



American Wind Energy Association (AWEA)
Comments to the U.S. Forest Service
Wind Energy, Proposed Forest Service Directives (RIN 0596-AC61)
November 16, 2007

Wind energy is an important source of clean, renewable electricity in the U.S. and around the world. Wind energy development is driven by the desire to reduce the country's reliance on fossil fuels and meet electricity demand with sources of generation that emit fewer harmful emissions such as carbon dioxide, the leading contributor to global warming. As stated in the directives, the Energy Policy Act of 2005 (EPAct 2005) recognized the role of the Forest Service in helping to reduce U.S. reliance on foreign sources of energy. Development of wind and other alternative energy sources was deemed an appropriate use of National Forest System lands. The directives drafted by the U.S. Forest Service to guide wind energy development should allow for wind development rather than unduly hinder it, and this draft should be overhauled to better account for the wind energy project development process.

As written, the American Wind Energy Association (AWEA)¹ concludes that the directives will result in inconsistent requirements for wind energy projects on Forest Service lands. The directives will also unnecessarily restrain development in the relatively limited areas that may be economically feasible to host a wind energy project. These outcomes run counter to the stated policy objective of the directives, as well as to Executive Order 13212 that seeks to expedite energy production measures.

Among AWEA's concerns:

- The guidelines could be interpreted as requiring two years of extensive wildlife monitoring surveys to erect a temporary met tower. These structures, which are necessary for measuring wind speed in order to find economically viable sites, require no permanent ground disturbance, have stationary parts (i.e. no spinning turbines) and minimal environmental impact.
- The mere fact that another Federal agency raises a concern is enough to stop a project, even if the agency has not demonstrated any basis for the concern.
- In several places, the guidelines are disconnected from the reality of how projects are financed and developed. For example, the guidelines allow the USFS to require that turbines be moved after a project is already operating. The possibility of required turbine relocation will make projects un-financeable.

¹ Established in 1974, the American Wind Energy Association (AWEA) is a national trade association representing wind power project developers, equipment suppliers, services providers, parts manufacturers, utilities, researchers, and others involved in the wind industry - one of the world's fastest growing energy industries. In addition, AWEA represents hundreds of wind energy advocates from around the world.

- The guidelines require five years of wildlife monitoring (two years pre-construction, three years post-construction) regardless of whether there is a biological imperative for doing so. AWEA is not aware of any similar requirement for other projects on USFS land that may have significant wildlife impacts, such as transmission lines, ski areas, or permanent communication towers.

The inclusion of such requirements sets a burdensome precedent for the wind industry and could potentially stifle development of a clean, renewable energy resource without a scientific basis for doing so. No evidence is given to support these and other requirements. The Forest Service should rely on the best available science (36 C.F.R. § 219.35(a) and 36 C.F.R. § 219.11) to determine the requirements for wildlife studies, visual impacts, and noise levels, among other site-specific characteristics. The nature of these concerns demands that they be handled on a case-by-case basis and the Forest Service should clarify that in the directives.

When the USFS first announced its intention to draft guidance for wind energy development, AWEA and its member companies actively sought to participate in the process. Over the course of many months and despite repeated requests, the USFS did not engage representatives of the wind energy industry in meaningful dialogue or learn about wind energy development from the experts. Much of the input that was offered by the wind industry was not included and as a result, the draft directives are unclear in many places and contain numerous provisions that are not based on the best available science or current practices. Government policies must recognize the nature of projects they are designed to authorize. These directives put policies into place that are unworkable for the wind industry and that do not account for the realities of the development process.

Meteorological Towers/Site Testing & Feasibility Permits

Wind project development involves critical phases and decision points. The first step of any project once a potential site has been identified is to verify the wind resource. The standard industry practice is to deploy temporary meteorological towers (“met towers”) and measure the wind speeds at various locations. Met towers used at this early stage are temporary, guyed structures that can be erected and removed easily. Met towers are 6-9 inch diameter guyed monopoles ranging in height from 30 to 60 meters. Instrumentation is affixed to the tower to collect weather and wind data. Data from the met is captured on computer chips or transmitted electronically.

