CHAPTER 13A

DEVELOPING WIND POWER FACILITIES IN THE STATE OF WASHINGTON

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I. OVERVIEW

A. Wind Power Facilities

1. History

The power of wind was first used to generate electricity nearly 100 years ago. Today, wind turbines in the United State play in increasingly important role in meeting our electricity needs. Nationally, wind turbines currently produce over 10 billion kilowatt-hours of electricity annually--enough to meet the needs of over 1 million households.[1] With the recent addition of the Big Horn and Wild Horse wind farms that came online in 2006, Washington State leapfrogged into fifth place among the country's most wind-powered states, producing about 818 megawatts of wind power, equivalent to almost half of the power used by Seattle.[2] Across the United States, wind energy is the fastest-growing energy generation technology, expanding by 30% to 40% annually.[3]

Although wind energy technology has been around for almost a century, it has made an upsurge in the past 20 years as a result of dramatic equipment cost reductions, reliability and other design improvements, and the environmental benefit of this renewable resource. According to the American Wind Energy Association ("AWEA"), today's large wind turbines produce as much as 120 times the amount of electricity as early turbine designs with operations and maintenance costs that are only slightly higher.[4] Reliability and efficiency have also increased through improvements to turbine technologies. The AWEA reports that turbines used in the early 1980s were available for operation 60% of the time, while today's wind turbines have an availability rating averaging 98%.[5] Primarily as a result of these technology advancements, the cost of producing electricity from wind power has dropped from 80 cents per kilowatt-hour in 1980 (in current dollars) to 4 to 6 cents today.[6]

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[1] *See* Appendix A, "Wind Energy Projects Throughout the United States of America" and "Wind Power: U.S. Installed Capacity (Megawatts) 1981-2006," American Wind Energy Association ("AWEA"), available at http://www.awea.org/projects (last visited 4/19/07), reprinted with permission.

[2] "Washington is 5th Among Wind-Powered States," *Tri-City Herald*, April 12, 2007, available online at http://www.tri-cityherald.com/tch/local/story/8785815p-8687236c.html.

[3] "Wind & Hydropower Technologies Program—Competitive Electric Power from Renewable Energy," U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, available at http://www1.eere.energy.gov/windandhydro/about.html (last visited 4/12/2007).

[4] "Permitting of Wind Energy Facilities: A Handbook," National Wind Coordinating Committee, p. 7 (2002), available at http://www.nationalwind.org/publications/siting/permitting2002.pdf.

[5] *Id.*

[6] "Wind & Hydropower Technologies Program—Competitive Electric Power from Renewable Energy," U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, available at http://www1.eere.energy.gov/windandhydro/about.html (last visited 4/12/2007).

2. Build Where the Wind Blows

The ability to generate energy from wind is largely a function of the quality of the resource—the wind. Not surprisingly, the best locations for wind projects are areas that have frequent and strong winds. A map prepared by the United States Department of Energy showing areas within the United States with high wind potential is attached at Appendix B. The Pacific Northwest has a number of areas with good or excellent wind potential.

3. General Characteristics of Wind Project

There are many types of wind projects. Large projects, sometimes called wind farms, may employ hundreds of turbines spread over large land areas, generating hundreds of megawatts of power. The output of these projects (or the projects themselves) may be acquired by utilities to serve local loads and for sale in the wholesale energy market. On the other hand, a wind project may involve the construction of a single turbine to serve the needs of one consumer.

Some characteristics of larger projects include the following:

- Wind turbines are an assembly of rotor blades and electrical generators mounted on towers. The combined tower/blade height can be well over three hundred feet. The blade diameter alone can range from 150 to more than 250 feet. Towers are anchored to concrete foundations that extend well into the ground (e.g., 35 feet). Towers may be aligned along ridge tops or constructed in patterns on flat or hilly terrain.

- Meteorological instruments are located on site to assess and monitor wind resources. These instruments, usually installed on separate towers ("met towers") are used to monitor conditions such as wind speed, direction, pressure, temperature and other factors. These installations will also include equipment to log, record and transmit data.

- Most projects will also require some construction of transmission lines, transformers and other equipment to deliver electricity to the electrical system. The scope and extent of these developments - which can be significant in themselves - will depend upon the proximity of the site to the existing transmission grid.

- Road, communications facilities, maintenance buildings, fences for security and other support facilities are typically part of the project. As with transmission facilities, the scope of these project elements will depend upon the location of the project and other characteristics of the site.

4. Who Develops Wind Projects

Just as there are many types of wind projects, there are many types of developers. A project sponsor might be an independent power producer, an investor-owned utility, a municipal or other governmental entity, or a tribe (among others). Who the developer is may well affect matters ranging from how the project is designed, built, financed and operated, as well as the regulatory requirements applicable to the developer's activities and business objectives.

B. Why Build Wind Projects?

1. Wind Makes Economic Sense

The cost to produce the electricity in the United States is increasing and at times the energy markets have experienced extreme volatility due, in part, to the need for more resources. All new resources are expensive. Due in large part to advances in technology, wind power has become a cost-effective resource and these resources will only become more valuable in the future.

2. Climate change and Greenhouse Gases

Growing concerns with global warming and stable energy supplies, coupled with a domestic political climate that has now embraced the regulation and reduction of carbon emissions, will impact the cost and utilization of many traditional energy resources. The Washington State Legislature recently passed Senate Bill 6001 which, among other things, sets goals to reduce green house gas emissions and provides a framework to achieve these goals. Renewable resources that do not result in carbon emissions, like wind power facilities, will become an increasingly important resource to provide cost-effective and reliable energy, helping to achieve the objective of reducing carbon emission from other resources.

3. Washington State's Renewables Initiative

In November 2006, Washington voters approved a ballot initiative (Initiative 937, or "I-937") requiring large utilities to obtain at least 15 percent of their energy supply from renewable sources by 2020. Under I-937, electric utilities that serve more than 25,000 customers must also set and meet energy conservation targets starting in 2010. The initiative defines conservation as any reduction in electric power consumption resulting from an increase in the efficiency of energy use, production or distribution. The determination of the utility conservation targets must be consistent with methodologies used by the Northwest Power and Conservation Council.

4. Tax Incentives

The federal renewable energy production tax credit, established by the Energy Policy Act of 1992[7] and extended by the Energy Policy Act of 2005,[8] currently provides a credit for electricity generated by renewable energy sources, such as wind turbines. At present, the tax credit provided is set at 1.9 cents per kilowatt-hour.[9] This tax credit is set to expire at the end of 2008, however, a bill currently pending before the House Ways and Means Committee (House Resolution 197) would extend the credit through 2013. The Economic Recovery Tax Act of

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[7] 26 U.S.C. § 45.

[8] Pub. L. No. 109-58.

[9] The Internal Revenue Code section adopted in 1992 provides a credit of 1.5 cents per kilowatt hour which is to be adjusted annually for inflation. 26 U.S.C. § 45. According to the AWEA, the current value as adjusted is 1.9 cents per kilowatt hour. AWEA, "Wind Energy Production Tax Credit (PTC)," available at http://www.awea.org/legislative/pdf/PTC_Factsheet.pdf (last visited 4/19/07).

