



March 10, 2010

Lorraine Keith
Bureau of Land Management
280 Highway 191 North
Rock Springs, WY 82901
WMWEP_WYMail@blm.gov

RE: Comments for the Draft Environmental Assessment for the White Mountain Wind Energy Project.

Sent by electronic mail on March 10, 2010.

Dear Ms. Keith,

Please accept these comments on behalf of the Wyoming Outdoor Council. We applaud the time and energy that was spent preparing the environmental assessment (EA) for the White Mountain Wind Energy (WMWE) project. However, we caution against a finding of no significant impact (FONSI) and urge the Bureau of Land Management (BLM) to prepare an environmental impact statement (EIS) for this project. Because this project will be the first industrial-scale wind project on BLM lands in western Wyoming and may well cover 13,165 acres, 4,398 of which are public lands administered by the BLM, we feel that the impacts will or may be significant and that there are few if any opportunities for meaningful and adequate mitigation – especially for the greater sage grouse. We also feel that the range of alternatives is inadequate, and that the BLM should consider an alternative with a smaller footprint to better protect resident wildlife. Finally, we believe that the cumulative impacts and other reasonably foreseeable development should be considered in more detail.

Simply put, this project will industrialize the landscape – building 234 wind turbines and associated infrastructure represents industrialization by any practical measure. It is certainly on the order of other industrial-scale projects such as a refinery, power plant, or trona mine. Thus, in our view, an EIS is clearly needed for this project.

I. An EIS needs to be prepared.

An EA “briefly provide[s] sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.” 40 C.F.R. § 1508.9(a)(1). If the agency concludes that the project will not significantly affect the environment, the agency must issue a finding of no significant impact. *Id.* at §§ 1501.4(e), 1508.13. Otherwise, an EIS must be prepared for “major federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C); 40 C.F.R. § 1501.4(c). As noted in *Sierra Club v. United States Forest Service*, 878 F.Supp. 1295 (D.S.D. 1993), a “programmatic EIS that is comprehensive and well-prepared obviates need for subsequent site and project-specific impact statements unless new and significant environmental impacts arise that were not evaluated within programmatic EIS.” At issue is the determination of whether the impacts of the WMWE project significantly affect the human environment and whether mitigation measures will reduce those affects below the significance threshold. We believe that the site-specific impacts from the WMWE project are significant and mitigation will not reduce those

impacts below the significance threshold. Because significant site-specific impacts and binding mitigation measures are not addressed in the Wind Energy PEIS, tiering to support a FONSI would not be appropriate and an EIS should be prepared.

A. The impacts of the WMWE project are significant.

The determination of whether to prepare an EIS begins with a determination of whether the impacts of the proposed action are significant. To make this determination, “NEPA requires considerations of both context and intensity.” 40 C.F.R. § 1508.27. Context considerations require

that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

Id. at § 1508.27(a). Intensity “refers to the severity of the impact.” *Id.* at § 1508.27(b). Several factors that should be considered when evaluating intensity include:

(1) Impacts may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes on balance the effect will be beneficial; (2) The degree to which the proposed action affects public health or safety; (3) Unique characteristics of the geographic area such as proximity to historical or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas; (4) The degree to which the effects of the quality of the human environment are likely to be highly controversial; (5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks; (6) The degree to which the action may establish precedent for future actions with significant effects or represents a decision in principle about a future consideration; (7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts; (8) The degree to which the action may adversely affect districts, sites, highways, structures or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historical resources; (9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973; (10) Whether the action threatens a violation of Federal, State or local law or requirements imposed for the protection of the environment.”

Id. at § 1508.27(b)(1-10). While the Wind Energy PEIS did broadly cover national and regional impacts, we believe that the significance of this project must be re-evaluated at a regional and national context in light of the current administration’s focus on wind energy as a national priority, which in turn will likely lead to a level of wind development in Wyoming and the region that substantially exceeds what was anticipated in 2004 when the Wind Energy PEIS was completed. The following discussion will focus on the intensity factors in the context of local affected interests and the locale itself. It must be remembered that actions that either “will or

may have an affect on” the quality of the environment are subject to NEPA. 40 C.F.R. § 1508.3 (emphasis added). Each of the following subsections address potential impacts of the WMWE project relative to context and intensity considerations and strongly suggest that the WMWE project will have significant impacts, which in turn demands that a thorough EIS be prepared.

