

Chapter 4

Siting a Wind Project

Agricultural land is ideal for siting wind turbines because the farmer can continue to use most of the land for crops or grazing with no obstruction of the wind. And because only a small amount of land is required for each turbine, a wind project will generally cause little interference with the farming operation.

Chapter 3 of this guide sets out a detailed discussion of leases and easements related to wind projects on farmland and what farmers should be sure to consider in those property agreements. This chapter discusses a related step in the development process: choosing the best location for the wind project and addressing any regulatory issues involved in developing there.

This chapter is divided into four parts. First, practical siting issues are summarized, ranging from ways to ensure access to the electric grid to a consideration of the impact of any development on participation in relevant federal farm programs. The second part covers state and local land use permitting processes. The third part details specific environmental review and permitting issues, and the final part highlights some other site-specific regulations that may affect land with particular sensitivities, such as proximity to military radar installations or special historical places.

I. Practical Siting Considerations

There are many factors that go into the siting decision for a wind project.

A. Measuring the Wind Resource

For a wind project to be economically feasible, there must be a good wind resource on the land. More specifically, there must be a good wind resource at the precise location of the wind turbines, because the wind resource can vary significantly on different parts of the land depending on the terrain and the presence of other structures.



Wind speed is the most important factor in determining available power. Generally, a commercial-scale turbine requires average wind speeds of 14 to 16 mph at a height of 50 meters,¹ and small-scale turbines require average wind speeds of at least 10 mph.² To begin assessing the land for available wind speed, a farmer should collect some general wind speed data about the area. The Wind Energy Resource Atlas of the United States has mapped wind speed ratings for each state.³ Wind speed data should also be available from any local airport or weather station. Airport or weather station data will indicate if the land is likely to have a promising wind resource, but it will not be useful for estimating actual power output from a specific site. Airport or weather station data is usually collected at 33 feet off of the ground, often near a building, while a typical wind turbine is unobstructed and stands at around 80 feet off of the ground, where wind speeds are higher.⁴

If a preliminary investigation into wind speeds is favorable, the farmer's next step is to collect wind data at the specific site(s) being considered. An *anemometer* is an instrument that collects data about wind speeds. One should be obtained

¹ For more detailed information about wind speed measurements, see National Renewable Energy Laboratory, *Dynamic Maps, GIS Data, & Analysis Tools: Wind Maps*, <http://www.nrel.gov/gis/wind.html> (last visited June 22, 2007).

² U.S. Department of Energy, *Small Wind Electric Systems: A U.S. Consumer's Guide* 15, available at http://www.eere.energy.gov/windandhydro/windpoweringamerica/pdfs/small_wind/small_wind_guide.pdf (last visited June 15, 2007).

³ See National Renewable Energy Laboratory, *Wind Energy Resource Atlas of the United States*, available at <http://rredc.nrel.gov/wind/pubs/atlas/> (last visited June 21, 2007). More detailed maps for many individual states are available at http://www.eere.energy.gov/windandhydro/windpoweringamerica/wind_maps.asp (last visited June 22, 2007). Some states also have information about wind data on their state Web sites, or a university Web site. For example, Iowa State University's Wind Turbine Output Calculator provides estimated wind speed data and expected generated power for over 2,000 sites across Iowa. This resource is available at <http://www.energy.iastate.edu/renewable/wind/as-index.html> (last visited June 21, 2007).

⁴ U.S. Department of Energy, *Small Wind Electric Systems: A Colorado Consumer's Guide* 11 (May 2004), available at http://www.eere.energy.gov/windandhydro/windpoweringamerica/pdfs/small_wind/small_wind_co.pdf (last visited June 16, 2007).

and placed on a tower at the intended location and intended height of the turbine. It is recommended that an anemometer be left in place to collect measurements for at least one year to determine average hourly wind speed and direction data throughout the seasons.⁵ There are several ways for a farmer to obtain an anemometer. One option is to purchase and install the anemometer directly. Other farmers may take advantage of state or university anemometer loan programs for landowners who want to assess their wind potential.⁶ Farmers should be aware that many of these programs own only a few anemometers, and demand may be high in areas with a promising wind resource. Finally, a developer who wishes to obtain the wind rights to a landowner's property is likely to provide an anemometer to monitor the wind as part of the project's preliminary stages through what is commonly called a meteorological tower (or "MET tower") agreement.⁷

Other factors, including air turbulence, also affect the quality of the wind resource and the energy that can be generated. Turbulence can be reduced by siting the turbine away from any obstructions. Generally, the turbine should be upwind of buildings and trees, and at least 30 feet above anything within 300 feet.⁸ It is important to consider whether surrounding trees have reached their full height, or if new buildings are being planned in the area. Typically, a large

⁵ Montana Department of Environmental Quality, *A Landowner's (Informal) Guide to Negotiating for a Wind Farm* 11 (Aug. 15, 2003), available at <http://deq.mt.gov/Energy/Renewable/LandownersGuiToWind.pdf> (last visited June 16, 2007).

⁶ For example, both Oregon (<http://me.oregonstate.edu/alp/>) and Colorado (<http://www.state.co.us/oemc/programs/renewable/anemometer.htm>) have anemometer loan programs (both sites last visited June 19, 2007).

⁷ Montana Department of Environmental Quality, *A Landowner's (Informal) Guide to Negotiating for a Wind Farm* 1 (Aug. 15, 2003), available at <http://deq.mt.gov/Energy/Renewable/LandownersGuiToWind.pdf> (last visited June 16, 2007). See Chapter 3 (Negotiating Wind and Land Agreements) of this guide for more discussion of meteorological tower agreements.