1981 provides an additional tax incentive for wind power growth. 26 U.S.C. § 168(e)(3)(B)(vi). In some cases, this law allows a 5-year depreciation schedule for renewable energy systems. In conjunction with the production tax credit, this accelerated depreciation allows an even greater tax break for renewable energy projects, such as wind projects, that have high initial capital costs.[10]

C. Legal Issues

A discussion of the full range of legal issues that can arise in the context of developing wind power facilities is beyond the scope of this paper. As noted above, much depends upon the project, its location, the developer, the availability of transmission, and other factors.

There are common issues that arise, however, in the context of site acquisition and development of wind power facilities in the State of Washington. An overview of some of these issues is provided below.

II. PROPERTY ACQUISITION

A. Introduction

Real estate issues associated with property acquisitions for wind energy projects are not unlike the issues presented with any large commercial or industrial development. Wind energy projects require a principal site for energy production (e.g., wind turbines and associated plant and equipment), access, construction and lay-down areas, and the need for supporting infrastructure (e.g., transmission lines and substations). Projects require financing and mechanisms to secure the interests of lenders. Projects are frequently phased, beginning with a feasibility analysis, a construction phase, an operating period and in some instances a project retirement or decommissioning phase. How these needs arise, and how best to address them, will depend upon many factors and will vary with each project, its location and the characteristics and needs of the parties involved in developing the project.

Industry knowledge is essential to representing clients involved in these transactions. A developer will have this expertise in-house or will have retained the necessary expertise prior to investing in the acquisition of property rights. If you are representing a developer you are well advised to listen carefully to the experts; if you do not, the documents that you draft will not address the needs of your client. If you are representing a property owner, you will need some understanding of the business of energy production, transmission constraints and the sale of energy into the wholesale market in order to address the needs of your client. If you and your client lack this background, you should retain someone with industry expertise. Apart from business issues, legal issues arise in the context of the real estate transactions that involve regulatory issues and concepts where knowledge of energy law is valuable, if not essential, to the transaction.

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[10] *See* GAO, Renewable Energy: Wind Power's Contribution to Electric Power Generation and Impact on Farms and Rural Communities, GAO-04-756 (Washington, D.C.: Sept. 3, 2004) for prior work related to this issue.

An assumed project development scenario will aid a further discussion issues arising in the context of site acquisitions. As noted below, some creativity in the use of leases and easements provide one means to address the needs of multiple parties involved in a successful wind energy project.

B. Assumed Case

There are many types of transactional documents involved in the development of energy projects. By way of example and by no means an exhaustive list, there are real estate documents, transmissions agreements, interconnection agreements, power purchase agreements, financing agreements and security interests and construction documentation. There are also federal and state regulatory requirements that, depending upon the project and the developer of the project, can influence how risks are perceived and allocated in connection with site acquisition and project development. In order to discuss a limited subset of real estate issues that may arise in this context some assumptions concerning a project development scenario are required.

- A project developer may desire to secure a site from a competitor and assess its wind energy potential long before the developer knows and understands the true potential and economic viability of a project. In this context, the documentation needs to anticipate and provide fair and reasonable off-ramps when expectations do not pan out.

- Depending upon the results of the developer's feasibility assessment, a developer may proceed to develop a site as a "stand alone" project or in conjunction with other sites in the general vicinity. In this context, the documentation may need to anticipate reciprocal rights with other properties and revenue streams associated with sales from a project that extends over multiple parcels and ownerships.

- The developer will secure financing to develop the project and will need to secure the lender's right to revenues from the project in order to obtain financing. In this context, it is frequently wise to keep in mind that the lender has the money needed to make the project go, and if the lender is not happy, nobody is happy, and documents need to be drafted accordingly.

- The developer will only acquire the rights that it needs for the project and may initially encumber more property than it ultimately needs to develop the project. In this context, the underlying property owner needs to be flexible and the documents need to anticipate and provide for evolution and refinement of the developer's needs.

- Other parties, such as utilities or regional transmission providers (e.g., the Bonneville Power Administration ("BPA")) may require rights for transmission lines and substations serving the project. In this context, the documentation will require the property owner to grant further rights—most likely easements—along and across substantial right-of-ways that have yet to be located on terms and conditions that the utilities/transmission providers are unlikely to negotiate; the developer may need to share in the financial and other risks the property owner may incur as an inducement to make these commitments.

- If the developer acquires less than a fee interest in project lands (e.g., leases or easements), then among other things:

(a) The documentation will need to address all phases of the project in a way that reasonably and equitably balances the parties' interests (e.g., feasibility analysis, construction phase, an operating period and project retirement).

(b) The activities of the underlying property owner will need to be restricted to the extent necessary so as not to interfere with the needs of the wind energy project. Depending upon the use of the underlying property, this can be a significant issue for the property owner.

(c) The parties may use these documents to share the financial "down side" of a poorly performing project, and to share the financial "up side" of a successful project. This is a joint investment in future energy markets, markets that have been known to be volatile and may continue to be volatile in the future.

Leases and easements are very flexible tools that can be used to address these issues. Most developers will propose deals on their "forms." Unless a combination of strength of bargaining position and experience on the part of the underlying property owner dictates a different strategy, it is generally a good idea to work from these documents, as well as getting your hands on examples of other documents that have been used in analogous circumstances.

What follows is a bit more detailed discussion of some of these issues and some thoughts about how to address them in the context of a ground lease.

C. Specific Issues

1. Phased Development

The challenge here is to afford the developer the right to control a large area—perhaps many hundreds of acres—over the course of a feasibility analysis and a project development period. This "development phase" can last for several years. The parties may thereafter desire to release some of these areas during the operation phase, after those portions of the overall leasehold estate that are suitable for wind energy facilities have been developed. The underlying property owner may want these lands to be free of the encumbrance of the lease, and the developer may have no interest in maintaining obligations arising under the lease with respect to properties that the developer has determined that it no longer needs. In some cases, these post-project releases or "carve outs" cannot occur without compliance with subdivision laws, or without creating title issues that give rise to concerns from lenders and the underlying property owner. Additionally, even as to areas released, the developer will want to retain rights (e.g., restrictive covenants) securing its right to wind passing over these properties and providing limitations on activities that would interfere with wind energy facilities.

One approach to address this issue and avoid the subdivision and title issues associated with partial releases is simply to draft the lease with the expectations that some areas of the leasehold will not be developed and, in these areas, the tenant will have very limited rights. Within this broader leasehold, the parties can define operating and construction areas where the tenant has sufficient rights to construct, operate and maintain turbines, towers, transmission lines, meteorological towers and equipment, substations, roads, buildings and whatever else is needed at one or more designated locations within the leasehold. These areas can be designated through

an agreed-upon site plan review and development process, a process that runs in parallel to site plan development and review for purposes of project permitting.[11]

As these operating areas are developed and sites for generating units, roads, transmission lines and other items are defined through subsequent revisions of the site plan (per the procedures described in the lease), the tenant's rights to these areas constrict to the parameters established by the approved site plan for the "Operating Property". The remainder of the "Property" remains subject to the lease, but the leasehold is limited to the tenant's more passive right to the free flow of wind and non-interference with certain project operations in these areas. So structured, there may be no need for subsequent releases or multiple easements or other agreements that can create subdivision issues, concern lenders and upset underlying property owners.