1. The WMWE project may have significant adverse impacts on public health and safety.

The WMWE project may affect public health and safety in various ways including: increased crime and sexual assault as a result of the influx of transient temporary workers¹; shadow flicker; and noise impacts. Instead of relying of the Wind PEIS, the BLM should undertake a site-specific analysis of these potential threats to the public health and safety. Toward this end, the PEIS mentions that “site-specific recommendations for addressing these concerns should be incorporated into the project design.” DEIS, 5-34. In addition, we are particularly concerned with potential environmental justice issues that may be associated with these potential health and safety impacts to local residents.

While the potential for shadow flicker induced seizures may well be limited, we feel that a thorough analysis of this potential threat is warranted. Not only may residents who live immediately to the east of the WMWE project be affected, but there is the possibility that those who hike up White Mountain from Rock Springs, drive through the WMWE project, or visit Pilot butte may be affected as well. It seems quite possible that as the sun sets in the west, shadow flicker may well reach some residences in the North Rock Springs area. Rather than relying on Teton’s assertion that “shadow flicker would not *likely* be visible outside of the project area,” we suggest that the BLM make a definite determination about whether the turbines proposed near the rim of White Mountain will or will not cast shadow flicker upon residences below. WMWE EA, 2-45.

Issues relative to noise impacts from wind turbines and transmission lines were mentioned in the Wind Energy PEIS at 5-24, but the WMWE EA fails to consider the potential site-specific impacts of this phenomenon. The Wind Energy PEIS mentions how noise impacts to nearby residence from wind turbines can be determined from data provided by the wind turbine manufacturers or from a literature survey. Wind Energy PEIS, 5-24. Because of the large number of turbines and the potential impacts from the cumulative noise generated by them, we urge the BLM to consider noise impacts, especially relative to those who live immediately east and below the project site.

Environmental justice has been defined as “the demands of poor and minority communities for equitable environmental enforcement and facility siting.” Kenneth A. Manaster, *Environmental Protection and Justice* 21 n.1 (2d ed. 2000). Executive Order No. 12898, entitled “Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations” was issued in 1994. 59 Fed. Reg. 7629 (Feb. 11, 1994). This order requires all federal agencies to study and assess the effects of their actions on minority, Native American, and low-income communities. *Id.* The WMWE EA provides no discussion of environmental justice concerns because “no dwellings are present in the project area.” WMWE EA, 1-7.

¹ Joel Berger and Jon P. Beckman, *Sexual Predators, Energy Development, and Conservation in Greater Yellowstone*. *Conserv. Biol.* (2010).
<http://www3.interscience.wiley.com/journal/123296093/abstract?CRETRY=1&SRETRY=0>

Environmental justice issues are generally associated with human settlements near or adjacent to industrial facilities, but generally not because settlements are actually located within an industrial facility. The PEIS recognizes that affected communities need not be actually inside of a project boundary, when it stated that the PEIS mentions how “wind energy development projects...could impact environmental justice if any adverse health and environmental impacts ... were significantly high, and if these impacts would disproportionately affect minority and low-income populations.” PEIS, 5-110.

A significant number mobile homes² lie along the base of White Mountain, some of which are within one mile of WMWE project boundary. Because many of these mobile homes are probably occupied by low-income or minority individuals, and because these mobile homes are closer than any other dwellings to the WMWE project, impacts may well be significant and felt disproportionately by these individuals. While only 5.8 percent³ of Sweetwater county residents are below the poverty level, an investigation of the poverty level in the North Rock springs area would aid in a determination of disproportionality. We urge the BLM to consider potential site-specific environmental justice issues, especially in light of the potentially heightened health, safety, and visual impacts to those living nearest to the WMWE project. In fact, the PEIS recommends that a “[f]ull analysis of the potential impacts of specific projects on low-income and minority populations would be undertaken as part of site-specific NEPA reviews of each proposed wind energy development site.” PEIS, 5-111.