⁸ U.S. Department of Energy, *Small Wind Electric Systems: A Colorado Consumer's Guide* 14-15 (May 2004), available at http://www.eere.energy.gov/windandhydro/windpoweringamerica/pdfs/small_wind_co.pdf (last visited June 16, 2007).

open flat area or a ridge or hilltop with access to the wind from all directions will have the least turbulence as well as the highest wind speed.⁹

B. Access to the Electric Grid

For any farmer who is building a wind project in order to sell energy back to the electric grid, proximity to a distribution or transmission line capable of carrying the additional electricity is critical. The project must be physically *interconnected* to those lines in order to transmit power, and the cost of building an additional line or upgrading existing lines will affect the economic feasibility of the project.¹⁰ The wind developer must generally pay for many, if not all, of the upgrades needed to complete the interconnection. Therefore, it is important to site the project as close as possible to the point of interconnection with the grid in order to minimize these costs.

C. Impact on Neighbors

Farmers should also consider whether the proposed wind project would be an appropriate addition to the project's surroundings. It is important to consider the proximity to neighbors, and how those neighbors use their land. Depending on the size and number of turbines, neighbors to a wind project may experience the sound of the turbines, the shadow cast by the turning blades, and interference with television reception. Neighbors may also be concerned about the look of the landscape, and effects on wildlife, property values, and safety.¹¹ Moreover, a landowner who develops a wind project might also prevent neighbors from being able to develop wind projects on their own land.¹²

⁹ Montana Department of Environmental Quality, *A Landowner's (Informal) Guide to Negotiating for a Wind Farm* 8 (Aug. 15, 2003), available at <http://deq.mt.gov/Energy/Renewable/LandownersGuiToWind.pdf> (last visited June 16, 2007).

¹⁰ Iowa Department of Natural Resources, *Iowa Wind Energy Checklist* 6 (2003), available at <http://www.iowadnr.com/energy/renewable/files/windchecklist.pdf>. See Chapter 11 of this guide for a much more detailed discussion of interconnection and transmission requirements.

¹¹ These and other potential liability issues are discussed in Chapter 5 of this guide.

¹² A wind turbine has a wake of still air behind it which is typically cone-shaped, with the distance from the turbine to the tip of the cone of still air being about 10 times the diameter of the rotor of the wind turbine. Other wind turbines placed in

Because of the possible impacts on others in the area, farmers who are considering a wind project should communicate with neighbors and local community members about the possibility of the development early in the process. This early communication may reduce resistance to the project down the road.¹³

A related matter is ensuring that a wind project's neighbors do not block access to the wind in the future. Ideally this can be achieved through open communication and private arrangements with neighboring landowners, as discussed in Chapter 3 (Negotiating Wind and Land Agreements).¹⁴ For more difficult situations, some states have developed regulatory means for keeping neighbors from blocking the wind to a wind turbine. For example, a Wisconsin law allows the owner of a wind energy project to apply for a permit from the local government that restricts neighboring landowners from creating an impermissible interference with the wind project.¹⁵ If a county or city grants such a permit and gives proper notice to neighboring landowners, the wind project owner could sue for damages for any income loss resulting from prohibited interference.¹⁶ This kind of legal protection is not available in all states, but could be of use where available.

D. Bird, Wildlife, and Other Environmental Impacts

Birds occasionally collide with wind turbines, as they do with any other tall structures, such as buildings and transmission towers.¹⁷ However, many people

this area will not receive adequate wind flow. See The Minnesota Project, *Companion Document to the Minnesota Model Wind Energy Conversion Ordinance—2005*, at 14 (2005), available at <http://www.cleanenergyresourceteams.org/publications.html> (click “Companion Document” under “Other Publications”) (last visited June 17, 2007).

¹³ Chris Deisinger, *Lessons from Wind Farm Siting in Kewaunee County*, Presentation at Windustry Community Wind Conference (June 24, 2004).

¹⁴ The primary mechanism through which unobstructed wind is guaranteed into the future is a *wind easement*, a property agreement discussed in more detail in Chapter 3 of this guide.

¹⁵ Wis. Stat. § 66.0403 (2006); see also, *State of Wisconsin ex. rel. Numrich v. City of Mequon Bd. of Zoning Appeals*, 626 N.W.2d 366, 371 (Wis. Ct. App. 2001).

¹⁶ Wis. Stat. § 66.0403(7) (2006).

¹⁷ American Wind Energy Association, *Wind Power Myths vs. Facts*, http://www.awea.org/pubs/factsheets/050629_Myths_vs_Facts_Fact_Sheet.pdf; see

have a perception that wind energy projects present a major hazard to bird populations. This is due at least in part to serious bird losses at some early commercial-scale wind projects in California.¹⁸ Since those early California projects were built, improvements in turbine design and siting recommendations have dramatically reduced bird mortality rates associated with wind projects. Today's turbine blades move at a slower rate than previous designs, and the current tubular-tower structure provides far fewer perching opportunities for birds than the previous lattice-tower models.¹⁹

Proper siting is the best way to reduce the potential for bird collisions; migratory paths and areas that are heavily used by endangered species are probably unsuitable for wind development. Whether or not the applicable permitting process requires a bird impact study, it is a good idea to investigate bird use on the property. The U.S. Fish and Wildlife Service suggests avoiding high bird concentration areas, such as wetlands and bird refuges, and avoiding known daily flyways, such as between roosting and feeding areas.²⁰ Observing bird use of the land should be done for at least one year to measure patterns across all seasons.

Wind projects also impact other wildlife. For example, the U.S. Fish and Wildlife Service recommends that turbines not be placed near bat populations or in bat migration corridors.²¹ It is also important, before proceeding with the project, to

also American Wind Energy Association, *Wind and Wildlife: Learning from the Past, Changing for the Future*, http://www.awea.org/pubs/factsheets/050622_Wildlife_Lessons_Fact_Sheet.pdf (both sites last visited June 16, 2007).

¹⁸ U.S. Department of the Interior, Fish and Wildlife Service, *Service Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines* 49 (2003), available at <http://www.fws.gov/habitatconservation/wind.pdf> (last visited June 16, 2007).

¹⁹ U.S. Department of the Interior, Fish and Wildlife Service, *Service Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines* 49 (2003), available at <http://www.fws.gov/habitatconservation/wind.pdf> (last visited June 16, 2007).