2. Lender and Other Third Party Rights

In the development context assumed for purposes of this discussion, be it further assumed that the developer / tenant is a limited liability company and its sole asset is the project. In this context, the lease will afford broad and extensive protection of the lenders. This may be essential to the deal. It is also common to see very broad assignment and subleasing clauses, affording the developer sufficient latitude to alienate its interest and disappear for all practical purposes.

These issues are not unique to wind energy projects. However, if you represent the underlying property owner, it is important to keep in mind that the "tenant or grantee" that signs on the dotted line very likely will not be the tenant or grantee that you look to for performance over the term of the lease. As such, mechanisms like insurance products, bonds and other security devices, or reserve funds can be important tools to protect your client where the problem can solved by the availability of a source of money. Other issues, however, are not so easily monetized. For example, the property owners may wish to reserve rights that are sufficient to determine and prevent project operations from causing environmental harm that the underlying property must "own" due to its status. The owner may want the right to monitor, evaluate and address risks associated with matters, such as fire damages, that in a given case may be difficult to quantify or insure. The property owner may desire a variety of "self help" provisions, ranging from regular and frequent access to information, inspections, and the ability to directly remedy physical conditions on the property that are not in accordance with the requirements of the lease.

3. Financial Risk Allocation

The first phase of a wind energy project may involve a variety of feasibility analyses. During this phase, the developer can be expected to commit to a relatively short term (three-to-five years) to determine the feasibility of its project and to bring the project into normal and reliable commercial operations. During the development period, the property owner is likely to receive fixed and relatively moderate rents, and the parties generally provide for a clear and concise off-ramp if the project proves to be infeasible.

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[11] *See* Appendix E hereto for sample lease terms addressing the site plan and development process.

If the project goes forward, a mechanism frequently used to allocate financial risk is a percentage rent. Developers may propose arrangements where the entirety of the rent to be paid is a percentage of sales, such that if the market goes soft or the ability to deliver power is impaired or interrupted, there is little or no rental cost associated with the project. Property owners, on the other hand, may be inclined to take a smaller percentage rent in exchange for a minimum or base rent.[12]

If you are representing a property owner in theses circumstances, a good understanding of the power markets is important, as is an understanding of the availability and cost of transmission to move power from the project to the grid. Terms like "gross revenue," "sale," "commercial operation" and concepts like "force majeure" need to be drafted in context that is derived from knowledge of the industry.

4. Other Uses of the Property

Wind energy projects are typically sited in remote locations and preferably on properties where other uses are passive or readily compatible with the project. However, in some cases, the compatibility of other uses is a significant issue (e.g., mineral extractions; commercial timber operations). In such cases, the ordering and priority of uses needs to be clearly spelled out in the documents. The compatibility of wind facilities with commercial timber operations is an especially interesting topic. The area of land to be encumbered, in one form or another, for a wind energy project may have much more value as a resource for commercial timber lands.

In addressing these issues in a lease, one concept to draw upon is to create, in effect, a zoning of the leasehold estate relative to these various uses. In the designated operating areas, wind power operations are designated as the primary permitted use and commercial timber operations are either prohibited or heavily restricted. In transitional areas extending outward from the operating areas, timber operations may be compatible but tree height or other activities still need to be limited. In these "zones," commercial timber operations are more of a conditional use, the conditions or restrictions being set forth in the lease. In the remaining areas, where the developer is looking to secure its wind rights but tree height or other activities associated with timber growth and harvest are not significant factors, the area is "zoned" forest management, that use being the primary permitted use with very few and limited restrictions for the wind project.[13]

5. Project Retirement

When a project comes to an end, for whatever reason, there are issues presented with project retirement and site restoration that may involve regulatory issues and always involve financial concerns. Abandonment of any facilities in place may not be desired by the parties or allowed by regulators. Removal and restoration may require significant physical disruption of the site, additional regulatory review and approvals, and significant expenditures.

At the end of the project, the developer (or its successor) may not have the resources to initiate and complete an extensive retirement and restoration process. The property owner may

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[12] *See* Appendix E hereto for sample lease terms addressing rent terms.

[13] *See* Appendix E hereto for sample lease terms addressing competitive uses.

want to influence these activities towards advancement of the next use of the property, whatever that may be. As a practical matter, the parties' ability to predict what needs to be done—or should be done—years in the future, perhaps even before the wind energy project is developed, is limited and speculative.

One approach to deal with this uncertainty is to allocate fewer responsibilities upfront, and to provide financial resources for the parties to address this scenario when they have a better grasp of what needs to be done. In most cases, some responsibility for facility removal and property restoration is an affirmative obligation appropriately placed on the developer. There may be substantial value in the salvage or reuse of the developer's facilities which the developer wants to retain. These obligations are frequently secured by a bond or some other type of security device. Beyond this, the parties may wish to establish a retirement fund that grows over the term of the lease. This may be the best fit for situations where the developer just removes the facilities that it wants to keep, leaving the task, and presumably ample funding, to the property owner to pursue a more extensive property restoration along lines that are acceptable to the property owner.

6. Summary

Many of the issues that arise in the context of the real estate transactions call for a good working knowledge of the industry. Some issues also directly or indirectly involve regulatory matters or concepts where a background in energy law, land use and environmental expertise is valuable. While there is no template that addresses all projects, or perhaps even most projects, with the aid of sufficient expertise in these areas, the creative use of leases and easements to address the needs of many parties can be an important component of a successful wind energy project.

III. FACILITY SITING

A. Overview

The balance of this paper provides an overview of some of the regulatory issues encountered in developing wind energy facilities. Just as every project is different, many of the regulatory requirements that must be satisfied to develop a project are project specific.

B. Federal Issues

1. Federal Nexus

Whether or not federal jurisdiction applies will depend upon whether there is a federal action involved in the siting of the facility. This may occur if a proposed wind farm is to be located on federal lands, such as lands held by the Bureau of Land Management ("BLM") or the U.S. Forest Service ("USFS"). In such instances, BLM or USFS may be both the property owner and permitting authority.[14] A federal nexus may also arise where the facility siting has

[14] BLM issued a programmatic environmental impact statement regarding wind energy development in July 2005. BLM, "Wind Energy Development Programmatic EIS Information Center," available at

connections with transmission requirements, which may involve the Federal Energy Regulatory Commission ("FERC") or the BPA. Federal funding could also provide the federal nexus.

