information in chapter 2 of the DEIS, which states that aggregate and water are planned to be obtained from within the Wind Farm Site (p. 2-13).

> *Recommendation:*
> The FEIS should confirm the availability of an adequate water supply for construction and operations of the proposed Project. The water supply source should be identified consistently throughout the document.

Air Quality
EPA supports incorporating mitigation strategies to minimize fugitive dust emissions, as well as emission controls for particulate matter (PM) and ozone precursors for construction-related activity. All applicable State and local requirements and the additional and/or revised measures listed below should be included in the FEIS in order to reduce impacts associated with ozone precursors, PM, and toxic emissions from construction-related activities.

Recommendations:
EPA recommends that best management practices, all applicable requirements under local or State rules, and the following additional measures be implemented at all times and incorporated into the FEIS, a Construction Emissions Mitigation Plan, and the Record of Decision.

Fugitive Dust Source Controls:

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing, and phase grading operations, where appropriate, and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage, and limit speeds to 15 miles per hour (mph) instead of 25 mph minimize the number of road crossings over waters and design necessary crossings to provide adequate flow-through during storm events.
- Limit speed of earth-moving equipment to 10 mph.

Mobile and Stationary Source Controls:

- Reduce use, trips, and unnecessary idling of heavy equipment.
- Maintain and tune engines per manufacturer's specifications to perform EPA certification levels, where applicable, and to perform at verified standards applicable to retrofit technologies. Employ periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications.
- Prohibit any tampering with engines and require continuing adherence to manufacturer's recommendations
- If practicable, lease new, clean equipment meeting the most stringent of applicable Federal or State Standards.
- Utilize EPA-registered particulate traps and other appropriate controls where suitable, to reduce emissions of diesel particulate matter and other pollutants at the construction site.
- Limit vehicle speeds on unpaved roads to 15 mph.

Administrative controls:

- Identify all commitments to reduce construction emissions and incorporate these reductions into the air quality analysis to reflect additional air quality improvements that would result from adopting specific air quality measures.
- Identify where implementation of mitigation measures is deemed to be not implementable due to economic infeasibility and provide comparable determinations for other similar projects as justification for this decision.
- Prepare an inventory of all equipment prior to construction, and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking. (Suitability of control devices is based on: whether there is reduced normal availability of the construction equipment due to increased downtime and/or

power output, whether there may be significant damage caused to the construction equipment engine, or whether there may be a significant risk to nearby workers or the public.)

- Meet EPA diesel fuel requirement for off-road and on-highway (i.e., 15 ppm), and where appropriate use alternative fuels such as natural gas and electric.
- Develop construction traffic and parking management plan that minimizes traffic interference and maintains traffic flow.
- Identify sensitive receptors in the project area, such as children, elderly, and infirm, and specify the means by which you will minimize impacts to these populations. For example, locate construction equipment and staging zones away from sensitive receptors and fresh air intakes to buildings and air conditioners.

Biological Resources

EPA is concerned about potential impacts to sensitive wildlife species, since the proposed area supports resident and migratory birds, mammals, reptiles, and their supporting habitats, including desert tortoise, golden eagles, raptors, banded Gila monster, and many bat species. Long-term impacts may occur as a result of permanent loss of habitat, increased predation, habitat fragmentation, and collisions with wind turbines and vehicles.

The U.S. Fish and Wildlife Service (USFWS) finalized the voluntary Land-Based Wind Energy Guidelines on March 23, 2012, which provide a structured scientific process for addressing wildlife conservation concerns at all stages of land-based wind energy development. They also promote effective communication among wind energy developers, government agencies and local conservation organizations and tribes. The Guidelines use a "tiered approach" for assessing adverse effects to species of concern and their habitats.[2].

Recommendation:
Coordinate with USFWS to incorporate recommendations from the recently published USFWS Land-Based Wind Guidelines into the FEIS and ROD. Given the current status of the project, Tier 3 of the Guidelines (Field Studies and Impact Prediction) may be the most appropriate section with which to start.