²⁰ U.S. Department of the Interior, Fish and Wildlife Service, *Service Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines* 3 (2003), available at <http://www.fws.gov/habitatconservation/wind.pdf> (last visited June 16, 2007).

²¹ U.S. Department of the Interior, Fish and Wildlife Service, *Service Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines* 3 (2003), available at <http://www.fws.gov/habitatconservation/wind.pdf> (last visited June 16, 2007).

assess whether the wind project will disturb any species protected by the federal Endangered Species Act.²² For a preliminary answer, the local U.S. Fish and Wildlife office can provide a list of endangered species likely to be in the area.²³

The human elements of the environment are also important considerations when siting a wind project. It is possible that construction of a wind project will uncover fossil or cultural resources, such as those of Native American tribes. As discussed in more detail later in this chapter, if a wind project is receiving federal or state government support or permits, an evaluation of the historical or cultural resources present on the land could be required.

E. Prior Commitments

It will of course be necessary to consider any prior commitments that the landowner may have already made with respect to the desired site. For agricultural land, this might involve a tenant who farms the land under a long-term lease or a company which contracts with the farmer for production on certain acreage. Such prior commitments will not necessarily prevent a project from going forward, but they must be taken into account.

In addition, prior private agreements may restrict a farmer's right to build wind turbines in a particular place. Examples of prior agreements that could affect future wind development include negative easements and restrictive covenants on the proposed project site, which could, for example, guarantee a neighbor the right to unobstructed access to light or a particular scenic view.²⁴ These types of agreements are discussed in more detail in Chapter 3 (Negotiating Wind and Land Agreements) of this guide.

Farmers should consider in the siting context whether any such agreement already exists, and whether that agreement would restrict the farmer's right to install a new wind project. If the land is restricted by one of these agreements, farmers and their lawyers must review the specific terms of the agreement to

²² 16 U.S.C. §§ 1531 et seq. (2006).

²³ U.S. Department of the Interior, Fish and Wildlife Service, *Service Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines* 49 (2003), available at <http://www.fws.gov/habitatconservation/wind.pdf> (last visited June 16, 2007). To find a local Fish and Wildlife Service representative, visit <http://www.fws.gov/endangered/contacts.html#R3/> (last visited June 20, 2007).

²⁴ See, e.g., *Prah v. Meretti*, 321 N.W.2d 182, 188 (Wis. 1982).

find out the exact areas and structures that are prohibited. It may be possible that a new project is compatible with the existing agreement or that changes could be negotiated.

F. Impact on Farm Program Eligibility

Finally, farmers should take care to consider the impact of any wind project on current or future eligibility for various farm programs.

1. Conservation Reserve Program (CRP)

Highly erodible and environmentally sensitive farmland may be enrolled in the federal Conservation Reserve Program (CRP), taking it out of production for the purposes of environmental conservation.²⁵ Originally, farmers were not allowed to use land enrolled in CRP for any commercial purpose. But the 2002 Farm Bill changed the program to allow farmers to place wind turbines and wind-monitoring devices on CRP land.²⁶ Wind projects affecting up to 5 acres per CRP contract may be approved by the Farm Service Agency (FSA) county committee; requests affecting over 5 acres must be approved by FSA's national office.²⁷

Before approving the placement of wind turbines on CRP land, FSA officials must consider the environmental impacts of the project.²⁸ The review and approval process is done on a case-by-case basis.

²⁵ 16 U.S.C. §§ 3831 et seq. (2006); 7 C.F.R. pt. 1410 (2007).

²⁶ 16 U.S.C. § 3832(a)(7)(B) (2006); 7 C.F.R. § 1410.63(c)(3) (2007).

²⁷ FSA Handbook 2-CRP, page 12-25, ¶ 282 (Nov. 8, 2005), *available at* http://www.fsa.usda.gov/Internet/FSA_File/2-crp.pdf (last visited June 14, 2007) (“The 5.0-acre per contract threshold is a cumulative figure that is calculated by totaling the square footage of land area devoted to the footprint of the wind-generating device and any firebreak installed around the footprint. Access roads, transformers, and other ancillary equipment will not be considered in calculating the 5.0-acre per contract threshold.”).

²⁸ *See* FSA Handbook 2-CRP, pages 10-23 to 10-25, ¶ 242.F, page 12-25, ¶ 282 (Nov. 8, 2005), *available at* http://www.fsa.usda.gov/Internet/FSA_File/2-crp.pdf (last visited June 14, 2007). Guidance as to the environmental review process is found in FSA Handbook 1-EQ, *available at* http://www.fsa.usda.gov/Internet/FSA_File/1-eq.pdf (last visited June 14, 2007).

If a wind project will involve transfer of land enrolled in CRP from a farmer to a wind developer, the parties should understand that the wind developer must become a participant in the CRP contract with respect to the transferred land within 60 days, or the farmer will risk having to refund CRP payments already received, with interest.²⁹ Although FSA has some discretion in the amount of the refund that will be demanded, farmers should assume that the entire amount will be at risk.³⁰ The farmer's CRP contract will remain in effect for acreage not transferred to the wind developer.³¹

2. Conservation Security Program (CSP)

The Conservation Security Program (CSP) is a voluntary federal program that provides financial and technical assistance to farmers to promote conservation and improvement of soil, water, air, energy, and plant and animal life, and other conservation purposes.³² Farmers who enroll land in CSP enter into a contract that restricts the farmer's use of the land in exchange for payments from the U.S. Department of Agriculture (USDA).

USDA is required to permit farmers to implement certain economic uses of land enrolled in CSP as long as the economic use maintains the agricultural nature of the land and is consistent with the natural resource and conservation objectives of CSP, including energy conservation.³³ Wind projects are very likely to be considered an acceptable use of land enrolled in CSP, given that enrolled land is eligible for enhancement payments for energy management activities on the land, including production of renewable energy on the farm.³⁴

²⁹ 38 U.S.C. § 3832(a)(6) (2006); 7 C.F.R. §§ 1410.32(h), 1410.51 (2007).