The process of discovering economically viable wind energy project sites necessitates collecting data across a number of potential project areas, and often within multiple locations of those potential project areas. This allows for the wind resource in an area to be well understood and any environmental disturbance to be minimized.

After wind resource data is collected, development is often discontinued due to insufficient wind. The power available in the wind is proportional to the cube of its speed, which means that doubling the wind speed increases the available power by a factor of eight. So, what seems like a small difference in wind speed can mean a large difference in available energy and in electricity produced, and therefore, a large difference in the cost of the electricity generated.

Verifying the wind resource is a principal activity during the Site Testing and Feasibility phase. Requirements for a Minimum Area Permit or a Project Area Permit should be limited to the de minimus impacts of this use. A Categorical Exclusion (CatEx) has been granted for a met tower in at least one case (see Appendix A). The Decision Memorandum relied on the Forest Service Handbook 1909.15, section 31.2(3). This section allows for a CatEx where “[a]pproval, modification, or continuation of minor special uses of National Forest System lands that require less than five contiguous acres of land” and including “[a]pproving the construction of a meteorological sampling site.”

Section 75.1 - Site Testing and Feasibility Permits states that there should be a determination whether a monitoring plan is needed for this permit, and if so, the plan’s contents should be based on the NEPA decision document. “Determine whether a monitoring plan is needed for a site testing and feasibility permit, and if so, the contents of the plan should be based on the NEPA decision document. If a monitoring plan is not needed, encourage the holder to conduct monitoring of adverse effects on wildlife. The results of monitoring could facilitate processing of an application for a permit for construction and operation of a wind energy facility” (75.1 (1)).

This language is problematic for a number of reasons:

- The directives can be interpreted to read that a full Environmental Impact Study (EIS) is expected for all met towers, including temporary met towers at the site testing stage. It is appropriate to expect eventual wind energy projects to conduct an EIS under the National Environmental Policy Act (NEPA). An EIS for a temporary met tower, however, is an unreasonable request as it would create years of delay and significant costs with no corresponding environmental benefit.
- Extensive wildlife monitoring processes, including a 2-year pre-construction and 3-year post-construction timeframe, is described in FSH 2609.13, Chapter 80. Nowhere in that chapter is it stated which permit this chapter applies to, so it could be interpreted to apply to Site Testing and Feasibility Permits. This level of wildlife study is unreasonable given the temporary nature of the towers and the de minimus impact on wildlife from such structures. If these studies are expected only to correlate to the Construction and Operation Permit, that should be more clearly stated.
- Guy wires are discouraged for these temporary met structures. This requirement would dictate that any met tower require foundations which would result in greater ground disturbance than is necessary.

We understand, and hope, that these measures may not be required in all instances. The draft is unclear, however, leaving significant discretion and interpretation at the local field office. The draft should be clarified to provide guidelines that delineate a *process* for reaching a determination but allows for site-specific variability in the types and length of surveys and monitoring required relevant to the potential impact.

Land Use Management Plans

The Forest Service reportedly rejected a comprehensive revision, using a Programmatic Environmental Impact Statement similar to the Bureau of Land Management's approach, of land use management plans to clearly acknowledge that wind energy projects are appropriate uses of Forest Service land. Instead, the wind industry is encouraged to engage with field offices on a case by case revision of land use management plans to recognize that wind energy development is an appropriate use of Forest Service land. This is a time-consuming process with uncertain results and it runs counter to the stated objectives of the EPACT 2005 and of these policies that Forest Service land is appropriate for wind and alternative energy development. It may be more effective to have an automatic revision of land use management plans to state that wind energy is a preferred use of Forest Service land, including an interim policy to govern projects already in the permitting process with the Forest Service.

Land use management plans weigh scenic and recreational values so highly that a wind energy project's ability to maintain scenic integrity may be impossible. Like many other uses of forest lands (transmission lines, communications towers, timber harvests, ski areas, oil and gas production, etc.), it is not possible to mitigate the visual impact of wind energy projects to zero. Thoughtful siting and use of best practices (minimizing lighting to the minimum required by FAA, no commercial logos, etc.) can, however, greatly reduce the potential visual impacts of wind projects. The USFS should seek to balance any potential aesthetic impacts with the clear environmental benefits of a wind power project in terms of global warming and reduction of emissions.