2. The WMWE project may have significant adverse impacts on the unique characteristics of the geographic area, including scenic views and wildlife.

Visual and Aesthetic Impacts

Pilot Butte is located directly on top of White Mountain, and was used by early pioneer emigrants as a landmark⁴. At 7,949 feet, the butte is the highest point in the area. A steel ladder was placed on the butte to help people reach a summit where they can enjoy sweeping views of the surrounding landscape. Depending on visibility, one might be able to see up to 100 miles in any direction. From the top of Pilot Butte, one visitor felt as if she were “looking out into his creation” and that it was “[j]ust like in the old west⁵.” According to one Wyoming tourism website⁶, the Pilot Butte area has “some of the best vistas in Wyoming.” The WMWE EA even recognizes that this area is a “classic panoramic Wyoming landscape that creates a feeling of vastness and open space.” WMWE EA, 3-29. It seems quite reasonable to suppose that these qualitative characteristics of the Pilot Butte area – characteristics that are based on its open, natural, and untrammled surroundings - will be directly and negatively affected by the introduction of a major industrial project in the immediate vicinity. Moreover, historic trails enthusiasts are likely to see the tall turbines as they look south to observe Pilot butte from the

² See Fig. 1. (This image was produced using Google Earth).

³ <http://quickfacts.census.gov/qfd/states/56/56037.html>

⁴

<http://contentdm.lib.byu.edu/cdm4/results.php?CISOOP1=any&CISOFIELD1=CISOSEARCHALL&CISOROOT=/RelEd&CISOBX1=Butte>

⁵ <http://alittlegrace.blogspot.com/2007/08/hiking-up-pilot-butte-wyoming.html>

⁶ <http://www.wyomingtourism.org/overview/Wild-Horses/31087>

Pilot Butte Trails Site and other locations along the Oregon, Mormon, Pony Express, and California National Historic Trails.

Wildlife Impacts – Big Game

Because elk crucial winter and parturition habitats lie immediately to the west of the proposed WMWE project and because spring/summer/fall habitat exists throughout the WMWE project site, we believe that the impacts to the White Mountain elk population are likely to be significant. Very little research has been conducted on the impacts to elk from wind energy development, therefore we feel that the BLM should renew and expand its consideration of these potential impacts. The BLM's assertion that "[o]peration of the facility is not expected to have any long-term effects on big game once they have habituated to the increased level of traffic and the presence of wind turbines"⁷ places too much reliance on a single study by Walter et al. 2006 and fails to consider other relevant science. The Walter study may be of limited use as a predictor of elk response to wind energy construction and operation in Wyoming, because it involved a non-migratory herd from southwestern Oklahoma that was habituated to people and traffic. Other research has clearly shown that elk are particularly susceptible to development-related disturbances in the western United States.

One study in Montana documented how areas of high elk use were separated from areas of disturbance by a distance of 500 to 1000 meters (Edge and Marcum, 1985). In addition, elk generally avoid roads with vehicle traffic (Lyon 1983, Witmer and DeCalesta 1985, Grover and Thompson 1986, Rowland et al. 2000). Recent research in the Jack Morrow hills quantified habitat selection by elk in nonforested environments (Sawyer et al. 2007). This study is particularly relevant because it was conducted in the same region and in habitat that is similar to that found on White Mountain. The Jack Morrow hills study found that "elk seemed to rely on a combination of shrubs, topography and low human disturbance to meet their thermal and hiding requirements." The study consistently found that most elk selected away from roads. A more thorough analysis of the impacts to the elk population that inhabit White Mountain would be informed by the Jack Morrow hills study as well as others that have demonstrated impacts to elk from human disturbances in the western U.S. In addition, given the findings of recent research on mule deer and pronghorn in the upper Green river basin (Sawyer et al. 2009), it is tenuous at best to contrast the differences between oil and gas development and wind energy development to support the assertion that there will be no long-term effects to big game because they will habituate to human presence. This statement as it relates to pronghorn and mule deer is completely without merit because no studies have been conducted that assess the impact of wind energy development on these species. Rather, it seems more likely that there will be long-term impacts to pronghorn and mule deer populations due to many features that are shared by oil and gas and wind developments – some of which include: increased motorized traffic, noise, new roads, and new infrastructure. As Sawyer et al. 2009 demonstrates, mule deer often suffer very negative impacts from intense oil and gas development, which is probably more likely to be analogous to the 234 wind turbines at issue here than not.