³⁰ 38 U.S.C. § 3832(a)(6)(B) (2006); 7 C.F.R. § 1410.32(h) (2007).

³¹ FSA Handbook 2-CRP, page 14-9, ¶ 336.B, pages 14-20 to 14-23, ¶ 343 (Nov. 8, 2005), available at http://www.fsa.usda.gov/Internet/FSA_File/2-crp.pdf (last visited June 14, 2007).

³² 16 U.S.C. §§ 3838 et seq. (2006); 7 C.F.R. pt. 1469 (2007).

³³ 16 U.S.C. § 3838a(b)(4) (2006).

³⁴ 7 C.F.R. § 1469.23(d)(2) (2007); see also Natural Resources Conservation Service, *CSP Energy Job Sheet 1* (Oct. 2005), available at http://www.nrcs.usda.gov/programs/csp/pdf_files/EnergyEnhancementJobSheets/En

A farmer who transfers an interest in land enrolled in CSP must notify USDA of the transfer within 60 days or risk losing the benefits of the contract.³⁵ For example, USDA must be notified if a farmer sells or rents CSP land to a developer for the purposes of installing a wind turbine. The farmer and developer would have to determine between them which party would receive any future CSP payments.

3. Environmental Quality Incentives Program (EQIP)

The Environmental Quality Incentives Program (EQIP) provides technical and financial assistance to farmers in order to promote agricultural production and environmental quality as compatible goals.³⁶ Farmers who enroll land in EQIP enter into a contract that restricts the farmer's use of the land in exchange for payments from USDA.

A farmer who installs wind turbines on EQIP land should first determine if USDA will consider the turbines consistent with the EQIP contract. If the farmer uses the land in a way that tends to defeat the purposes of the program, USDA may terminate the contract and require the farmer to repay amounts that have been received under the program.³⁷ As an alternative to terminating the EQIP contract, USDA may require the farmer to repay some of the past payments and change the calculation of payments that will be paid to the farmer under the contract in the future.³⁸ The farmer can also seek a modification of the EQIP contract before installing the turbines to allow the wind project, but the Natural Resources Conservation Service (NRCS) must agree to the modification.³⁹

[ergy Enhancement Activities General Information.pdf](#); Natural Resources Conservation Service, *CSP Worksheet E-06* (Oct. 2005), available at http://www.nrcs.usda.gov/programs/csp/pdf_files/EnergyEnhancementJobSheets/Renewable_Energy_Generation_E-06.pdf (referring to "payments to qualified agricultural producers for the first 100 kilowatt hours and each subsequent kilowatt hour equivalent of electricity they generate") (both sites last visited June 14, 2007).

³⁵ 16 U.S.C. § 3838c(e) (2006).

³⁶ 16 U.S.C. § 3839aa (2006); 7 C.F.R. pt. 1466 (2007).

³⁷ 16 U.S.C. § 3839aa-4(3)(A) (2006).

³⁸ 16 U.S.C. § 3839aa-4(3)(B) (2006).

³⁹ 7 C.F.R. § 1466.25(a) (2007).

If a farmer sells land subject to an EQIP contract to a wind developer, NRCS must determine whether the developer is eligible for payments under the contract.⁴⁰ If NRCS determines that the developer is not eligible, or if the developer refuses to assume responsibility for the EQIP contract, then the developer may not receive payments under the contract, and the farmer may be required to refund all or a portion of the financial assistance received.⁴¹ A farmer with an EQIP contract should carefully consider whether a wind energy project will result in a transfer of land to an ineligible owner, which would risk penalties under the contract.

4. Wildlife Habitat Incentive Program (WHIP)

The Wildlife Habitat Incentives Program⁴² (WHIP) is another voluntary federal program, one which provides technical and financial assistance to “develop habitat for upland wildlife, wetland wildlife, threatened and endangered species, fish and other types of wildlife.”⁴³ Farmers participating in WHIP agree not to take any action on land under the farmers’ control that would defeat the purposes of the program.⁴⁴ To the extent that a wind energy project would defeat the purposes of developing habitat for upland wildlife, wetland wildlife, threatened and endangered species, fish or other types of wildlife, pursuing the wind project would likely be considered a violation of a WHIP agreement.

Farmers participating in WHIP should contact NRCS to determine if a proposed wind project is compatible with the program. A farmer with a WHIP contract may also ask NRCS to approve a modification specifically allowing the wind energy project.⁴⁵

⁴⁰ 7 C.F.R. § 1466.25(b) (2007).

⁴¹ 7 C.F.R. § 1466.25(c) (2007).

⁴² 16 U.S.C. § 3839bb-1 (2006); 7 C.F.R. pt. 636 (2007).

⁴³ 7 C.F.R. § 636.1(a) (2007).

⁴⁴ Natural Resources Conservation Service, *Conservation Program Agreement: Wildlife Habitat Incentive Program Appendix Part 4(A)(6), Form CCC-1200-WHIP* (Oct. 2005), available at http://www.nrcs.usda.gov/programs/whip/WHIP_signup/WHIP_CCCAgreement&Appendix_10_24_05.pdf (last visited June 14, 2007).

⁴⁵ 7 C.F.R. § 636.9(a), (c) (2007).

5. Farmland Protection Program (FPP)

The Farmland Protection Program (FPP),⁴⁶ also known as the Farm and Ranch Lands Protection Program (FRPP), provides funds to private entities to purchase conservation easements on farm and ranch lands to prevent conversion to non-agricultural uses.⁴⁷ The easement restricts land uses to those in accordance with FPP goals and objectives.⁴⁸ FPP easements generally include a restriction against land uses that are inconsistent with the program, but may more specifically prohibit certain kinds of development, such as a wind project.⁴⁹

A wind energy project may, depending on its characteristics, either be consistent or inconsistent with preventing conversion of agricultural land to non-agricultural uses. If it appears that a proposed wind project is prohibited, the farmer may wish to request a modification of the easement, which must be approved by USDA.⁵⁰

If a farmer violates an FPP easement, perhaps by constructing turbines that are inconsistent with the program, either the easement holder or USDA may take action against the farmer to enforce the easement.⁵¹

6. Grassland Reserve Program (GRP)

The Grassland Reserve Program (GRP) assists landowners in restoring and conserving eligible grasslands through conservation easements and rental

⁴⁶ 16 U.S.C. § 3838h-j (2006); 7 C.F.R. pt. 1491 (2007).