Department of Defense, Department of Homeland Security Consultations

The draft document includes provisions allowing other government agencies that merely raise a concern to potentially deny a project (Sec. 72.31a (7) (b)). Any other agencies registering a concern should be required to demonstrate an unacceptable impact and should be encouraged by the Forest Service, the lead agency for these permits, to work with a wind energy project proponent to explore mitigation measures.

AWEA recommends beginning the drafting process again. In the event that this is not feasible, AWEA offers the detailed comments included in this document as aspects necessitating revision.

FSH 2709.11 – Special Uses Handbook Chapter 70 – Wind Energy Uses

70.5 – Definitions

“Site Plan. A scaled, two dimensional graphic representation of the location of all proposed wind turbines, buildings, service areas, roads, structures, and site boundaries for a wind energy facility. These proposed elements are displayed in relationship to existing site features such as

topography, major vegetation, water bodies, and constructed elements on one or more drawings.” 70.5

As defined, this requires location of all individual wind turbines, not permit corridors. It is impossible to identify specific turbine locations at the permit stage when the turbine model and overall project capacity are still unknown. The specific wind turbine model is determined at a relatively late stage in the overall project development process based on wind regime characteristics and turbine availability. The permitting process envisioned in the draft directives will span several years, so the exact turbines and their locations will not be known at the time when a site plan is required. Most state and county agencies now use corridor permitting as the standard approach for this reason. Corridor permitting allows for turbines to be spaced out anywhere within a mapped, identified, and studied “string”, allowing for flexibility in spacing and micrositing. Because of the short supply of turbines, this is a practical necessity because supply and availability of particular models are often unknown during the permitting stage. Also in 75.12 (2, 3) and 73.22 (2).

Recommendation: Allow for corridor permitting (“turbine strings”) rather than requiring defined turbine locations at the permit stage.

“Species of Management Concern. Federally listed threatened and endangered species, candidates for listing as threatened or endangered, Forest Service species of concern, species of interest, species of high public interest, and management indicator species, any one or more of which may include species of wildlife, fish, or rare plants and, for purposes of this directive, generally include migratory bird and bat species because of their susceptibility to collision with wind energy improvements during migration.” 70.5

As defined, this includes species that are not protected under federal law, such as bat species. (Secs. 70.5, 74.1)

Recommendation: This definition should be limited only to species protected under federal law.

70.6 – References

Additional references to include

- BLM Wind Energy PEIS <http://www.windeis.anl.gov/documents/fpeis/index.cfm>
- BLM Wind Energy Policy Instruction Memorandum <http://www.blm.gov/nhp/efoia/wo/fy06/im2006-216.htm>
- California Energy Commission “California Guidelines for Reducing Impacts to Birds and Bats From Wind Energy Development - Final Commission Report” <http://www.energy.ca.gov/renewables/06-OII-1/index.html>
- Reference both Executive Orders 13211 and 13212

71 – TYPES OF WIND ENERGY PERMITS

“The direction on wind energy proposals in section 72, wind energy applications in section 73, processing wind energy applications in section 74, and administration of wind energy permits in section 77 applies to all types of wind energy permits.” 71

As drafted, the installation of met towers appears to require a wildlife monitoring plan. If this is the intent, permit-holders for a temporary met tower would also need to do all the studies needed to process an application to construct and operate a wind energy facility. (Sec. 71, 72.2c, 75.1). Met towers are temporary and their environmental impacts are de minimus. No environmental or cultural resource studies should be required. Studies needed to process a wind project application should be required only if the application is filed.

Recommendation: Met towers should be eligible for a categorical exemption or less detailed review unless they require new road construction.

“Proponent must submit data collected under a site testing and feasibility permit or otherwise establish the feasibility of producing wind energy at a particular site.” 71 (2)

Raw wind data must be provided to the FS under the monitoring permit, and in connection with an application for a project permit (Sec. 71, 74.3, 75.1). Under the Freedom of Information Act (FOIA) the Forest Service cannot keep disclosed information confidential. This is sensitive commercial data that should not be available to the public.