2. Where There Is a Federal Nexus, Federal Laws Apply

If the facility siting will require federal action, then environmental laws governing federal agency actions will apply. These include:

- National Environmental Policy Act ("NEPA"). The federal agency involved in the proposed project will be responsible for preparing and publicly circulating a comprehensive, interdisciplinary "detailed statement" prior to making decisions that may significantly affect the environment, examining the project's environmental impacts and potential alternatives.[15]

- Endangered Species Act ("ESA"). If the federal action may adversely impact an endangered or threatened species, the involved federal agency will be responsible consulting with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service pursuant to Section 7 of the ESA.[16]

- Migratory Bird Treaty Act ("MBTA"). The federal agency must examine whether the project will involve activities proscribed by the MBTA, such as the wounding, killing, capturing, or disturbance of migratory birds.[17]

- Bald and Golden Eagle Protection Act ("BGEPA"). The federal agency must also examine whether the project will involve the wounding, killing, capturing, or disturbance of bald and golden eagles.[18]

- National Historic Preservation Act ("NHPA"). The federal agency involved must "take into account" the project's effects on historic properties pursuant to Section 106 of the NHPA.[19]

The applicability of many other federal regulations is dependent upon the location and design plans for the wind turbine or wind farm project. For example, if the siting will require fill of wetlands, the project may require a U.S. Army Corps of Engineers Section 404 permit under the Clean Water Act ("CWA"). If the project requires the 404 permit or any other federal license or permit and involves a potential discharge, a CWA Section 401 water quality certification may also be required. A discharge may also require a National Pollutant Discharge Elimination

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http://windeis.anl.gov (last visited 4/18/07). BLM has also published interim guidelines for siting and a Wind Energy Policy Instruction Memorandum. *Id.*

[15] 42 U.S.C. § 4332.

[16] 16 U.S.C. § 1536.

[17] 16 U.S.C. § 703.

[18] 16 U.S.C. § 668(a).

[19] 16 U.S.C. § 470f.

System permit. If the siting will affect fish habitat or marine life, the Essential Fish Habitat, Marine Mammal Protection Act, or Fish and Wildlife Coordination Act may apply.

3. Other Federal Requirements

If the proposed wind farm has the potential to impact aviation (generally found when the structures exceed 200 feet[20]), the Federal Aviation Administration ("FAA") will be involved. The height of the turbine structures can have the potential to create a hazard to general aviation, especially at locations relative to airports and navigational aids (both electronic and visual). The FAA uses an obstruction evaluation ("OE") process to evaluate, mitigate, or eliminate the impact of tall towers and other obstructions to airspace. See 14 C.F.R. Part 77. The FAA's philosophy in evaluating objects that may impact navigable airspace is that each is presumed to be a hazard until proven otherwise. If a proposed wind turbine is found to have a significant adverse impact, a "hazard" determination will be issued. However, in nearly 80% of all such cases, the FAA negotiates with the proponent until the conditions are met for a "no-hazard" determination.

C. State and Local

1. State Siting Through the Energy Facilities Siting Evaluation Council ("EFSEC")

Washington State has established the EFSEC as the exclusive permitting authority for certain types of major energy facilities (greater than 350 MW). EFSEC also has authority to site any sized renewable energy facilities (defined to include wind, solar, geothermal, landfill gas, wave or tidal action, or biomass energy, but not hydropower), but proponents of renewable projects can choose whether to go through the EFSEC process or obtain permits from local authorities. The EFSEC certification process preempts local land use plans, zoning ordinances, or other local regulations relating to the siting of energy facilities. RCW 80.50.110; WAC 463-14-050; Lathrop v. State Energy Facility Site Evaluation Council, 130 Wn. App. 147, 151, 121 P.3d 774 (2005) (preemption is given effect through governor's action on EFSEC recommendation). EFSEC serves to coordinate review of energy facility location and to regulate siting with the intent of balancing the increasing demand for production of energy at reasonable costs with the public interests of minimizing effects on the environment, ecology of the land and its wildlife, and the ecology of state waters and their aquatic life as well as enhancing the public opportunity to enjoy the esthetic and recreational benefits of the air, water and land resources. RCW 80.50.010; WAC 463-14-020.

EFSEC's chair is appointed by the governor with the advice and consent of the senate, for a term coextensive with the governor's term. RCW 80.50.030(1). The remainder of the council includes the directors, administrators, or designees of the following state organizations:

- Department of Ecology;
- Department of Fish and Wildlife;
- Department of Community, Trade, and Economic Development;
- Utilities and Transportation Commission; and,

[20] 14 C.F.R. § 77.13.

- Department of Natural Resources

Four other agencies—the departments of agriculture, health, transportation and military—may elect to participate as voting council members with respect to any particular application, provided that they exercise that election no later than 60 days after the application is filed. RCW 80.50.030(3)(b). In addition, the legislative authority of any county or city where a proposed facility is to be sited may appoint a member or designee to serve as a voting council member with respect to any particular application, and a port district may appoint a non-voting member. RCW 80.50.030(4)-(6).

Submitting an application is the first step in the EFSEC certification process. The application must be accompanied by a twenty-five thousand dollar ($25,000) fee, also to be applied toward the cost of an independent consultant study. RCW 80.50.071. The EFSEC application review process includes an informational public hearing in the county of the proposed site, a public hearing regarding consistency and compliance with local land use plans and zoning ordinances in effect at the time of application, and an adjudicative public hearing to consider the certification. RCW 80.50.090.

During this EFSEC review, the council will be required to complete review under the State Environmental Policy Act ("SEPA").

Within 12 months of its receipt of an application, EFSEC is to provide a report to the governor recommending approval or rejection of the certification, including any conditions to protect state or local governmental or community interests. RCW 80.50.100(1). The governor is to approve, reject, or remand certain aspects of the certification agreement within 60 days of receiving EFSEC's recommendation. RCW 80.50.100(2). Recent certification orders and other EFSEC issuances are posted on the EFSEC website by project.[21]

An applicant can also apply to EFSEC for expedited review. RCW 80.50.075. Under this quicker process, EFSEC shall not conduct any further review of an application by an independent consultant, hold an adjudicative proceeding, or continue a pending proceeding. WAC 463-43-060. Expedited review is only available where EFSEC finds (i) that the environmental impact of the proposal, the area potentially affected, cost and magnitude, and degree of change in use caused by the facility are not significant or will be mitigated to a nonsignificant level and (ii) that the project is consistent and in compliance with city, county, or regional land use plans or zoning ordinances. RCW 80.50.075(1); WAC 463-43-050. If expedited review is granted, EFSEC is required to determine eligibility within four (4) months of application submittal and to make a recommendation to the governor within six (6) weeks of granting eligibility. WAC 463-43-050, -080.

[21] *See, e.g.*, Council Order No. 826, certification order for the Kittitas Valley Wind Power Project, issued March 27, 2007, available at http://www.efsec.wa.gov/kittitaswind/adj/Order%20826.pdf (last visited 4/19/07).