Wildlife Impacts – Pygmy rabbits

⁷ WMWE EA, p 4-60.

The WMWE EA is wholly inadequate because it fails to consider site-specific impacts to pygmy rabbits found in the WMWE project area. Rather, the WMWE EA assumes that “[i]mpacts to ... mammal species (e.g., pygmy rabbits...) during the O&M phases of the Proposed Action would be the same as discussed for wildlife, including birds, presented in Section 4.12 of this EA.” WMWE EA, 4-46. Pygmy rabbits have different life histories and habitat requirements than those species discussed in section 4.12, therefore the BLM cannot reasonably assume that impacts to pygmy rabbits will be comparable. Because White mountain is near the periphery of the pygmy rabbit’s range, this population may be at an increased risk of extirpation which may in turn lead to restriction of this species range. The U.S. Fish and Wildlife Service is currently reviewing whether to list the pygmy rabbits under the ESA, therefore we implore the BLM to determine the extent of pygmy rabbit habitat within the WMWE project area and fully discuss site-specific impacts that will or may result from the WMWE project.

Wildlife Impacts – Greater sage-grouse

With the recent addition of the Greater sage-grouse to the Endangered Species Act candidate species list and BLM Instruction Memorandum no. 2010-071 (IM-071) as well as IMs 2010-12 and 2010-13, the BLM must revisit its analysis of impacts to Greater sage-grouse in the WMWE EA. As it stands, the proposed action will allow wind turbines to be sited in a sage-grouse core area, likely brood-rearing habitat, and potential winter habitat. While the majority of the WMWE project area is not within a core area, it is quite possible that most of the project area is a priority habitat because the White Mountain greater sage-grouse population may well be “vulnerable to localized extirpation but necessary to maintain range-wide connectivity and genetic diversity.” IM-071. With 226 individual observations based on field data from 2008, and 1,812 observations over the past 26 years, sage grouse undoubtedly have a significant presence and rely on habitat within the project area. WMWE EA, 3-24. In addition, it was mentioned that “sage-grouse likely breed and raise their broods in or adjacent to the project area.” *Id.* at 3-26.

While the WMWE EA seems to partially dismiss the relevance of recent greater sage-grouse oil and gas research, IM-071 recognizes that “[s]ome aspects of oil and gas development affecting sage-grouse use of an area (e.g., construction of facilities, road networks, and resulting habitat fragmentation) also occur in other types of energy development” and that “the BLM will consider this body of research in the context of all energy development activities on the public lands.” In addition to sharing many of the infrastructure components of oil and gas fields, wind energy development has an added vertical component (very tall wind turbines) that is anticipated to be particularly problematic for sage-grouse, which evolved in treeless, open landscapes that provide few perches for the raptors that prey on grouse. Greater sage-grouse are displaced when junipers (vertical structures that serve as raptor perches) encroach on sagebrush habitat (Doherty 2008, Miller et al. *In press*).

Research also suggests that habitat use by sage-grouse is negatively impacted by power lines (another type of vertical structure) up to a distance of at least 600 m (Braun 1998). Studies on two species of prairie chickens, which are open-country species like sage-grouse, in Oklahoma showed that the birds avoided transmission lines (Pruett et al. 2009). In addition, lesser prairie-chickens crossed power lines less often than expected if birds moved randomly, and their home ranges overlapped transmission lines less than would be expected by the

chance placement of home ranges ((Pruett et al. 2009). IM-071 specifically recognized the relevance of prairie chicken research to greater sage-grouse.