Recommendation: Only summaries of wind data should be required or all references to the submission of wind data should be removed. Also in 74.3 and 75.1 (2) (b).

“Environmental analysis for each type of wind energy permit should address only the proposed use for that type of permit.” 71

This is a key statement ensuring that the NEPA and environmental analysis, including inter-agency and nation-to-nation consultations, for site testing and feasibility permits will be limited to the footprint/impacts of the temporary met towers and not the larger project area being secured by the site testing and feasibility permit.

72 – WIND ENERGY PROPOSALS

“Use pre-proposal meetings to: ... d. Assess public interest and concerns.” 72.1 (1) (d)

Public interest and concerns cannot be assessed so early in the process.

Recommendation: “Review potential public interest and concerns.”

“Notify proponents for all wind energy permits that they must file a feasibility proposal with the Federal Aviation Administration (FAA) to obtain an early assessment of whether their proposed wind energy improvements have any implications for civilian aviation.” 72.2

The FAA does not require obstruction evaluations for structures less than 200 feet above ground level.

Recommendation: “Notify proponents for all wind energy permits that include project components that exceed 200 feet...”

“4. Ensure that wind energy proposals are consistent, or can be made consistent, with the applicable land management plan (36 CFR 251.54(e)(1)(ii)). Follow procedures for special uses management policy in FSM 2700.” 72.31a (4)

Processing and accepting permits should be an objective process. Also referenced in 72.31c.

Recommendation: Please refer to the BLM Instruction Memorandum (IM) under Environmental Review regarding micrositing and suitability.

“6. Deny proposals for wind energy when: ... c. The proposed use would be located on lands covered by a permit issued to the Department of Defense or one of its agencies.” 72.31a (6) (c)

It is unclear what “permits” the Department of Defense has in the National Forest System. Low-level flying routes, which can conflict with wind energy development, are not permitted by the Forest Service. And, military uses of land and wind energy projects are necessarily incompatible, as the presence of operating wind turbines on active military bases attests. The language as it stands is too vague and allows the Department of Defense to object to projects without a factual basis for doing so.

Recommendation: Remove this language or make it compatible with federal law.

“7. National Forest System lands may be inappropriate when: ... a. A finding has been made that resource impacts cannot be mitigated or that the proposed use would conflict with existing uses or plans for multiple-use activities.” 72.31a (7) (a)

NEPA allows for unavoidable adverse impacts. This finding holds wind projects to a higher standard as the Forest Service is advised to make a finding that a project would be inappropriate if “an impact cannot be mitigated.”

Recommendation: “A finding has been made that adverse resource impacts outweigh the positive impact derived from generating renewable energy.”

“7. National Forest System lands may be inappropriate when: ... b. The Departments of Defense or Homeland Security, the FAA, or the National Weather Service have raised a concern that the

proposed use would negatively impact national security, military readiness and training areas, radar and electronic security, or military and civilian airspace.” 72.31a (7) (b)

There is currently no process for reconciliation or appeal for concerns raised by these agencies. Large areas of land could be taken out of consideration without appropriate justification. For example, approximately 80 percent of the State of Nevada contains flight paths associated with the Department of Defense (DOD), which could result in DOD raising a concern associated with a perceived conflict without exploring mitigation measures or other solutions. Similarly, as also referenced in 72.31a (7) (b) and 75.12 (1), consultation with the DOD and the Department of Homeland Security is recommended, however, the obligation to obtain clearance for obstructions rests with the FAA.

Recommendation: Agencies with any concerns about project impacts must demonstrate that the impacts would be unacceptable based on technical review of a project’s impacts within the context of a transparent evaluation and appeals process and disclosure of such findings. Additionally, an appeal or settlement process should be in place to weigh concerns raised by all sides.

“Avoid proposing to locate meteorological towers (MET) and wind energy facilities in sensitive habitats or in areas where ecological resources are known to be sensitive to human activities, or in documented bird or bat migration corridors.” 72.31e (1)

The migration corridors referenced need to either be delineated by the Forest Service based on scientific studies or evaluated through the project level avian surveys. Migratory corridors are not well documented, published corridors except perhaps the Pacific Flyway, which would cover a huge portion of all Forest Service lands. And, AWEA knows of no documented “bat migration corridors.”