⁴⁷ 7 C.F.R. § 1491.4(a) (2007).

⁴⁸ 7 C.F.R. § 1491.22(a)-(b) (2007).

⁴⁹ Natural Resources Conservation Service, *Conservation Programs Manual* Title 440, Pt. 519.65(G), available at http://policy.nrcs.usda.gov/scripts/lpsiis.dll/M/M_440_519_g.htm (last visited June 14, 2007) (stating that the prohibited uses section of the easement “usually begins with a general statement that any activities inconsistent with the purpose of the easement are prohibited, followed by more comprehensive provisions setting forth specific prohibitions.”).

⁵⁰ 7 C.F.R. § 1491.23(b) (2007).

⁵¹ 7 C.F.R. § 1491.30 (2007).

agreements.⁵² A GRP easement or rental agreement prohibits, among other things, conduct that disturbs the surface of the covered land.⁵³ Because a wind energy project will disturb the surface of the land, at least in some places, it may constitute a violation of a GRP easement or rental agreement.

A GRP easement or rental agreement may be modified with the mutual agreement of the farmer and USDA.⁵⁴ USDA may approve a modification if the modification would facilitate the practical administration and management of the enrolled area without adversely affecting the grassland functions and values of the land or, for easements, adversely affecting other terms of the easement.⁵⁵ Farmers interested in developing a wind project on land covered by a GRP easement or rental agreement should carefully review program requirements and discuss the proposal with USDA to determine whether it would be permitted.

7. Wetlands Reserve Program (WRP)

The Wetlands Reserve Program (WRP) assists farmers to restore and protect wetlands through conservation easements.⁵⁶ The easement prohibits activities that alter, degrade, or diminish the functional value of the land unless specifically permitted under the easement.⁵⁷ Land under the WRP may be used for compatible economic uses, as long as the conservation plan specifically permits it, and the use is “consistent with the long-term protection and enhancement of the wetland resources for which the easement was established.”⁵⁸ However, NRCS will only authorize compatible economic uses for a specific period of time, which is not ideal for a wind project which would likely need to be operational for longer than the time period authorized by NRCS.⁵⁹ Moreover, NRCS retains the right to

⁵² 16 U.S.C. § 3838n-q (2006); 7 C.F.R. pt. 1415 (2007).

⁵³ 16 U.S.C. § 3838o(b)(2)(B) (2006).

⁵⁴ 7 C.F.R. § 1415.12(a) (2007).

⁵⁵ 7 C.F.R. § 1415.12(d), (f) (2007).

⁵⁶ 16 U.S.C. §§ 3837 et seq. (2006); 7 C.F.R. pt. 1467 (2007).

⁵⁷ 16 U.S.C. § 3837a(b)(2)(A), (C), (D) (2006).

⁵⁸ 16 U.S.C. § 3837a(d) (2006); 7 C.F.R. § 1467.10(b)(2) (2007).

⁵⁹ Natural Resources Conservation Service, *Conservation Programs Manual* Title 440, Pt. 514.21(a), *available at*

modify or cancel authorization for a compatible economic use if NRCS determines that the use conflicts with the protection and enhancement goals of the program.⁶⁰

II. Land Use Permitting

If a wind project site still looks promising after investigating the factors discussed above, the wind project developer must begin the process to secure any necessary permits from governmental authorities. Depending on the size and location of the project, the land use permitting process can take anywhere from a few months to more than a year.⁶¹

In general, land use permitting happens on a local level through zoning, building, and electrical codes. However, some states have state-level processes for permitting wind projects larger than a specified size. In such cases, these state-level processes will usually supersede the local permitting process.

A wide range of issues is likely to be addressed in the wind project permitting process, and requirements vary greatly from one county or state to another. Generally, getting the permits may require compliance with conditions relating to setback requirements—ensuring a specified distance from neighboring property lines, residences, roads, and other sensitive areas; turbine tower height; color, finish, and lighting on turbines; and permissible levels of noise. The permitting process may also require the project owner to make certain guarantees that the turbines will be removed when they are no longer in operation (called *decommissioning*), that other state and federal laws will be complied with, and that roads and other local infrastructure will not be damaged in the construction process. Certain electrical safety certifications and standards will also likely need to be satisfied.

http://policy.nrcs.usda.gov/scripts/lpsiis.dll/M/M_440_514_D.htm (last visited June 14, 2007).

⁶⁰ Natural Resources Conservation Service, *Conservation Programs Manual* Title 440, Pt. 514.21(a), available at http://policy.nrcs.usda.gov/scripts/lpsiis.dll/M/M_440_514_D.htm (last visited June 14, 2007).

⁶¹ National Wind Coordinating Committee, *Permitting of Wind Energy Facilities: A Handbook* 10 (Aug. 2002), available at <http://www.nationalwind.org/publications/siting/permitting2002.pdf> (last visited June 19, 2007).

To determine exactly what will be required for any given project, the farmer should identify the proper government authorities and permitting processes based on the size and location of the project. All relevant permitting agencies and authorities should be contacted early in the planning process to identify the requirements and timelines of the permitting process. Early communication also allows the developer to establish a good working relationship with permitting authorities and interested community members.⁶²

A. Local Land Use Permitting of Wind Projects

As stated earlier, it will generally be a local land use permitting process that regulates siting and operation of a wind project. For example, Iowa, like most states, has no state laws regulating the land use permitting process for wind turbines; therefore, the land use permitting of all wind facilities in Iowa occurs at the local level. Those states that do have state-level permitting processes typically use it only for projects above a certain size, such as Minnesota's state-level process for permitting most wind projects of 5 MW or greater. In that case, wind projects below the size threshold for the state process will likely be governed by a local permitting process.⁶³

1. Overview of Local Land Use Permitting Concepts

At the local level, land use planning decisions are made by city and county authorities. Because wind projects on agricultural land will typically be outside city limits, it is the county authorities (that is, the county board of supervisors, county commissioners, planning board, or zoning board) who will most likely make the land use permitting decisions.