Not only do wind energy sites contain vertical structures that might displace grouse, but they also contain higher *densities* of vertical structures than do oil and gas fields. Research has shown that oil and gas development in excess of one well pad per square mile causes sage-grouse populations to decline (Holloran 2005, Naugle et al. 2006). Wind farms may have densities of more than 13 turbines (with pads) per square mile. A recent BLM IM makes it clear that BLM must seek to consolidate development and transmission features on the landscape regardless of whether the proposed action is in a core area or not – one element of this is completing a habitat evaluation of the area within eleven miles from the project boundary of large-scale actions. IM 2010-012 at 4, 8. Furthermore, the motion, shadow flicker, and noise of turbine blades, are likely to be additional disturbance factors to grouse. Given the anticipated impacts that wind energy development will have on sage-grouse populations, we believe that the WMWE project is likely to have a significant impact to sage-grouse that inhabit White Mountain.

As mentioned in the WMWE EA, the northern portion of the WMWE project area that lies within the South Pass core habitat area is “likely” to be of “decreased value” to greater sage-grouse because of the existing transmission line. WMWE EA, 4-44. The recognition that none of the 226 greater sage-grouse observed in the 2008 surveys were found near this transmission line (a tall vertical structure), serves as a caution that the proposed wind turbines throughout the remainder of the WMWE project may have an adverse effect on sage-grouse habitat use in the remainder of the project area. We might also expect that sage grouse habitat use outside the WMWE project will also be affected, especially if wind turbines impacts are similar with those associated with oil and gas development and overhead transmission lines. Therefore, in light of the work of Manville 2004, we believe that the potential impacts to sage-grouse habitat use within the project boundary and within four miles of any turbine should be considered. Such an inquiry should consider impacts to lek attendance as well as nesting, brood-rearing, and winter habitat use. In sum, because impacts to sage-grouse from wind energy facilities are uncertain but highly probable, and the fact that further loss of sage-grouse populations or habitat could lead to a formal ESA listing, it is likely that the WMWE project will or may have a significant impact.

3. The effects of the WMWE project are likely to be highly controversial.

A number of Rock Springs citizens have expressed concern about visual impacts, industrialization near pilot butte, loss of hunting opportunities, and impacts to wildlife that may result from the WMWE project. We suspect that comments received during this comment period will illustrate the concerns of local citizens. In *Foundation for North American Wild Sheep v. U.S. Dept. of Ag.*, 681 F.2d 1172 (CA9 Cal, 1982), the court held that an EIS was necessary because the EA had failed to comply with the regulation that requires a consideration of “the degree to which the effects on the quality of the human environment are likely to be highly controversial.” We urge the BLM to consider the nature and extent of the controversy surrounding the WMWE project and to prepare a thorough site-specific EIS.

B. Mitigation will not lower the impacts from the WMWE project below the significance threshold.

To justify a FONSI based on mitigation measures, the mitigation measures must be binding and their adequacy must be supported by substantial evidence. *Wyoming Outdoor Council v. Army Corps of Engineers*, 351 F.Supp. 2d 1232 (D. Wyo. 2005); *Davis v. Mineta*, 302 F.3d 1104 (10th Cir. 2002). Because many of the mitigation measures embodied in the WMWE EA are either absent, inadequate, or nonbinding, we believe that a FONSI cannot be sustained. The following discussion provides a discussion concerning the absence or inadequacy of mitigation and suggestions for reducing impacts to some of the resources that may be significantly affected.