According to the U.S. Geological Survey, bat fatalities have been documented at nearly every wind facility in North America where adequate surveys for bats have been conducted. Also, it is unclear whether bats killed by turbines are local residents, migrants moving through the area, bats actively mating, or some combination of these things. At present, little is understood about the Southwestern bat species fatalities at wind farms. The DEIS indicates that up to 20 species of bats could occur in the Project area (p. 3-37). It acknowledges post-construction monitoring will be necessary to quantify the actual turbine-related impacts on bats from this Project.

[2] US Fish and Wildlife, Land-Based Wind Energy Guidelines, March 23, 2012, Available: http://www.fws.gov/windenergy/

Recommendations:
Continue additional pre-construction biological surveys of raptors and bats prior to siting turbines. Elaborate, in the FEIS, on risk assessment methods and how seasonal, prey and biotic variations were accounted for.

Consider utilizing unique types of radar technology , acoustic surveying and night vision to monitor for bird and bats. [3].

Consider a tactical shut down option during critical hours of species activity, as appropriate, to minimize adverse impacts on such species.

Consider blade feathering/idling (including on-the-spot and seasonal shutdowns), reducing cut-in speeds, and adjusting turbine speeds during strategic intervals to reduce take and to prevent mortality.

Monitor developments in deterrent technology that may be used in the proposed project.

Golden Eagles
The DEIS indicates that aerial raptor nest surveys have documented potential golden eagle nests within 10 miles of the proposed Project boundary. Thirty-three likely golden eagle nests were located at 24 locations during the initial round of survey. During the second survey, all of the nests found during the initial survey were rechecked and, due to a change in the project boundary, a small area of additional habitat was searched along the far southern edge of the new 10-mile buffer. Two golden eagle nests were located in this area (p. 3-45).

The DEIS states that the proposed Project Area and surrounding region seem to be sparsely populated by golden eagles. However, it acknowledges that a single year of surveys does not provide information on breeding or population trends in the region. In 2012, Arizona Game and Fish Department is conducting follow-up surveys to better understand the breeding locations and trends of golden eagles surrounding the Project Area (p. 3-46).

In February 2011, USFWS issued Draft Eagle Conservation Plan Guidance. The Eagle Conservation Plan Guidance provides the background information necessary for wind energy project proponents to identify appropriate siting, design, and operational modifications that can be incorporated into an Eagle Conservation Plan (ECP) that will assess the risk of their project(s) to eagles and how to mitigate that risk. It is our understanding that the applicant is working with USFWS on the development of an Eagle Conservation Plan and applying for a programmatic take permit.

Recommendations:
Include the results of the AGFD2012 surveys and additional studies in the FEIS.

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[3] For example, see http://www.detect-inc.com/avian.html and http://www.upi.com/Science_News/Resource-Wars/2010/03/18/Radar-reduces-wind-farm-risk-to-birds/UPI-71441268920323/. These resources are provided as examples only and do not constitute endorsement of any particular product by EPA.

Include the ECP in the FEIS and ROD. Provide an update on the status of the programmatic take permit application.

Consultation with Tribal Governments

The DEIS states that BLM initiated consultation with Federally recognized tribes, as well as the Federally unrecognized Pahrump Paiute Tribe (p. 1-15), and that tribes have identified concerns about direct and indirect impacts to archaeological sites, visual effects to traditional cultural resources, and the cumulative effects of energy projects on traditional territories that are of cultural importance for a range of environmental and heritage values (p. 5-8).

Recommendations:

The FEIS should describe the process and outcome of government-to-government consultation between the BLM and each of the tribal governments within the project area. Discuss issues that were raised, and how those issues were addressed in relation to the proposed action and the two other alternatives.

Include a copy of each Cultural Resource Management Plan and MOA in the FEIS.

Completion of Plans

According to the DEIS, during final design, detailed plans would be developed to further guide site preparation, construction, and post-construction phases, including: a weed management plan; transportation and traffic plan; a Health, Safety, Security, and Environment facility security plan; spill prevention plan; reclamation plan; a compliance and monitoring plan and an updated Plan of Development.

Recommendation:

Include completed plans in the FEIS and ROD.