Local land use regulation generally classifies each parcel of land into a particular *zone*. Within each zone category, there will be a range of permissible activities. That is, for any given zoning designation, there will be some uses for the land that are always permissible, some that are usually

⁶² National Wind Coordinating Committee, *Permitting of Wind Energy Facilities: A Handbook* 14 (Aug. 2002), available at <http://www.nationalwind.org/publications/siting/permitting2002.pdf> (last visited June 19, 2007).

⁶³ Timothy L. McMahan, "Siting and Permitting Wind Projects," 3-1 from *The Law of Wind* (Stoel Rives, LLP, 3d ed. 2006), available at http://www.stoel.com/webfiles/LawOfWind_WEB_02_07.pdf (last visited June 5, 2007).

permissible, some that are permissible but only with conditions, and some that are hardly ever permissible.

Farmers wishing to build wind projects will likely use land zoned for agricultural uses. Land uses that are *expressly permissible* in an agricultural zone typically include agriculture, horticulture, stock raising, dairy farming, single-family residences, and home occupations.⁶⁴ It is highly unlikely that wind turbines would be specifically listed as a primary land use in an agricultural zone.

At the next level of the land use permitting spectrum are *accessory uses*. Accessory land uses are uses that support the primary use of the land and are therefore permissible without special approval by the county zoning authorities. For example, to be a permitted accessory use in one Iowa county, a wind system must be “necessarily and customarily associated with” and “appropriate, incidental, and subordinate” to primary uses in the agricultural district.⁶⁵ A single small wind turbine that is used to provide electricity directly to a farm operation might fit under a general definition of accessory use or be specifically listed as an allowed accessory use, depending on the local zoning law.⁶⁶

Local zoning laws typically also allow for approval of another category of land use called a *conditionally permitted use* (also called an *exception*, *special*

⁶⁴ See, e.g., Becker County, Minn., Zoning Ordinance § 6, subd. 1 (2006), available at <http://www.co.becker.mn.us/2005%20ordinance/PDFs/SECTION%206%20Land%20Use%20District%20Requirements%202005.pdf> (last visited June 20, 2007); Marshall County, Ia., Zoning Ordinance art. VI (2006), available at <http://www.co.marshall.ia.us/departments/zoning/zoningordinance/article1/> (last visited June 20, 2007); Mequon, Wis., Zoning Code § 58-264(b), (c) (2006), available at <http://www.municode.com/Resources/gateway.asp?pid=13876&sid=49> (last visited June 20, 2007); Steele County, Minn., Zoning Ordinance § 7 (2006), available at http://www.co.steele.mn.us/PLANZONE/zonord5_7.html#sec7 (last visited June 20, 2007).

⁶⁵ Buena Vista County, Ia., Zoning Ordinance § 6.1.9.101(2) (2003), available at http://www.co.buena-vista.ia.us/auditor/2003_Code_of_Ordinances_2000.pdf (last visited June 20, 2007).

⁶⁶ Katherine Daniels, *The Role of Government Agencies in the Approval Process* 6 (NYS Energy Research & Dev. Auth. Oct. 2005), available at http://www.powernaturally.org/Programs/Wind/toolkit/16_rolegovernmentagencies.pdf (last visited June 16, 2007).

exception, or special use). A conditionally permitted land use is a use that typically would not disrupt the primary use of the land, but because it is not related to a primary land use (like an accessory use would be) the permitting authorities need to ensure compatibility with the primary land use in the zone.⁶⁷ The authorities do this by requiring that the land use be examined and specifically approved, and they may set conditions on how the conditionally permitted use is performed, such as requiring setbacks from boundary lines and public roads. In Minnesota, a conditional use permit must be granted if the project meets certain specifications in the county zoning law.⁶⁸ In other states, the county zoning authorities may have a great amount of discretion in deciding whether to approve a conditional use, taking into account the overall health, welfare, safety, and general conditions in the affected area.⁶⁹

Obtaining a conditional use permit can cost as little as a few hundred dollars and a few months for a small project, but larger and more complex projects can cost much more and take a year or longer. Typical requirements in conditional use permits that apply to wind systems are discussed in more detail in the next section of this chapter.

If the applicable land use law does not permit development of a wind project as a permitted, accessory, or conditional use in the zone selected for the site, the landowner must seek a *variance* from the land use authorities. A variance authorizes a land use that is normally not allowed in the zone. A variance may be granted in individual cases where the land use law would create a unique hardship to the landowner.⁷⁰ It is generally harder to get a variance than it is to get a conditional use permit.⁷¹

⁶⁷ Matthew Bender, *3-20 Zoning Law & Practice* § 20-12 (2006 ed.).

⁶⁸ Dunnell Minn. Digest, *Municipal Corporations* § 7.16 (b) (4th ed. 2006).

⁶⁹ See Matthew Bender, *3-20 Zoning Law & Practice* § 20-12 (2006 ed.); *State of Wisconsin ex. rel. Numrich v. City of Mequon Bd. of Zoning Appeals*, 626 N.W.2d 366, 368-69 (Wis. Ct. App. 2001) (conditional use permits for wind projects in residential zone denied by city authorities on grounds of health, safety, and disharmony with surrounding neighborhood characteristics).

⁷⁰ Matthew Bender, *3-20 Zoning Law & Practice* § 20-12 (2006 ed.).

⁷¹ Dunnell Minn. Digest, *Municipal Corporations* § 7.16(b) (4th ed. 2006).

Common Land Use Planning Terms

Permitted Use: A land use allowed in the zone that does not require government approval. A primary land use for the zone.

Accessory Use: A land use that supports the primary land use and does not require special government approval.