2. Local Jurisdiction When Project Proponent Chooses Not to Opt for EFSEC Siting

Most wind power projects have a total capacity of less than 350 MW and, therefore, a developer may choose not to participate in the EFSEC siting process and to instead go through local government review and receive permits directly from local or state agencies.[22] An applicant weighing its options for siting may elect the local process for procedural advantages specific to a particular proposal or jurisdiction.[23] Local regulations for siting of wind farm projects vary widely. Many jurisdictions have not yet adopted any specific policies with respect to siting of wind power projects, in which case more general development regulations may be applied. On the other hand, some local jurisdictions (primarily those with prior experience in the permitting of wind power development) have adopted zoning regulations specific to the siting of wind farms. For example, Kittitas County—home to multiple wind farm developments[24]—has

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[22] Permits or regulatory approvals may be required from state agencies such as the Washington State Department of Ecology (e.g., for water discharges or air emissions) or the Washington Department of Fish and Wildlife (e.g., a Hydraulic Project Approval for in-water work).

[23] While there are no Washington State appellate court decisions reviewing a local jurisdiction's permitting of a wind farm development, state precedent from other states provides an indication of some benefits and pitfalls in local permitting processes. *See, e.g., Roberts v. Manitowoc County Board of Adjustment*, 295 Wis.2d 522, 721 N.W.2d 499 (2006) (Board's conditional use permit decision upheld where record shows the Board adequately considered issues such as impacts on wildlife, noise pollution, aesthetics, energy output, lighting on turbines, lifespan of a turbine tower, location of power cables, ability to continue farming around turbines, potential ice buildup on the blades or tower collapse, and impacts on surrounding property values); *State of Wisconsin v. Bzdusek*, 257 Wis.2d 193, 650 N.W.2d 894 (2002) (court found Town of Addison, Wisconsin violated state law in attempt to elect new board members opposed to a wind farm project without including town clerk, who favored the project); *In re Petition of Tom Halnon*, 174 Vt. 514, 811 A.2d 161 (2002) (Public Service board denied certificate of public good for wind turbine system for lack of analysis of mitigating site alternatives and aesthetic impacts); *Bomba v. Zoning Board of Appeals of the Town of Princeton*, 2005 WL 2106162 (2005) (no height exemption was provided under local code despite state law encouraging wind development; lack of definition of certain zoning terms led to denial); *Shippee v. Zoning Board of Appeals of the Town of Old Lyme*, 39 Conn. Supp. 436, 466 A.2d 328 (1983) (special exception for development of one wind turbine on residential property initially denied by Connecticut town because the plans did not provide for screening, there were no safeguards to prevent climbing of tower, plans did not show whether setbacks were met, and the application had conflicting height information; granted upon remedy of these concerns in second application).

[24] Because of its consistent source of wind energy and proximity to existing transmission lines, Kittitas County is home to several wind power projects. However, not all wind projects have found favor under the Kittitas County Code. Recently, Kittitas County requested reconsideration of EFSEC's certification of the Kittitas Valley Wind Power Project. *See* EFSEC website page for this project at http://www.efsec.wa.gov/kittitaswind.shtml (last visited 4/19/07). The Kittitas County Board of County Commissioners argue that EFSEC did not appropriately apply the GMA or its local zoning requirements for setbacks from non-participating landowners and its provisions for a comprehensive, site-specific Development Agreement. Kittitas County and EFSEC have also recently found that the proposed Desert Claim Wind Power Project, a 180-megawatt facility consisting of 80 turbines and located roughly 8 miles north of the City of Ellensburg, is inconsistent with local land use plans and zoning ordinances.

adopted a "wind farm resource overlay zone" as part of its zoning code and requires wind farm developers to enter into a development agreement.[25]

When the local permitting option is chosen, the wind development permit review process is similar to that of other development projects. The granting of the local permit will require demonstration of compliance with the local zoning regulations, SEPA, GMA and local comprehensive plan, the SMA and local shoreline master program (for projects within shoreline areas), and critical areas ordinances as applicable (steep slopes and other geotechnical and seismic issues). The decision-maker for the local permitting process will vary from jurisdiction to jurisdiction, as it does for any zoning or land use permits, but will typically involve review by a hearing examiner or a city or county council. After receiving the general zoning approval, the developer will need to obtain its construction permits (e.g., clearing and grading and building permits).

D. Environmental Review—Typical Topics Addressed in Review

For any particular wind project proposal, the specific areas of impacts to be reviewed under either SEPA or NEPA will vary and must, of course, be evaluated in the scoping process. The following are typical issues addressed on review of wind energy development proposals:

- Land use
- Noise
- Birds and other biological resources
- Visual resources
- Soil erosion and water quality
- Public health and safety
- Cultural and paleontological resources
- Solid and hazardous wastes
- Air quality and climate

The issues that have generated the most attention in review of wind farm projects are that of bird and bat mortality and noise impacts.[26] According to the 2005 GAO Report, studies have shown that wind power facilities in northern California (primarily in the Altamont Pass),

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[25] *See* Chapter 17.61A Kittitas County Code, available at http://www.co.kittitas.wa.us/boc/countycode/title17.asp.

[26] *See, e.g.*, "Synthesis and Comparison of Baseline Avian and Bat Use, Raptor Nesting and Mortality Information from Proposed and Existing Wind Developments," Bonneville Power Administration (Dec. 2002), available at http://www.bpa.gov/Power/pgc/wind/Avian_and_Bat_Study_12-2002.pdf (last visited 4/19/07); "Impacts on Wildlife and Government Responsibilities for Regulating Development and Protecting Wildlife," United States Government Accountability Office, Report GAO-05-906 (Sept. 2005) ("2005 GAO Report"); *Center for Biological Diversity, Inc. v. FPL Group, Inc.*, 2006 WL 2987634 (2006) (court dismissed claims regarding injuries and mortalities of wild birds migrating in area of wind turbines; claims brought under Unfair Competition Law, for lack of standing, and under the public trust doctrine, for lack of a private right of action); *Rassier v. Houim*, 488 N.W.2d 635 (1992) (residential neighbor filed private nuisance action regarding noise concerns from neighboring property owner's single wind turbine; court denied claim finding plaintiff did not demonstrate unreasonable interference).

