

DEVELOPMENT OF RENEWABLE ENERGY PROJECTS ON FEDERAL LAND

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Traversing the desert southwest and observing the vast expanses of undeveloped land, one might conclude that the opportunity for development of renewable energy projects is virtually limitless. Contrary to appearances, however, constraints on this land, stemming from a host of environmental and land use considerations, limit the development of many large contiguous tracts of land necessary for development of utility-scale wind and solar projects. This article discusses the key environmental and permitting considerations that impact the siting, development and operation of renewable energy facilities in the southwest.

The National Environmental Policy Act (NEPA)^{1,2}

The combination of the very significant geographic footprint required for wind and solar facilities and the fact that tracts of land of sufficient size for such facilities in the desert southwest are predominantly owned by the federal government means most renewable energy projects in Nevada are subject to review under NEPA. NEPA requires examination, evaluation and mitigation of the environmental impact of projects with a significant federal nexus. Renewable energy projects sited on federal land constitute the federal nexus-triggering NEPA review.

NEPA was passed into law by Congress in 1969, and became effective on January 1, 1970. It was a response to the national sentiment that federal agencies should take the lead in providing greater protection of the environment. As such, NEPA contains a number of “action-forcing” procedures to ensure that federal agencies take environmental factors into account in decision-making. NEPA mandates that all federal agencies prepare a “detailed statement” evaluating the potential environmental consequences of any proposed “major federal action significantly affecting the quality of the human environment.”³

This requirement results in the document most associated with NEPA, the environmental impact statement (EIS). The EIS is a detailed statement that describes the environmental impacts of a proposed action and its alternatives. NEPA requires that every EIS describe the environmental impacts that cannot be avoided, alternatives to the proposed action, the relationship



between short-term uses and long-term productivity, and any irreversible and irretrievable commitment of resources resulting from the proposed action and the alternatives to the proposed action as identified in the EIS. The EIS document itself is frequently voluminous and complex, and the environmental review process culminating in the EIS document is lengthy, complicated and involves a wide variety of scientific, legal and technical specialists.

Preparation of an EIS requires the evaluation of the impact of the proposed project on a wide variety of resources. The following is a discussion of the key environmental considerations in an EIS for a renewable energy project.

Water Resources

A primary environmental concern in the southwestern United States is the impact of the project on water resources during the construction and operational life of the facility. Consequently, the EIS for a renewable energy project must discuss and evaluate both surface water hydrology and groundwater resources. Primary among these considerations is the volume of water that the project will use during construction and operations. In addition, the EIS must disclose which water bodies may be impacted by the project, the nature of the potential impact and the specific pollutants likely to impact those waters; it must also provide information on Clean Water Act § 303(d), impaired waters in the project area, if any, and efforts to develop and revise Total Maximum Daily Loads. The EIS must also include a discussion of the appropriate best management practices that will be used to minimize the impact of the project on water resources.

The project applicant must coordinate with the U.S. Army Corps of Engineers to determine if the proposed project requires a Section 404 permit under the CWA. The EIS must describe all waters of the United States that could be affected by the project alternatives and must identify source water protection areas within the project area, activities that could potentially affect source water areas, potential contaminants that may result from the proposed project and measures that would be taken to protect the source water protection areas. If a Section 404 permit is required, the requirement triggers the need for a State Section 401 permit.

Biological Resources

An EIS must describe the current quality and capacity of the habitat and its use by wildlife in the proposed project areas. It must also describe the critical habitat for the species, identify any impact the proposed project will have on the species and its critical habitats, and how the proposed project will meet all requirements under the Endangered Species Act. For most projects, this will include consultation with the U.S. Fish and Wildlife Service (FWS) and the Nevada Department of Wildlife. The EIS must also identify all petitioned and listed, threatened and endangered species that might be present within the project area, and identify and quantify which species might be directly or indirectly affected by each alternative. If a threatened or endangered species is determined to be present in the project area, a consultation process with the U.S. FWS is initiated, resulting in a Biological Opinion issued by the U.S. FWS that identifies the projected impact to the threatened or endangered species and required mitigation to minimize or eliminate impact.

Cultural Resources

The effect of a proposed project on historical or traditional cultural places of importance, including the impact to Native American communities, must be evaluated in the NEPA process. This evaluation involves an examination of the entire project area and a determination by the Nevada State Historic Preservation Office of the impact of the project on items of historical or cultural importance and the need for mitigation associated with any impact so identified.

Air Quality

Despite the overall positive effect of renewable energy facilities on air quality through the displacement of fossil-fuel-generated electricity, renewable energy facilities do have some negative impact on air quality, primarily during construction. Consequently, every EIS must also include a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards, criteria pollutant nonattainment areas and potential air quality impact of the project for each fully evaluated alternative.

Visual

Visual Resource Management classifications are a critical concern when siting and developing utility-scale renewable energy projects. Visual resources are divided into three categories of varying levels of protectiveness.

Noise

The EIS must include an assessment of noise levels from the project. Decibel levels must be evaluated, as must the effects of noise levels on a variety of species, as well as effects on property values, residences and recreational use. Noise issues are more closely associated with wind projects, but must be considered in the context of all EISs. No federal standards have been established for noise; however, local ordinances exist in many municipalities that establish maximum decibel levels. Compliance with local ordinances is required as part of the NEPA process.

Paleontological Resources

Archeological and paleontological resources must be evaluated to determine the value of such resources as a legacy for present and future generations, for their scientific significance, education and interpretation, recreational opportunities and aesthetic qualities. Of particular significance is whether or not fossils will be lost, destroyed or otherwise damaged by construction or operation of the project.