Conditionally Permitted Use (also Conditional Use, Exception, Special Use, or Special Exception): A land use that is generally appropriate in the zone, but requires approval by government authorities who may set conditions to ensure compatibility with the primary land use in the zone.

Variance: If approved, allows for a land use that is not normally allowed in the zone.

2. The Permitting Process

The first step in getting land use approval for a wind project is to determine whether wind turbines are a permitted use, accessory use, or conditionally permitted use in the zone where the project will be located. Typically, no special approval is necessary if wind turbines are a permitted use or accessory use in the zone. However, as noted earlier, it is not likely a wind project would be an expressly permitted or accessory use in an agricultural zone unless it is a small-scale turbine for on-farm use.

If wind turbines are a conditionally permitted use in the zone, the landowner must apply for a conditional use permit for the project (or exception, depending on the specific term used in the county). If wind turbines are not a conditionally permitted use in the zone, the landowner must apply for a zoning variance. Wind developers and their attorneys should investigate the local permitting process, rules, and timelines early in the development process.⁷²

After an application for a conditional use permit or variance is submitted, county planning department staff typically will review the application and make a recommendation to the county authority regarding approval or disapproval, and any conditions that should be imposed. A hearing to allow public participation and feedback on the project is also typically part of the

⁷² Iowa Department of Natural Resources, *Iowa Wind Energy Checklist 6* (2003), available at <http://www.iowadnr.com/energy/renewable/files/windchecklist.pdf>.

permitting process—placing further emphasis on the need for maintaining good working relationships with interested community members.

3. Obtaining a Conditional Use Permit—The Most Likely Land Use Permitting Requirement

This section discusses local conditional use permitting in more detail because it is the most likely way that wind turbines will be addressed in local land use laws, and the process can be quite complicated.

The conditional use permitting process for a wind project will vary depending on whether the local land use law specifically addresses wind development. Both scenarios—where a local land use law does address wind turbines and where the local law does not—will be discussed here.

a. Conditional use permitting laws that address wind projects

Some counties have enacted specific land use regulations for wind power development. Such laws can considerably simplify the siting and permitting process, since the requirements for a wind project should be relatively clear. However, this is not to say that the requirements for obtaining a conditional use permit for a wind project will not be extensive, as the examples here demonstrate. Wind-specific laws range from permissive and encouraging of wind projects to quite restrictive.

One example of a wind-specific land use law is from Murray County, Minnesota, which has a wind power development law that applies to all wind energy projects under 5 MW in the county.⁷³ Murray County's law requires all wind projects in an agricultural district to apply for a conditional use permit.⁷⁴ The law sets out standards that the wind project must satisfy to receive the permit, including setbacks, safety and design specifications, and compliance with other local, state, and federal

⁷³ Murray County, Minn., Zoning Ordinance § 7, subd. 3(14), § 12 (2007), available at <http://www.murray-countymn.com/php/pdfs/mczoning05-08-07.pdf> (last visited June 20, 2007). Permitting of wind facilities with capacity of 5 MW or more is governed by Minnesota's state-level siting process. Minn. Stat. §§ 216F.01 to 216F.07 (2006).

⁷⁴ Murray County, Minn., Zoning Ordinance § 12, subd. 2 (2007), available at <http://www.murray-countymn.com/php/pdfs/mczoning05-08-07.pdf> (last visited June 20, 2007).

laws. For example, turbines must be located at least 750 feet from residences and 300 feet from the property line and public roads; tubular towers are required (as opposed to lattice structures); and the towers must have a uniform, unobtrusive color and minimal lighting other than security lighting or that required by the Federal Aviation Administration.⁷⁵

While Murray County, Minnesota, regulates all wind facilities *under* 5 MW, Union County, Oregon, has enacted a land use law requiring a conditional use permit for all commercial wind power facilities, defined as facilities with a combined generating capacity of *over* 3 MW.⁷⁶ Obtaining a conditional use permit under the Union County ordinance involves an application and public hearing.⁷⁷ The application must include a description of the property and project, along with other information, including a transportation plan for construction, an avian plan to determine the project's impact on birds, an erosion control plan and weed control plan, and a socioeconomic impact assessment to determine the project's effects on the social, economic, visual, and recreational aspects of the surrounding community.⁷⁸ If the conditional use permit is approved, the wind project must obtain all other necessary

⁷⁵ Murray County, Minn., Zoning Ordinance § 12, subd. 3, subd. 4(6), subd. 7 (2007), available at <http://www.murray-countymn.com/php/pdfs/mczoning05-08-07.pdf> (last visited June 20, 2007).

⁷⁶ Union County, Or., Wind Facility Permitting Ordinance art. 52 (2006), available at http://www.oregon.gov/ENERGY/RENEW/Wind/Permitting-UnionCountyOregon.shtml#Section_52_02_Definitions (last visited June 20, 2007). As discussed in the next section, wind facilities in Oregon of up to 105 MW have the choice of being permitted by the local government or through a consolidated state-level process. See John G. White, *Oregon's Siting Process for Large Wind Energy Facilities* (Oregon Office of Energy), available at <http://www.oregon.gov/ENERGY/SITING/docs/WindSite.PDF> (last visited June 15, 2007). Wind facilities of 105 MW or more must use the state-level process.

⁷⁷ Union County, Or., Wind Facility Permitting Ordinance § 52.03(1) (2006), available at http://www.oregon.gov/ENERGY/RENEW/Wind/Permitting-UnionCountyOregon.shtml#Section_52_02_Definitions (last visited June 20, 2007).

⁷⁸ Union County, Or., Wind Facility Permitting Ordinance § 52.04 (2006), available at http://www.oregon.gov/ENERGY/RENEW/Wind/Permitting-UnionCountyOregon.shtml#Section_52_02_Definitions (last visited June 20, 2007).

permits before beginning construction and comply with state law setting specific safety standards for wind facilities.⁷⁹ The turbine must be sited at least 1,500 feet away from any property zoned for residential use, and attempts must be made to minimize the aesthetic and environmental impact on the surrounding land.⁸⁰

b. Conditional use permitting laws that do not address wind projects

Most local land use laws do not specifically address wind energy development. In such cases, the landowner can apply for a conditional use permit for the wind project under a related general purpose conditional use, such as those for electrical systems. The wind project will also have to satisfy whatever general conditions, such as setback requirements and height restrictions, are imposed for conditionally permitted uses in the zone.