Pennsylvania, and West Virginia—facilities using older generation turbine models and design features—have killed large numbers of raptors and bats.[27] Studies have shown that over 1,000 raptors are killed each year by wind power facilities in northern California (an area including over 5,000 turbines and abundant raptor prey).[28] In West Virginia, studies indicate that over 2,000 bats were killed during a 1-year period at wind facilities in the mountains of eastern West Virginia. However, studies in other parts of the country show comparatively lower levels of mortality.[29] Accordingly, the threat to birds and bats varies significantly based upon location and project design.[30] Additionally, "[i]n the context of other sources of avian mortalities, it does not appear that wind power is responsible for a significant number of bird deaths."[31] "While sources of bat mortality are not as well known, [U.S. Fish and Wildlife Service] estimates that some of the leading sources of bird mortality, per year, are collisions with building windows—97 million to 976 million bird deaths, collisions with communication towers—4 million to 50 million bird deaths, poisoning from pesticides—at least 72 million birds, and attacks by domestic and feral cats—hundreds of millions of bird deaths."[32]

Noise impacts have also Wind turbines commonly produce some broadband noise (usually described as "swishing" or "whooshing") as their revolving rotor blades encounter turbulence in the passing air.[33] Older wind turbines may also produce some tonal sounds (a "hum" or "whine" at a steady pitch).[34] Advancements in wind turbine technology have reduced noise impacts. Today, an operating wind farm at a distance of 750 to 1,000 feet generally has a decibel ("dB") level of 35 to 45 dB, comparable to a kitchen refrigerator or a moderately quiet bedroom.[35] If the facilities are located in some hilly terrain where residences are located in sheltered dips or hollows downwind from turbines, however, turbine sounds may carry further and be more audible.[36]

As indicated above, this list of impacts is not comprehensive and areas of impact for a particular project must be evaluated during scoping. In 2004, two scientific research facilities located near a proposed wind farm—the Laser Interferometer Gravitational Wave Observatory,

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[27] 2005 GAO Report, see note 26, *supra*.

[28] *Id.* at p. 2.

[29] *Id.*

[30] The National Audubon Society, for example, acknowledges wind power as an important resource to combat the threat of global warming, but may object to potential projects on a case-by-case basis dependent upon the project's design and site location and its relative threat to birds and wildlife. Flicker, John, "Wind Power," *Audubon Magazine* (Nov.-Dec. 2006) available at http://www.audubon.org/campaign/windPowerQA.html (last visited 4/19/07).

[31] 2005 GAO Report at p. 43.

[32] *Id.* at p. 9.

[33] "Facts About Wind Energy and Noise," American Wind Energy Association.

[34] *Id.*

[35] *Id.* (citing The Scottish Office, Environment Department, Planning Advice Note, PAN 45, Annex A: Wind Power, A.27. Renewable Energy Technologies, August 1994).

[36] *Id.*

operated by the California Institute of Technology, and the Battelle Gravitation Physics Laboratory, operated by the University of Washington—successfully challenged a conditional use permit application before the Benton County Board of Adjustment on the basis that the environmental impact statement did not examine the potential impacts of vibration on these adjacent land uses.[37] The research equipment at these costly scientific facilities was demonstrated to be sensitive to noise and ground vibration interference which would affect the accuracy of research results.

IV. CONCLUSIONS

Wind power is one of the fastest growing energy generation technologies in the United States. The Pacific Northwest has a number of areas with good or excellent wind potential and significant wind power developments have occurred in Washington State.

There are incentives for developers to continue to pursue opportunities to develop wind power projects in this region. These incentives are both economic, social and political. With these incentives in place, it is reasonable to assume that a high level of interest in developing more of these facilities in our region will carry forward into the future.

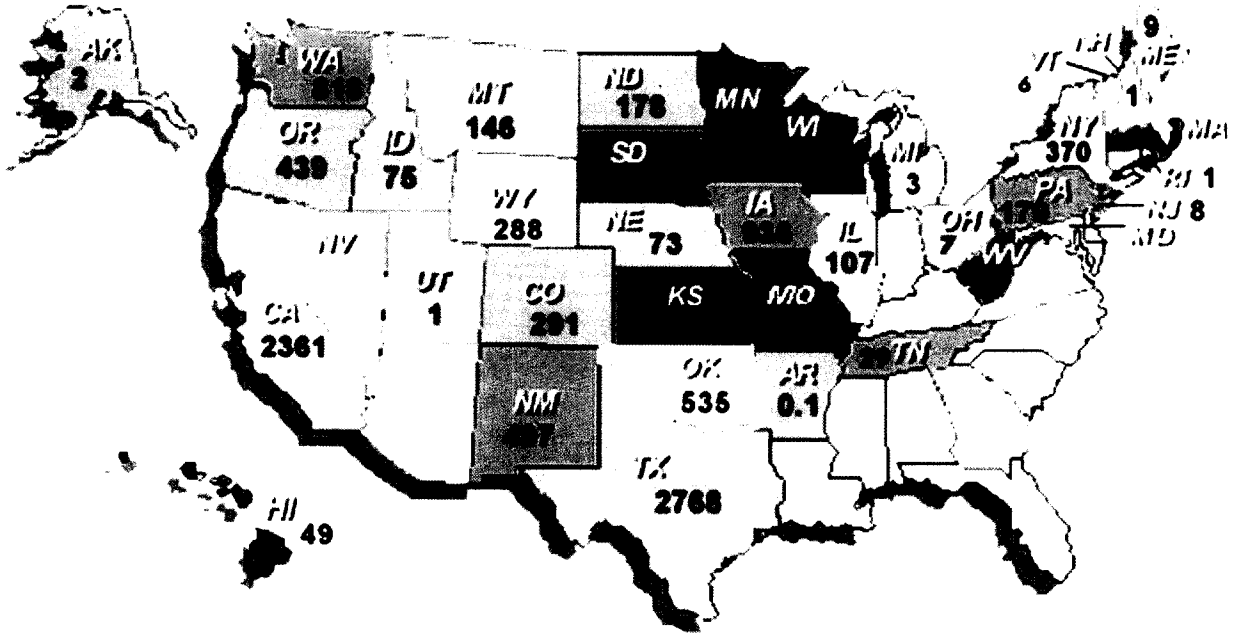
May of the issues that have been encountered in developing these facilities in the past are "problems solved." Projects can be developed within market constraints and acceptable timeframes. We have a great knowledge base to draw upon, and much like the history of hydropower in this region, wind power is becoming a significant energy resource that will be an asset for future generations.

[37] Benton County Board of Adjustment, Conditional Use Permit—CUP 01-11, Findings of Fact, Conclusions of Law and Decision, issued March 4, 2004.

APPENDIX A

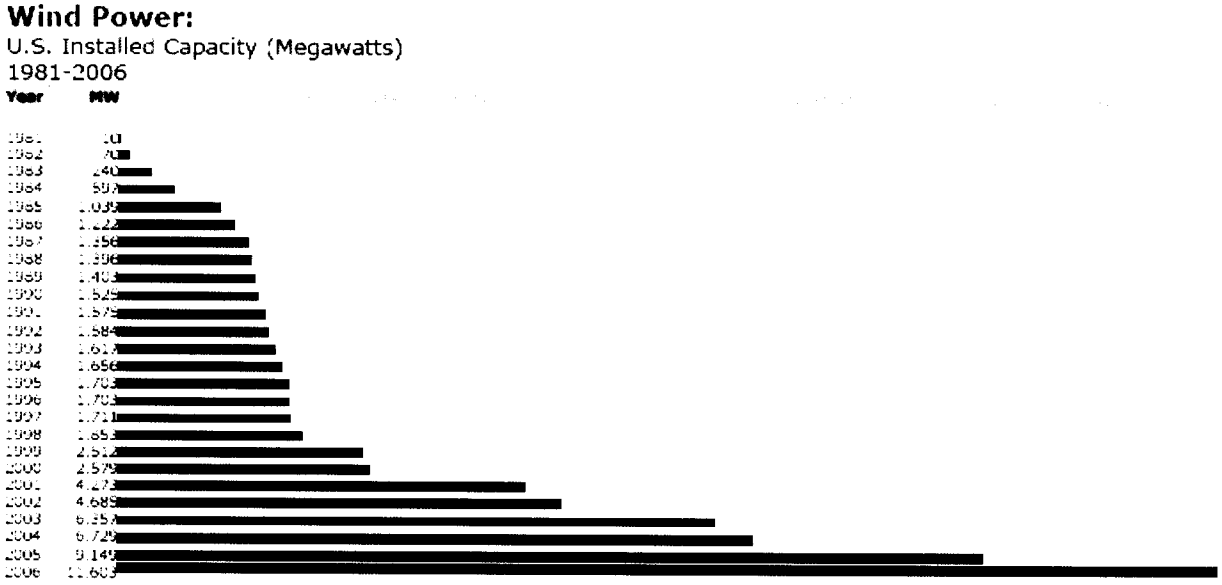
AWEA—Map and Bar Chart of Wind Energy Capacity in U.S.