Wind turbines in migratory areas do not necessarily pose a risk to avian species. Sites to be avoided should be limited to sites expected to have a biologically significant impact on a federally protected species in documented bird or bat migration corridors.

Recommendation: Use “minimize” throughout, or qualify entire sections “to the extent commercially practicable.”

“To the maximum extent possible, avoid proposing sites with a high incidence of fog and mist, which may increase bird or bat mortality during migration.” 72.31e (2)

Given the lack of scientific evidence that any area with “high” (how is “high” to be measured?) fog and mist incidence is statistically more likely to result in higher avian or bat mortality associated with wind farms, it is inappropriate to have a blanket recommendation to avoid areas of fog and mist. Sites to be avoided should be limited to sites expected to have a biologically significant impact on a protected species.

Recommendation: Use “minimize” throughout, or qualify entire sections “to the extent commercially practicable.”

Please reference the BLM PEIS science regarding fog and mist; it was briefly discussed in the Draft PEIS under Section 2-11 but was omitted from Chapter 2 of the Final PEIS. Also referenced in 73.11a (3).

73 – WIND ENERGY APPLICATIONS

“Avoid the use of guy wires on METs to the maximum extent possible.” 73.11a (1)

All temporary met towers have guy wires. Requiring non guyed met towers in all situations will result in higher costs but also additional environmental impacts through ground disturbance for the foundations. Additional challenges to standard met pole practices are in 73.11b (1) and 73.22 (11) (a).

Recommendation: “Avoid the use of guy wires on permanent METs...”

“Locate wind turbines, roads, and ancillary facilities in the least environmentally sensitive areas” 73.11a (2)

This guidance could mandate where turbines are placed in a project area and does not take into account where the wind is located and other engineering realities.

Recommendation: Add “as practicable.”

“To the maximum extent possible, avoid or minimize the placement of wind turbines in areas with a high incidence of fog and mist, which may increase bird or bat mortality during migration.” 73.11a (3)

See fog/mist comment above.

“Avoid placing wind turbines near bat hibernation, breeding and maternity colonies; in important migration corridors; or in flight paths between colonies and feeding areas.” 73.11a (5)

As written, this language is too broad and not based on scientific evidence.

Recommendation: “Avoid placing wind turbines in close proximity to bat hibernation, breeding and maternity colonies; in important migration corridors; or in flight paths between colonies and feeding areas, if site studies show unacceptable risk.”

“Integrate wind turbine arrays and design into the surrounding landscape and meet the scenic integrity objectives of the applicable land management plan. Where appropriate, consider turbine clustering.” 73.11b (2)

Like many other uses of forest lands, it is not possible to mitigate the visual impact of wind energy projects to zero. Thoughtful siting and use of best practices (minimizing lighting to the minimum required by FAA, no commercial logos, etc.) can, however, greatly reduce the potential visual impacts of wind projects.

Recommendation: Please reference the BLM Instruction Memorandum (IM) under Environmental Review regarding micrositing and suitability.

“Bury distribution lines, where possible, to minimize visual disturbance.” 73.11b (7)

In general, use of underground collection lines is standard wind industry best practice. However, in some circumstances, buried power collection lines may cause greater environmental impact than overhead lines, such as across streams, wetlands or in dense forest.

Recommendation: “Bury power collection lines where feasible.”

“Restrict noise to 10 decibels above background noise levels, when possible, at nearby residences and campsites and near wildlife habitat to avoid species habitat abandonment or disruption of critical behaviors (such as, reproductive activities or hibernation), and other sensitive areas.” 73.11c (2) (a)

All noise regulations relating to wind that are based on changes to ambient are inherently difficult to measure, as wind turbines only make noise when the wind is blowing strongly, which makes measurement of ambient noise levels difficult to impossible. The accepted methodology for measuring ambient noise requires taking measurements when wind speeds are below the speed at which wind turbines actually begin operating.

The addition of wind turbine operation is unlikely to result in a 10 dBA increase over ambient sound level at more than 1,000 feet from the base of a turbine.