Elk

The timing stipulations mentioned on page 2-52 of the WMWE EA may not significantly reduce the likely impacts to elk during construction – especially if exceptions are granted. Furthermore, once the project is built it is likely that little if anything can be done to mitigate potential elk dislocations because O&M activities would continue in the project area. However, siting refinements using the model developed by Sawyer et al. 2007, may lead to fewer disruptions of summer, fall, winter and spring habitat use by elk. Such refinements would be informed by paying close attention to the variables that are likely to affect habitat use by elk, namely: slope, aspect, elevation, distance to roads or other disturbances, distance to shrub cover, and habitat diversity. To reduce impacts to elk, it may be possible to avoid siting turbines near steep, north-facing, densely vegetated slopes. In addition, Sawyer et al. 2007, suggested that restrictions on vehicular access or limitations on road densities may be necessary to maintain effective elk habitat in a nonforested environment because “disturbance may be more difficult to mitigate in nonforested environments compared with forested regions where security cover is more abundant.” p. 873.

Raptors

Because wind turbines along cliffs, ridgelines, and near cuts or passes in ridgelines are known to pose increased risk to foraging and migrating raptors, special care must be taken when siting wind turbines near these features. We believe that a setback of 164 feet from the rim of White Mountain is inadequate to protect foraging and migrating raptors, therefore we feel that a setback of 350 feet should be used instead. The WMWE EA does not discuss why a setback of 165 feet was selected, therefore we feel that a more conservative approach that is more likely to protect raptors is justified. We believe that an increased setback is warranted because “raptors appeared to use the area along the eastern edge of White Mountain preferentially” and “turbines located along the eastern edge of the mountain would pose the greatest risk” to raptors. WMWE EA, 4-65. In addition, a wider berth should be implemented near the cut in the ridgeline of White Mountain through which the existing utility line passes because “raptors also used areas near drainages and hills.” *Id.* Finally, if any prairie dog towns are present in the project area, these areas must be considered when siting wind turbines because these areas are known to attract raptors, especially burrowing owls and ferruginous hawks. To further minimize risk to raptors, wind turbines should be clustered rather than widely spaced, and turbine rows should be oriented parallel to known bird movements rather than perpendicular to them. Transmission

lines should comply with Avian Power Line Interaction Committee standards for minimizing raptor electrocutions.⁸ Finally, if latticed met towers are to be used in the project site, the towers should be designed in a manner to prevent raptors from perching on them. Because these measures may reduce but will not eliminate raptor fatalities, and because these birds are protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, such fatalities are quite significant and should be examined thoroughly in an EIS. As the WMWE project stands, the efficacy of proposed mitigation measures are speculative and not supported by substantial evidence, therefore we feel that a FONSI cannot be sustained.

Greater Sage-grouse

The implementation of any successful mitigation efforts must begin with an informed understanding of sage-grouse habitat use within and adjacent to the WMWE project. Toward this end, the BLM should first consider completing an inventory of the “the condition of the [sage-grouse] populations and their habitats.” BLM Manual 6840. Without a reliable understanding of how sage-grouse are using White Mountain, any potential impacts and mitigation measures are likely to be flawed, speculative, and unsupported by substantial evidence. Based on what is currently known about impacts to sage-grouse from other types of energy development, it is likely that sage-grouse will no longer use habitat within or near the WMWE project as currently proposed. Furthermore, it also seems likely that no mitigation exists that will prevent sage-grouse dislocations once the project is built. To minimize potential impacts outside of the project area, transmission lines should be buried, especially when in the vicinity of known sage grouse habitat. If burying lines is not feasible, the lines should be kept at least four miles away from the perimeter of occupied sage-grouse leks. In addition, transmission lines within five miles of leks should be outfitted with perch deterrents or perch guards to prevent raptor use. In addition, the BLM should consider reductions in livestock grazing to enhance sage-grouse habitat that is adjacent to the WMWE project. Livestock reduction may well increase the quality of sage-grouse brood-rearing habitat by enhancing the availability of insects and forbs upon which young sage-grouse rely. Finally, we believe that the BLM should abide by the forthcoming Final Wind Energy Recommendations that are being promulgated by the Wyoming Game and fish Department.