Wind Energy Projects Throughout the United States (Total MW)



(Source: http://www.awea.org/projects; reprinted with permission)

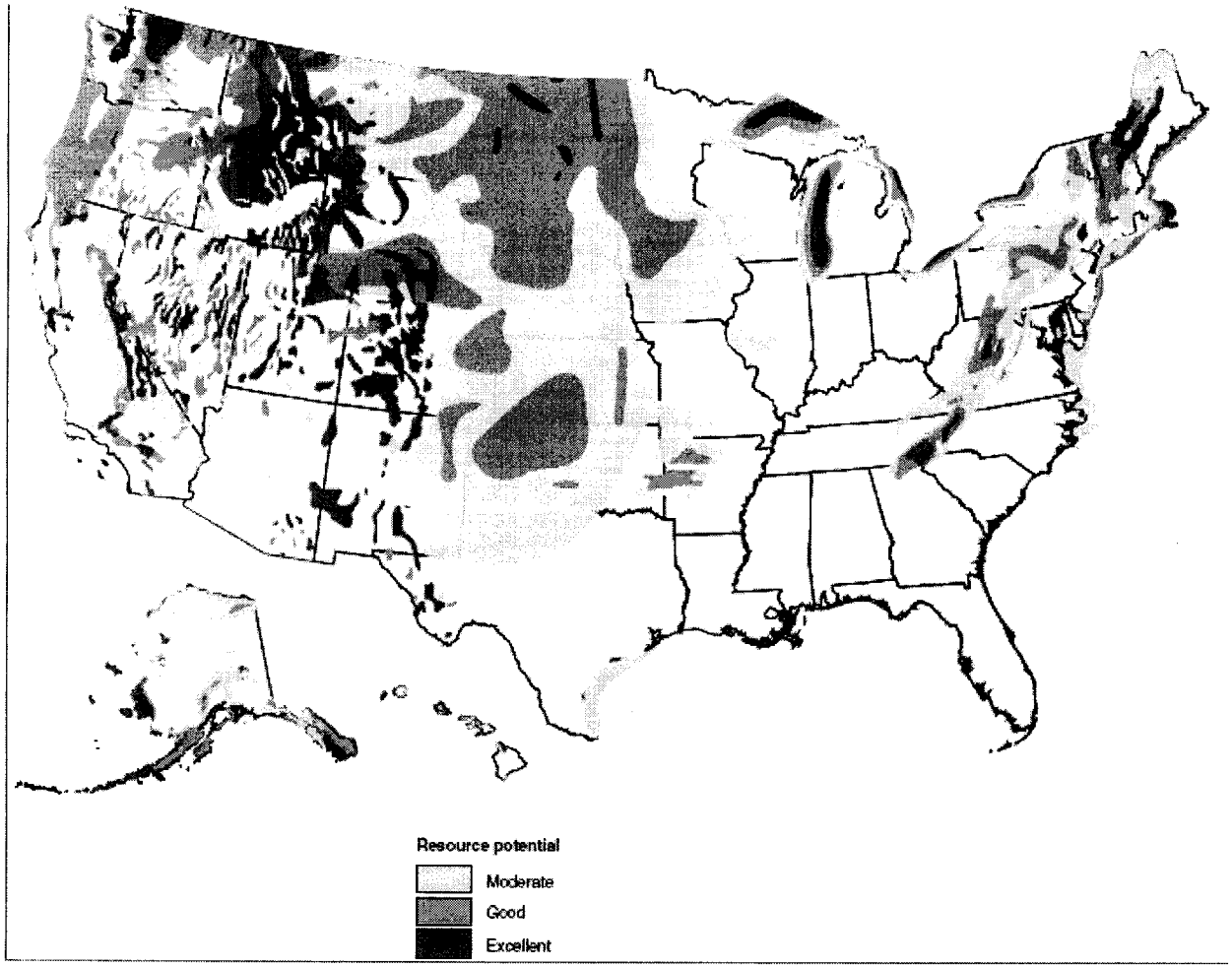
Wind Energy: U.S. Installed Capacity, 1981-1999



(Source: http://www.awea.org/faq/instcap.html)

APPENDIX B

2005 GAO Report Figure 2: Areas of the United States with High Wind Potential



(Source: Department of Energy, National Renewable Energy Laboratory)

APPENDIX C

SAMPLE LEASE TERMS ADDRESSING SITE PLAN & DEVELOPMENT PROCESS

The Parties intend that the Wind Power Facilities are to be constructed and maintained by Tenant in the approximate locations shown on the Preliminary Site Development Plan, which locations shall be within the boundaries of the Operating Property (as defined in subsection 1.4.2 below). During the Development Term, Tenant shall develop a Final Site Development Plan for the Operating Property, taking into account the results of the wind resource studies, environmental and geological studies and engineering feasibility for the wind project construction and operation on the Operating Property. Tenant shall consult with Owner concerning the Final Site Development Plan and the proposed location of the Wind Power Facilities, so as to minimize the impact of the Final Site Development Plan on Owner's commercial timber operations. To the extent reasonably possible, Tenant agrees to design and install electric transmission lines and communication lines underground, and Tenant may install such lines overhead only if such type of installation is required by Applicable Law or reasonably necessary. When locating and designing roads, electric transmission lines, communication lines and construction lay-down areas, Tenant shall to the extent reasonably possible minimize the impact to Owner's remaining property. Tenant shall clearly identify the boundaries of the Operating Property on the Final Site Development Plan. Upon completion of the Final Site Development Plan and prior to Commencement of Construction, Tenant shall submit the Final Site Development Plan to Owner for informational purposes and incorporation into this Lease as Exhibit B. Tenant may, from time to time, amend the Final Site Development Plan. Tenant shall consult with Owner concerning any such amendments. Upon completion of an amended Final Site Development Plan, Tenant shall submit such amended Final Site Development Plan to Owner for informational purposes and incorporation into this Lease as Exhibit B.