Recommendation: Turbine-generated sound should be limited only by applicable state or local noise requirements, or alternatively, limited to 50 dBA as measured at sensitive noise receptors, such as critical habitat, residences and Forest Service designated backcountry campgrounds only.

“Where possible, minimize wind turbine noise through the use of acoustic shielding in nacelles and associated facilities.” 73.11c (2) (c)

It is unclear what acoustic shielding is with regard to wind turbines, as that is not something offered by manufacturers beyond what is already the industry standard.

Recommendation: “Where possible, minimize noise generated by wind turbines and associated facilities.”

“Using the minimum amount of warning lighting required by the FAA to reduce attraction of bats and migratory birds to wind turbines and towers.” 73.11d (1)

No attraction of birds or bats has been documented with the red strobe lights recommended by the FAA at wind projects.

Recommendation: “Using the minimum amount of warning lighting required by the FAA.”

“Unless otherwise required or requested for safety, using only the minimum number and intensity of white strobe lights at night, with the minimum number of flashes per minute specified by the FAA.” 73.11d (2)

The FAA recommends red strobe lights as they are thought to be less attractive to birds (as referenced in 73.11d (3)) and they are less intrusive visually to people in the area.

Recommendation: “...using only the minimum number and intensity of red strobe lights at night...”

“Ensure that applicants consider conducting public meetings to disseminate information regarding wind energy development, including design, operations, and productivity. Use photo-realistic computer simulation and visualization techniques in public presentations and in conducting surveys asking for public input regarding a wind energy development.” 73.12

Public presentations with computer simulations should not be required for temporary met tower installation.

Recommendation: This section should not apply to site testing and feasibility permits.

“Testing and feasibility. Proposed design criteria and operational controls should avoid or mitigate impacts from site testing and feasibility, such as ground disturbance from road and tower construction, siting of temporary staging areas, vegetation removal, and temporary facility operation. As mitigation measures are developed during site-specific environmental analysis and decision-making, they must be integrated into the POD.” 73.22 (11) (a)

This section refers to design criteria for site testing and feasibility, however, this provision falls under the broader 73.2 which is supposed to be only for permits for construction and operations of the wind farm itself.

Recommendation: Create a parallel provision in 73.3 to define the specific application requirements for siting and feasibility permits. This section should also encourage the use of NEPA Categorical Exclusions (based on FSH 1909.15 section 31.2(3)) for site testing and feasibility permits where impacts are deemed to be negligible given the de minimus impact of temporary met towers.

“The site plan should...3) Be modified as necessary to accurately reflect the [NEPA] decision document for the applicants' wind energy facility. The NEPA decision document must be attached as an appendix to their permit.” 73.23 (3)

Recommendation: Clarify that there is a “preliminary POD” as part of the application for the permit for construction and operation and a “revised POD” based on the minimization and avoidance measures identified in the applicable NEPA document.

74 – REQUIREMENTS FOR PROCESSING WIND ENERGY APPLICATIONS

“Upon acceptance of an application for a site testing and feasibility permit or a permit for construction and operation of a wind energy facility (36 CFR 251.54(e)(6) and (g)(2)), evaluate a proposed wind energy use, including effects on the environment and other processing requirements.” 74

Additional clarification regarding what team or group will be evaluating applications is necessary.

Recommendation: Teams reviewing the applications should have experience and training in wind energy.

“Assess effects on wildlife in evaluating proposed wind energy uses (FSH 2609.13, ch. 80). As applicable, consider...” 74

References to the existing body of scientific research on wildlife impacts at wind farms are necessary. The mere existence of some impact should not necessitate adaptive management unless the impacts rise to a significance threshold that merits it. This is consistent with how USFS addresses other activities, i.e. every timber harvest has some adverse impact at least in the short run, but this does not preclude such activities.

Additionally, this section is overly restrictive for site testing and feasibility permits.

Recommendation: A distinction should be made that wildlife impacts be “biologically significant.”

“If an application is pending and there is a change in the ownership of the applicant, request that the applicant...” 74.4

Recommendation: These procedures should apply to proposed transfers of an application or permit. Changes of ownership and assignment should be permitted.