Pygmy rabbits

Because pygmy rabbits may well be listed under the ESA in the near future, special care must be taken to avoid impacts to the White Mountain population. Virtually nothing is known about the White Mountain pygmy rabbit population, therefore any successful impact prevention or mitigation scheme must begin with an accurate understanding of the pygmy rabbit population and the extent of pygmy rabbit habitat within and adjacent to the WMWE project. Because this population is poorly understood, we feel that the proposed mitigation measures are speculative, inadequate, and not supported by substantial evidence. Pygmy rabbits do prefer dense stands of sagebrush, but other characteristics such as soil depth, proximity to water, and northern aspects all appear to important habitat components as well. (Himes and Drohan, 2007). Other

⁸ Avian Power Line Interaction Committee (APLIC). 2006. *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*. Edison Electric Institute, Washington, D.C.

less dense stands of sagebrush and other shrubs provide cover and security for movements between dense stands. While it is known that pygmy rabbits generally tend to confine their movements to areas near burrows, during breeding, pygmy rabbits have been shown to range further away from their burrows (Jansen, 1946). One study found that average travel distances during the breeding season were 155.3 m for adult males, 33 m for adult females, and 106.4 m for juveniles (Gahr, 1993). If roads and turbines were to eliminate patches that provide cover during breeding movements, pygmy rabbit habitat may be fragmented, which in turn may lead to population declines or extirpation because of increased predation⁹ while crossing exposed¹⁰ disturbed areas to find mates.

The first mitigation measure states that “the removal of natural vegetation would be minimized to the extent possible during construction.” WMWE EA, 2-51. This measure is vague and does not ensure that dense stands and travel corridors would be avoided. The second mitigation measure would rely on presence/absence surveys prior to vegetation removal and construction, and may lead to turbine placement modifications “to the extent practicable.” *Id.* Again, this measure would not ensure that pygmy habitat would be avoided, and the use of presence/absence surveys may not adequately reflect all components of pygmy rabbit habitat, notably travel corridors between dense stands needed for breeding. For more information, we urge the BLM to consult Oliver, 2004. Because of the uncertainty surrounding the nature and extent of the pygmy rabbit population on White Mountain and the speculative and nonbinding mitigation measures proposed, we believe that the WMWE project may or will have a significant impact and that a FONSI cannot be sustained.

Passerine birds and bats

To minimize impacts to passerine birds and bats, siting near wetlands and high use areas identified in pre-construction surveys should be avoided. Guyed met towers may be more dangerous to birds than wind turbines. Therefore, unguyed, tubular (non-latticed) towers should be used. If latticed towers are to be used, measure should be taken to eliminate guy-wires or the wires should be fitted with highly visible bird diverters, such as Firefly diverters or other recommended bird deterrent devices. Sodium vapor lights, widely used for security lighting, should never be used at or near wind energy facilities because they have been shown to attract night-flying birds (USGAO 2005). All other lighting measures should comply with FAA requirements for aircraft safety and should use the minimal number of simultaneously flashing red or white lights to minimize the risk to night-migrating birds.

Post-construction monitoring.

When conducting surveys to determine fatality rates of birds and bats, surveyors should be sure to incorporate scavenger removal trials (to determine how many dead birds and bats are removed from the site by scavengers) and searcher efficiency trials (to determine the proportion of dead birds actually found by searchers) to ensure that carcass searches yield the most reliable data. These surveys should be conducted during the spring and fall migration

⁹ Great horned owls and Cooper’s hawks, and coyotes have been known to prey on pygmy rabbits. (Janson 1946; ; McCracken and Hansen 1982; and Janson 2002) .

¹⁰ According to one study, “cover appeared to be the critical habitat feature selected by the pygmy rabbit.” (Green and Flinders 1980).

periods and during the breeding season for at least two years after operations begin. If these post-construction surveys indicate unacceptable levels of avian or bat fatality, effective mitigation measures should be instituted. Such measures might include, shutting turbines down at night during peak migration periods to reduce collisions and temporarily shutting down individual turbines that appear to be particularly dangerous to birds and bats. These measures would be in addition to operational protocol for cut-in speeds mentioned in section 2.5.5.3 of the WMWE EA. While we applaud the implementation of post-construction wildlife occurrence surveys and indices, any mitigation measures that will be implemented in response to these survey efforts are speculative and will be unlikely to reduce the impacts of the WMWE project below the significance threshold and should not be used to justify a FONSI – this is especially true in regard to sage-grouse.