APPENDIX D

SAMPLE LEASE TERMS ADDRESSING RENT

Commencing as of the Date of Commercial Operation for any one or more Generating Units located from time to time on the Operating Property, Tenant shall pay Owner a royalty payment (the "Royalty Payment"). The Royalty Payment shall be due and payable to Owner by Tenant on the first (1st) day of each calendar quarter occurring thereafter during the Term. The amount of the Royalty Payment due Owner on each such date shall be an amount that is the greater of (a) the Minimum Rent or (b) an amount that is equal to an amount that is a percentage of Gross Revenues for the previous quarter, determined as follows:

(i) ____ percent (X%) of Gross Revenues for each quarter of each year occurring during the first __ years of the Initial Term, said amount being due and payable from and after the Date of Commercial Operation of any one or more Generating Units;

(ii) ___ percent (Y%) of Gross Revenues for each quarter of each year occurring during the next __ years of the Initial Term thereafter; and

(iii) ___ percent (Z%) of Gross Revenues for each quarter of each year occurring thereafter during the Term.

APPENDIX E

SAMPLE LEASE TERMS ADDRESSING COMPETITIVE USES

Tenant's use of the Property shall be confined to the following areas for the following purposes:

1.4.2.1 Exhibits A-2 and A 3, attached hereto and incorporated herein by this reference, describes and depicts those portions of the Property referred to in this Lease as the Operating Property. Tenant shall have the full right to the use and enjoyment of the Operating Property for Wind Energy Purposes in accordance with the terms and conditions of this Lease, together with the right to keep such area free and clear of any timber, vegetation, structures, debris, materials or other items within a distance of fifty (50) feet from any Generating Unit subject to the terms and conditions of this Lease.

1.4.2.2 Exhibit A-4, attached hereto and incorporated herein by the reference, describes and depicts that portion of the Property referred to in this Lease as the Restricted Growth Area. The Restricted Growth Area extends from and beyond the Operating Property and is generally described as a circular area surrounding each Generating Unit, with a radius of one hundred fifty (150) feet, extending in all directions from and perpendicular to the base of each such Generating Unit. At Tenant's direction, Owner shall clear any merchantable timber from the Restricted Growth Area in accordance with subsection 1.7.2 (Harvest and Removal of Timber Products). Thereafter, (a) Tenant shall have the right to keep and maintain the Restricted Growth Area free and clear of any timber, vegetation, structures, debris, materials or other items that Tenant, in its sole judgment, determines is interfering with its Wind Power Operations, except that Owner shall have the right to grow, maintain and harvest forest crops (e.g., Christmas trees) in the Restricted Growth Area provided that such crops shall not exceed a height of fifteen (15) feet above the base elevation of the nearest Generating Unit (which is hereby agreed by Tenant and Owner to not cause interference), and provided further that such growth, maintenance and harvest shall be subject to such reasonable constraints as the Parties may agree to, from time to time. Except for Tenant's Access Rights, Tenant shall make no use of the Restricted Growth Area for Wind Energy Purposes or for any other purpose whatsoever.

1.4.2.3 Exhibit A 5, attached hereto and incorporated herein by this reference, describes and depicts a portion of the Property referred to in this Lease as the Construction Lay Down Area. The Construction Lay Down Area extends from and beyond a Restricted Growth Area and is generally described as a circular area surrounding each Generating Unit, with a radius of three hundred (300) feet, extending in all directions from and perpendicular to the base of such Generating Unit. During the Term, Tenant shall have the right to use the Construction Lay Down Area as a temporary staging area for construction activities. If so requested by Tenant in accordance with subsection 1.7.2 (Harvest and Removal of Timber Products), Owner shall remove any merchantable timber from the Construction Lay Down Area; provided, however, Tenant shall consult with Owner with regard to areas to be cleared so as to allow Owner to realize to the extent reasonably possible the full commercial timber value of such harvest. To the extent such harvest results in the short cutting (i.e., a harvest age of 55 years or less) of any such merchantable timber, Tenant shall pay Owner an amount that compensates Owner for the reduced value thereof, such amount to be determined in accordance with EXHIBIT D, attached

hereto and incorporated herein by this reference. Except for Tenant's Access Rights, Tenant shall make no use of the Construction Lay Down Area for Wind Energy Purposes or any other purpose whatsoever.

1.4.2.4 Exhibit A-4, attached hereto and incorporated herein by the reference, describes and depicts a portion of the Property referred to in this Lease as the Timber Management Area. The Timber Management Area is generally described as one quadrant of a circular area, with the mid-point of the quadrant pointed in the predominant wind direction determined during the Development Period for the Operating Property, extending from and beyond the Restricted Growth Area with a radius of five hundred (500) feet. Owner shall have the right to manage all timber within the Timber Management Area for commercial purposes; provided, however, Tenant shall have the right to request Owner to restrict any merchantable timber within the Timber Management Area to a height of fifty (50) feet above the base elevation of the nearest Generating Unit, in accordance with subsection 1.7.2 (Harvest and Removal of Timber Products). As to any trees that may, from time to time, exceed such fifty (50) foot height limitation, Tenant may direct Owner to harvest the same, provided, however, to the extent such harvest results in the short cutting (i.e., a harvest age of 55 years or less) of any merchantable timber, Tenant shall pay Owner an amount that compensates Owner for the reduced value thereof, such amount to be determined in accordance with EXHIBIT D. Except for Tenant's Access Rights, Tenant's sole right and interest with respect to the Timber Management Area is the right to enforce the aforementioned fifty (50) foot height restriction, and Tenant shall make no use of the Timber Management Area for Wind Energy Purposes or any other purpose whatsoever.

1.4.2.5 During the Term, the Parties anticipate that they may become aware of additional facts and circumstances relevant to the concurrent use of various portions of the Property for Wind Energy Purposes and for commercial timber operations. Each Party shall cooperate with the other, to the fullest extent that is reasonable and practical under the circumstances, to facilitate such concurrent uses and operations. Without limiting the generality of the foregoing, the Parties agree that:

(a) as to the Operating Property, Wind Power Operations shall be the sole and exclusive use, and apart from initial harvest of this area and any subsequent clearing requested by Tenant in accordance with the terms and conditions of this Lease, the Operating Property shall not be available to Owner during the Term for commercial timber operations;

(b) as to the Restricted Growth Area, this area is to be used by Tenant during the Term as a buffer area for Wind Power Facilities, and any use thereof for commercial timber operations shall be incidental and subordinate to such use and subject to the height restriction referenced above;

(c) as to the Construction Lay Down Area and the Timber Management Area, the primary use of these areas during the Term shall be for commercial timber operations, subject to the requirements and height limitations (as applicable) described above, and any use by Tenant of such areas pursuant to this Lease shall be subordinate to Owner's commercial timber operations; and

(d) as to all other portions of the Property, commercial timber operations shall be the primary and dominant use, subject only to any applicable restrictions set forth in subsection 1.7.1 (Reserved Rights) below.