75 – WIND ENERGY PERMITS

“Determine whether a monitoring plan is needed for a site testing and feasibility permit..” 75.1 (1)

The site testing and feasibility permits associated with the met towers should include a list of performance standards for staff to evaluate as it relates to their NEPA clearance, and therefore avoid a full EIS for temporary met towers.

Recommendation: Incorporate a list of performance standards for met towers to gauge whether the authorization of a site testing and feasibility permit would meet certain criteria. Presumably a FONSI would be applicable. Some suggested performance standards:

- Avoiding ecologically sensitive areas
- Avoiding locating met towers on known cultural or archeological sites
- No permanent foundations
- Avoiding construction new roads to access met sites

“Determine whether a monitoring plan is needed for a site testing and feasibility permit, and if so, the contents of the plan should be based on the NEPA decision document.” 75.1 (1)

Recommendation: Met towers have minimal environmental impacts and should not require a wildlife monitoring plan.

“If MET test results are not reported to the Forest Service within 3 years after issuance of the permit, the permit shall terminate, unless a request for an extension is submitted at least 6 months before termination and is approved by the authorized official.” 75.1 (2) (b)

“MET test results” is unclear. If this statement relates to the wind data acquired, it would contradict with the provision regarding proprietary information under Section 74.3.

Recommendation: Only summaries of wind data should be required or all references to the submission of wind data should be removed.

“The authorized official may approve up to 2 additional years for testing and feasibility (up to the maximum permit term of 5 years) if the holder has shown due diligence in site testing and feasibility.” 75.11 (2) (c)

On the one hand, USFS seems to be dictating a very rigorous level of study and review for wind project proposals, but on the other hand, the agency is not proposing sufficient time for such study work to take place. BLM allows six years of site testing (2 x 3yr CatEx met permits), which is preferable, to allow enough time for wind project studies.

Recommendation: “The authorized official may approve up to 3 additional years for testing and feasibility (up to the maximum permit term of 6 years)...”

“Request that the proponent justify the number of METs and proposed acreage.” 75.11 (2)

It is unclear how the Forest Service would be qualified to evaluate this. The capital expenditures associated with an early stage project prohibit an arbitrary placement of more towers than are necessary to assess the site. Thus, the identification of the met locations by a developer would be based on the need to understand wind regime in a particular area utilizing as few met towers as possible. The Forest Service should not be placed in a position of validating the location of met towers. If there are concerns due to other factors (e.g. biologically sensitive areas, archeological sites, etc.) then it would be appropriate for staff to comment about specific met tower placement.

Recommendation: The Forest Service should not attempt to independently evaluate the number and location of met towers. This requirement should be removed.

The Forest Service must make a determination of competitive interest and publish notice of the application 75.12

Determinations of competitive interest should only apply where two permit applications are filed for the same National Forest lands.

Recommendation: The Forest Service should follow the BLM process of competitive bidding as outlined in the Instruction Memorandum under the “Competitive Interest” section.

“Issue a permit for construction and operation of a wind energy facility only after the applicant has...” 75.21

This is impractical for the wind energy industry. The Forest Service proposes to issue permits for construction and operation of wind energy facilities, not leases or rights of way. The term special use permit is not assignable and may be terminated if the Forest Service deems the project no longer in the public interest. Lenders will not invest hundreds of millions of dollars that may take a decade to reach pay back without durable property rights.

Recommendation: Financing of wind projects will require granting of property rights, such as a lease or easement, the right to assign in connection with financing, and limits on the Forest Service’s termination rights.

“Require use of results from monitoring during turbine construction and operation to prevent or mitigate effects on species of management concern and their habitat by relocating wind energy facilities or staging areas.” 75.21 (5) (b)

Under a project's monitoring plan, wind energy facilities may have to be relocated to prevent or mitigate effects of the project on species of management concern and their habitat. “Relocating” wind turbines and associated infrastructure is an extremely costly prospect (millions of dollars even for one or two turbines) and complex process that also recreates all the original construction impacts at least twice. The possibility of required turbine relocation will make projects un-financeable.

Recommendation: Relocation of a wind energy facility should only be a possibility during the planning phase.