Disturbed areas and reclamation.

Serious consideration should be given to the use of native seeds and cuttings when disturbed areas are reclaimed. We do not feel that it is appropriate to use crested wheatgrass for reseeding operations. In addition, the BLM should consider the use of road mats and crane pads, both of which may eliminate or reduce the need to physically disturb vegetation and engage in subsequent reclamation activities.

Visual Impacts

Undoubtedly, the wind turbines proposed in the WMWE EA will be highly visible and the ability to mitigate their impact is probably minimal. While the WMWE EA does require measures that promote uniformity and use of nonreflective paints, we believe that a 350 foot setback from the rim of White Mountain will not only help protect raptors and other birds, but will also help to minimize the potential health, safety, and visual impacts of the wind turbines to those who live below and to the east of White Mountain.

III. The Range of Alternatives should be reconsidered.

We believe that the range of alternatives in the WMWE EA is inadequate. The BLM should consider an alternative with a smaller geographic extent that lies within Teton's monitoring and testing ROW. A spatially smaller alternative might better protect human health and safety, sage-grouse, pygmy rabbits, raptors, and big game while still allowing a viable wind energy project. We feel that the inclusion of Alternative A does not provide a reasonable range of alternatives because the impacts from this project will likely be very similar to those stemming from the proposed action, even though fewer turbines are proposed under Alternative A. A reasonable alternative might consider the following: a 350 foot setback from the rim of White Mountain to better protect birds, bats, and aesthetics; no direct disturbances in sage-grouse concentration areas; no direct disturbance in pygmy rabbit habitat, and no direct disturbance in elk crucial winter or parturition areas. Such an alternative could be pursued by not allowing development or ROW access to these features.

IV. Cumulative and Reasonably Foreseeable impacts.

We are particularly concerned with the potential for population level impacts to sage-grouse, elk, pygmy rabbits, and raptors (especially golden eagles, burrowing owls, rough-

legged hawks, and ferruginous hawks), therefore we urge the BLM to consider and model such impacts, not only relative to the WMWE project but also relative to other reasonably foreseeable projects which include: development of adjacent monitoring and testing ROWs on White Mountain, the proposed Gateway West transmission line and the Lonesome Bronco project. This analysis should evaluate the reasonably foreseeable impacts of direct mortality and/or habitat loss on populations using theoretical approaches or research methods generally accepted in the scientific community. The analysis of habitat disturbance and possible effects found in section 4.12.5 of the WMWE EA inadequately describes cumulative impacts because it fails to meaningfully and quantitatively describe what effect these habitat losses and other impacts will have on wildlife populations that will or may be affected by the WMWE project.

We are also concerned with the use of somewhat arbitrary impact assessment areas (IAA) to calculate quantitative cumulative impacts for the affected area. Several of the IAAs are arguably much larger than what logic would dictate to be the affected area, which in turn results in an unrealistically low quantitative impact figure. Therefore, we feel that a frame of reference that more accurately depicts the affected resource should be used. For example, instead of using the large Steamboat herd unit for assessing impacts to elk, a better frame of reference might be the geographic extent of White Mountain. Indeed, a biologically defensible frame of reference is likely to show significant impacts to the elk population on White Mountain. A similar problem is evident with the IAAs used for other big game species, raptors, bats, and other wildlife. The use of a large frame of reference to determine quantitative impacts to any given resource underestimates habitat loss and contributes to a failure to analyze population level effects.

V. Conclusion

Thank you for considering these comments and please feel free to contact me if you have any questions.

Sincerely,

Nathan Maxon

Wyoming Outdoor Council
262 Lincoln Street
Lander, WY 82520
307-332-7031 ext. 15
nathan@wyomingoutdoorcouncil.org

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