BP Wind Energy

BP Wind Energy NA Inc.
700 Louisiana Street, 33rd Floor
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713-354-2100

MEMORANDUM

To: Jackie Neckels, BLM Arizona Environmental Coordinator
Eddie Arreola, BLM Arizona RECO Supervisor

From: Kim Wells, BP Wind Energy, Western Environmental Manager

Cc: Dan Runyan, BP Wind Energy, Vice President of West Development,
Beth Defend, URS, Third Party Contractor Project Manager
Mike Rigo, BP Wind Energy, Project Counsel
Debbie Quick, Morgan & Lewis LLP, Outside Counsel

Date: June 8, 2012

Subject: BP Wind Mohave County Wind Farm DEIS - Preliminary Waters Impact Evaluation

I. Background

The purpose of this memorandum (memo) is to address a request for a preliminary federal jurisdictional waters impact evaluation from the Environmental Protection Agency (EPA) to the Bureau of Land Management (BLM) as the lead federal agency responsible for compliance with the National Environmental Policy Act (NEPA) for the Mohave County Wind Farm Project (the Project) for which BP Wind Energy has requested right-of-way authorizations from BLM and the Bureau of Reclamation. BP Wind Energy understands the request was suggested by the U.S. Army Corps of Engineers (USACE) to inform the current NEPA process where the Draft Environmental Impact Statement (DEIS) was released for a public comment period on April 27, 2012 that closes on June 11, 2012.

The source of the data for this evaluation is an ongoing permitting exercise with the USACE related to Section 401/404 of the Clean Water Act that is running concurrent with but separate from the Project rights-of-way application processing and NEPA cycle resulting in the DEIS being out for public comment. The Clean Water Act analysis and permitting effort began before the EPA request, is currently being refined, and is expected to continue after the public comment period closes as is typical of a permitting process in association with projects with long lead approval times and multiple permits. As such, this evaluation should be viewed as a current snapshot in time with the best information available when the request from EPA was made.

Typically, wind projects proceed with a two-tiered approach to Clean Water Act analysis and, permitting whereby the first step involves a conservative mapping effort of all potentially jurisdictional waters or wetlands within all areas of potential impact. All areas of potential impact for this project were defined as 500-foot wide turbine corridors plus other project features outside of those turbine corridors with impacts including access roads, staging or laydown yards, operations & maintenance buildings, substations, and switchyards. By its very nature, this initial conservative mapping effort is overly inclusive regarding both the waters that will be impacted and the amount and areas of impact to individual waters. The "turbine corridor" approach is intended to map a much larger area of potentially jurisdictional waters or wetlands compared to what will actually be impacted.

The rationale for this approach is to provide flexibility during the second tier called micro siting, where individual project components, including roads and turbine foundations within a turbine corridor, are shifted slightly to avoid and minimize impacts to sensitive features, like potentially jurisdictional waters or wetlands. Flexibility is critical due to the long lead times associated with federal permitting and NEPA cycles, which in this project began when the application was filed in 2006 (six years ago), because the rate of technology change associated with turbines is high. By preserving flexibility through the turbine corridor approach, the maximum potential extent of environmental impacts can be identified in the NEPA process in order to meet disclosure requires, while achieving avoidance and minimization of impacts to federal jurisdictional waters as well as optimizing turbine selection for project economics and the wind regime through the micro-siting process.

BP Wind Energy routinely practices this two-tiered approach to siting on all of our wind farms and is generally successful at avoiding and minimizing impacts to potentially jurisdictional waters or wetlands to facilitate eligibility under one or more Nationwide Permits, as opposed to needing an individual permit. Our goal at BP Wind energy is to minimize and avoid impacts consistent with current USACE guidance for this project, which is what the ongoing effort is designed to address. In the event our ongoing evaluation determines we are unable to avoid and minimize impacts to reduce impacts below 0.5 acres of permanent and cumulative impacts per single and complete drainage, we would make the decision to pursue an individual permit.

II. Approach

For purposes of this evaluation, BP Wind Energy with the assistance of GIS staff from URS (the third-party NEPA contractor working at the direction of BLM), prepared a rough conservative estimate of potential waters impacts based on refinements to project elements not yet available at the time of publication of the Draft EIS . This approach remains conservative, meaning estimated impacts are still larger than actual impacts due to the state of information available at the present time. Our assumptions and their degree of conservatism follow below:

- Impacts within 500-foot turbine corridors were assumed to result from new road impacts and turbine foundations or pads.
    - *Conservatism*: Existing roads have not been precisely mapped and were assumed to be only 16 feet in width but are known to be larger in some areas, meaning that fewer new roads will be ultimately needed than assumed for this analysis, so the estimate is expected to be larger than actual impacts.