Transportation

The impact of a renewable energy project, particularly during construction, must be evaluated in order to determine the project's impact during construction and operation on transportation and roadways. Typically, renewable energy facilities employ only a small number of employees during their operational life; however, impact on roadways is likely to be substantial during construction.

Socioeconomics

EISs must contain an evaluation of the impact of a proposed project on taxes, employment, population/housing and government facilities and services.

continued on page 8

DEVELOPMENT OF RENEWABLE ENERGY PROJECTS ON FEDERAL LAND

continued from page 7

Environmental Justice

Closely associated with the examination of socioeconomics is an evaluation of “environmental justice” issues; that is, an evaluation of project impact to ensure that the project does not have a disproportionately negative impact on economically disadvantaged citizens of the community in which the project is located. Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” (February 11, 1994), directs federal agencies to identify and address such disproportionately high and adverse impacts, and requires that such disadvantaged populations be granted a meaningful opportunity to participate in the decision-making process.

Coordination with Land Use Planning Activities

An EIS must discuss how the proposed action would support or conflict with the objectives of federal, state, tribal or local land use plans, policies and controls in the project area. In particular, it must be determined that agriculture, hunting and recreational activities are compatible with the proposed project if the proposed project impacts such activities.

Climate Change

Even though renewable energy projects have a net positive impact on climate change by reducing greenhouse gas emissions through the replacement or displacement of fossil-fuel-generating electricity, climate change is, nevertheless, an issue that must be considered in an EIS for a renewable energy production facility. The EIS must present a general, qualitative discussion of the anticipated effects of climate change on the project, including potential effects at a regional level. Also, the EIS should quantify and disclose greenhouse gas emissions associated with project construction and operation and discuss mitigation measures to reduce emissions.

Public Services and Utilities

Whether or not there will be an increase in the demand for emergency services, solid waste or landfill services as the result of the facility must be evaluated in the course of the NEPA process.

Hazardous Materials

The potential damage to or loss of soil, vegetation and wildlife and the potential danger to humans from the possible spillage or disposal of hazardous substances must be examined and discussed in the EIS.

Tourism

Concerns over reduction in tourism resulting from the proposed project must be analyzed and mitigated if determined to be present.

The Endangered Species Act (ESA)⁴

The ESA is the second federal statute that has a significant impact on renewable energy projects developed on federal land. The ESA was signed into law by President Richard Nixon in 1973, and establishes the framework for protection of threatened or endangered species of wildlife and plants. The key operational provisions of the ESA are in Section 4,⁵ which establishes the process of listing species as either threatened or endangered, designates critical habitats and devises recovery plans for species designated as threatened or endangered under the act. Section 7 mandates that species listed under the ESA be programmatically “conserved” by federal agencies and that federal actions affecting listed species be the subject of consultation between agencies.⁶ Section 9 sets forth the prohibitory commands of the act, in particular prohibiting threats to endangered species by federal agency actions.⁷ Section 4(d) of the ESA grants the Secretary of the Interior the authority to extend any acts protecting endangered species and threatened wildlife species.

Further, the ESA requires that the federal government designate the “critical habitat” of each listed species.⁸ Section 9 of the ESA prohibits the “take” of an endangered species after that species is listed. One way to “take” a species is to “harm” it; a species is “harmed” if its habitat is modified or degraded to such an extent that these activities kill or injure it by impairing its behavioral patterns.⁹ Because of the very significant impact that the ESA can have on a renewable energy project, it is recommended that the presence of all threatened or endangered species or of critical habitats under the ESA be determined early in the siting process, in an effort to avoid ESA issues where possible. If unavoidable, early identification and evaluation of possible mitigation measures are recommended.

Federal Land Policy and Management Act of 1976 (FLPMA)¹⁰

The third overarching federal statute that applies to renewable energy projects on federal lands is FLPMA. FLPMA established a multiple-use mandate for public lands managed by the Bureau of Land Management (BLM) and the mechanism that allows for energy development to occur on federal lands – the right-of-way (ROW) grant. The FLPMA ROW grant is essentially a lease, the length of which varies depending in large part on the length of the grant requested by the ROW applicant. Most ROW grants for solar projects, for example, are for 30 years with the opportunity for renewal of the grant. A FLPMA grant authorizes specific uses of the land, and is signed by a BLM authorized officer at the successful completion of the NEPA process.

State and Local Environmental Review

In addition to the federal permitting processes, projects sited on federal land are also subject to state and local environmental review processes. Permits and authorizations such as county special use, state fire marshal, storm water, transportation encroachment, wildlife and botanical take, water rights and historic preservation compliance may be required, depending on the jurisdiction. In Nevada, the Public Utilities Commission requires a Utilities Environmental Protection Act (UEPA) permit in order to construct all renewable energy facilities with a nameplate capacity of 70 megawatts or greater and associated transmission lines of 200 kv or greater.

Conclusion

The development of renewable energy projects on federal land involves the evaluation of a host of environmental issues and oftentimes the reconfiguration of project design to accommodate these considerations, mitigate impacts and balance nature with 21st century development and other resources used. It is a complex process involving a panoply of federal, state and local regulations, as well as a variety of stakeholders, sometimes with divergent viewpoints and objectives. Successful completion of the development process for renewable energy projects requires early identification of and response to these views and objectives and applicable laws, along with prompt and effective responses to these concerns. ■



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1. All references and citations for this article are available on the State Bar's website at www.nvbar.org/articles > July 2012 > Development of Renewable Energy > Citations.