“Holders of a permit for construction and operation of a wind energy facility must obtain a construction bond for site restoration upon completion of construction. Additional bonding may be required at the discretion of the authorized official. See FSH 2713.3 for guidance on performance bonds.” 75.22 (2)

The terms of the site restoration bond are not specified, and additional bonding may be required.

Recommendation: To provide certainty, the terms of each bond should be stated. Corporate guarantees and letters of credit should be allowed. Suggest Forest Service reference the BLM language regarding bonding in the PEIS, section 2.6.

“If construction has not commenced within 2 years after issuance of the permit...” 75.22 (3) (a)

The 2-year sunset is problematic because there is no proviso regarding delays by other permits, or events outside the project proponent's control such as power sales contracts, wind turbine availability, and construction financing.

Recommendation: Include a provision to allow for reasonable delay of construction with notification.

76 – LAND USE FEES

“Project Area Permits. Calculate the land use fee by appraisal of the authorized use, in accordance with FSH 2709.11, section 31.1.” 76.1 (2)

Requiring appraisals discourages wind energy development of National Forest System lands because it is time-consuming and expensive, and the resulting land use fees cannot be known until the appraisals are done.

Recommendation: Use pre-established fees.

“Activate security lights through the use of motion detectors.” 77.4 (2)

This is inconsistent with Sec. 73.11d (5). Security lighting has been found to adversely affect wildlife at some locations.

Recommendation: Limit security lighting requirement to certain sites.

FSH 2609.13 - Wildlife and Fisheries Program Management Handbook
Chapter 80 - Wildlife Monitoring at Wind Energy Sites

81 - MONITORING PLANS

“To the extent possible, monitoring plans should be designed or reviewed by an interagency committee of wildlife experts.” 81

Use of interagency committees is time-consuming and unnecessary.

Recommendation: Monitoring plans are typically designed by biological consultants with specific expertise in wind-wildlife interaction and reviewed by agency staff. Use Forest Service biological staff for this purpose.

82 - MONITORING WILDLIFE PRESENCE AND ABUNDANCE

“...as well as changes in the terms and conditions of the holders permit.” 82.1

“Holders” should instead be in the possessive form.

Recommendation: “...as well as changes in the terms and conditions of the holder’s permit.”

“To meet the monitoring objectives set out in this chapter, a Before-After-Control-Impact (BACI) study design is an effective approach to determine whether environmental changes due to the construction and operation of a wind energy facility have affected wildlife presence or abundance (Anderson et al. 1999).” 82

BACI studies are well-intended but not the appropriate application of study for wind power projects, as referenced throughout the California bird monitoring plan process. BACI for every project is time-consuming, expensive and unnecessary.

Recommendation: Include language acknowledging the limitations of applying BACI study design to all wind projects, as cited in Chapter 3 of the California Energy Commission Final Report, California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development (CEC-700-2007-008-CMF, October 2007).

“To the maximum extent possible, pre-construction monitoring should be for a recommended minimum of 2 years.” 82

It is not appropriate to identify a set minimum duration without a justification as to why it is necessary. For some sites, biologists may recommend less than two years of pre-construction monitoring.

Recommendation: The established pre-construction avian assessments need to be established based on site specific risk, possible species presence, and other environmental considerations by a qualified biologist.

“Post-construction monitoring should occur for a recommended minimum of 3 year(s).” 82

The possibility of required long-term monitoring plus adaptive management could make projects un-financeable.

Recommendation: Duration of post-construction monitoring should be determined for each site by biologists, but generally should not exceed the duration of pre-construction monitoring.

84 - ADAPTIVE MANAGEMENT

“The authorized official should adjust the terms and conditions of the holder’s permit in accordance with the agreed upon operating plan, as appropriate based on the outcome of monitoring.” 84

Wind projects typically have a long term fixed price contract and thus these sorts of additional costs or reduced revenues would be impossible to pass on once the project is built. This kind of open ended ability for the permit conditions to change once hundreds of millions of dollars have been invested can render financing impossible. Changes that have a significant economic impact on operating projects should only be required if the unanticipated impacts are biologically significant at the population level.

Recommendation: The full range of possible mitigation should be established when the permit is issued.