- Size assumptions for all projects features follow Table 2-2 of the DEIS with the exception of the switchyard that will be constructed by the Western Area Power Administration (Western) where recent specifications indicate an footprint of 17 acres instead of 37 acres is appropriate for a 500 kV interconnection.
    - *Conservatism*: Size assumptions for both substations and switchyards are based on the maximum size that could be needed, but engineering design by BP Wind Energy (for substations) and Western (for switchyards) is not final. In our experience on our existing wind facilities, we frequently need less of a footprint, so these estimates are expected to be larger than actual impacts.

- Roads were assumed to be 40 feet wide in total from shoulder to shoulder.
    - *Conservatism*: The total road width will not all be permanent impacts. BP Wind Energy will likely only need permanent roads 24 feet in width, so that impacts outside the 24-foot width will likely all be temporary, thus this estimate is expected to be larger than actual impacts.

- Existing roads (shown in pink on DEIS graphics) were assumed to be 16 feet wide in total shoulder to shoulder and are subtracted from project impact calculations due to existing disturbance.
    - *Conservatism*: Precise existing road dimensions are known to be larger in some places and have not yet been mapped, so that the amount of existing roads subtracted from impact calculations is expected to be larger than currently assumed.

- A 500 kV substation and switchyard option would have a larger footprint than a 345 kV substation and switchyard. The current rough impact calculations assume construction of 500 kV substation and switchyard.
    - *Conservatism*: It is not known yet which pair, either the 500 kV or 345 kV substation/switchyard may be built. If the 345 kV pair is constructed, the current rough estimate is expected to be 5 to 7 acres larger than actual impacts. If the 500 kV pair is constructed, this estimate is expected to be between 2 and 4 acres larger than actual impacts.

- The entire mapped jurisdictional water within the Materials Source access area for road gravel was assumed to be impacted.
    - *Conservatism*: The Materials Source is a previously impacted extraction site for road gravel that had prior USACE and Mohave County Flood permits in the 1990s. Due to the prior disturbance in existing conditions, this estimate is expected to be larger than actual impacts.

- All road crossings were assumed to represent permanent impacts.
    - *Conservatism*: In our experience, road impacts are rarely all permanent impacts, as low water crossings and other temporary impacts designs are frequently used on the majority of the roads where stabilization or significant widening is not required for heavy equipment access; therefore, this estimate is also expected to be larger than actual impacts.

III. Results and Conclusion

Table 1 below illustrates the range of impacts to potentially jurisdictional waters by Alternative (for A, B, and C) and by turbine specification layout.

Table 1. Total potentially jurisdictional waters within the Mohave County Wind Farm Project by Alternative and turbine manufacturer specification options as described in the DEIS. Alternative A is what is proposed by BP Wind Energy and Alternatives B or C are being considered to reduce potential environmental and social impacts under NEPA.

DEIS Alternative	77 to 82.5 -meter Diameter Rotor Turbine	90 to 101-meter Diameter Rotor Turbine	112 to 119-meter Diameter Rotor Turbine
A (283 turbines max)	14.95	14.76	14.34
B (208 turbines max)	13.39	13.25	12.79
C (208 turbines max)	13.49	13.38	12.92

The Preliminary Jurisdictional Determination prepared by ECOPlan and submitted to the USACE on January 24, 2012, estimated 93.8 acres of potentially jurisdictional waters present within the project area using very conservative assumptions based on the "turbine corridor" method as described above. The results of the current exercise that also use conservative methods as outlined above in Section II reduce those potential impacts to between 14.34 acres and 14.95 acres for Alternative A, between 12.79 acres and 13.39 acres for Alternative B, and between 12.92 acres and 13.49 acres for Alternative C. BP Wind Energy is currently in tier two of the micro siting process, additional avoidance and minimization efforts in conjunction with Western are ongoing to further reduce any potential impacts.