For example, Buena Vista County, Iowa, has no specific provisions in its land use law for the permitting of wind facilities. Instead, commercial-scale wind projects fall under a local law allowing a *special exception* (another term for a conditional use permit) in that county's agricultural districts for major utility facilities, including electrical generation equipment.⁸¹ Height and setback restrictions also apply to structures in the county's agricultural districts, including a 40-foot height limit for structures in a prime agricultural district.⁸² A wind project would have to obtain a variance if it would be taller than 40 feet.

⁷⁹ Union County, Or., Wind Facility Permitting Ordinance § 52.05(2) & (3)(H) (2006), available at http://www.oregon.gov/ENERGY/RENEW/Wind/Permitting-UnionCountyOregon.shtml#Section_52_02_Definitions (last visited June 20, 2007) (referring to Or. Admin. R. 345-024-0010).

⁸⁰ Union County, Or., Wind Facility Permitting Ordinance § 52.05(3) (2006), available at http://www.oregon.gov/ENERGY/RENEW/Wind/Permitting-UnionCountyOregon.shtml#Section_52_02_Definitions (last visited June 20, 2007).

⁸¹ Buena Vista County, Ia., Zoning Ordinance § 6.1.2.102(4) (2003), available at http://www.co.buena-vista.ia.us/auditor/2003_Code_of_Ordinances_2000.pdf (last visited June 20, 2007).

⁸² Buena Vista County, Ia., Zoning Ordinance § 6.1.3.103 (2003), available at http://www.co.buena-vista.ia.us/auditor/2003_Code_of_Ordinances_2000.pdf (last visited June 20, 2007).

Controversy can arise when the local land use law does not specifically address wind energy development.⁸³ In such cases, it might be helpful for the landowner to provide examples of land use laws that do have special provisions for wind systems to demonstrate the types of reasonable conditions that the county could set when considering whether to approve the project. The Association of Minnesota County Planning and Zoning Administrators and the American Wind Energy Association both have model ordinances for counties that wish to specifically address wind projects in their land use laws.⁸⁴ It may be helpful to make county authorities aware of these resources if there is little guidance in the local land use law for consideration of a wind project.

B. State Land Use Permitting of Wind Projects

Several states have taken an active role in siting wind energy facilities.⁸⁵ These state efforts are generally intended to encourage wind energy development. States generally take one of two approaches: (1) restricting local authorities' power to exclude wind projects within local land use permitting processes; and (2) creating a separate state-level land use permitting process, particularly for larger wind projects. Both types of laws are discussed here.

⁸³ See, e.g., National Wind Coordinating Committee, *Permitting of Wind Energy Facilities: A Handbook* 39-43 (Aug. 2002), available at <http://www.nationalwind.org/publications/siting/permitting2002.pdf> (last visited June 19, 2007) (describing a series of wind project permitting controversies in Wisconsin).

⁸⁴ Association of Minnesota County Planning and Zoning Administrators, *Wind Energy Conversion System Ordinance* (June 14, 2005), available at <http://www.mncounties3.org/macpza/OrdinanceLinks/Dist%20D%20modelwindordinancefinal.pdf>; American Wind Energy Association, *Permitting Small Wind Turbines: A Handbook* 29 (Sept. 2003), available at <http://www.awea.org/smallwind/documents/permitting.pdf> (both sites last visited June 19, 2007).

⁸⁵ See National Wind Coordinating Committee and the National Conference of State Legislatures, *State Siting and Permitting of Wind Energy Facilities* (2006), available at http://www.nationalwind.org/publications/siting/Siting_Factsheets.pdf (last visited June 15, 2007) (summarizing state mandatory and voluntary permitting guidelines and processes).

1. State Laws that Limit Local Authorities' Power to Exclude Wind Projects

Some states have taken a middle road to wind project permitting that does not go as far as establishing a statewide permitting process, but also does not leave permitting entirely to local authorities. Counties under such laws may still require conditional use permits for wind projects, and may still deny those permits if the conditions are not met, but they are limited by the requirements of the state statute.

In some cases, a state law limitation on local land use authority is rather general, still leaving almost all of the decision-making power with the local government. For example, Oregon law authorizes local permitting authorities to issue land use permits for wind projects under 105 MW, but limits local authorities' power by expressly identifying wind turbines as an authorized use for land zoned agricultural.⁸⁶ As a result, individual Oregon counties may limit the size of wind projects that are considered an authorized use and may impose specific requirements on wind projects, but they cannot completely exclude wind facilities from the authorized uses of agricultural land in their community.

Other state laws impose more specific limitations on the ability of a local government to exclude wind projects. For example, under a Wisconsin law, local restrictions on land use permits for wind projects are only allowed if the restrictions are based on public health or safety, do not significantly increase the cost or decrease the efficiency of the wind project, or permit the developer to install an alternative system of comparable cost and efficiency.⁸⁷ This means that consideration of any community concerns about decreased property values or aesthetics of the structures would not be allowed in the permitting process.⁸⁸

⁸⁶ Or. Admin. R. 660-033-0120 (2007); *see also* Energy Trust of Oregon, *Community Wind: An Oregon Guidebook* 40-42 (2005), available at http://www.energytrust.org/RR/wind/community/oregon_wind_guidebook.pdf (last visited June 15, 2007) (land zoned as exclusive Farm Use or Grazing/Farming is considered agricultural land).

⁸⁷ Wis. Stat. § 66.0401(1) (2006).

⁸⁸ *See State of Wisconsin ex. rel. Numrich v. City of Mequon Bd. of Zoning Appeals*, 626 N.W.2d 366, 372 (Wis. Ct. App. 2001).

Knowing whether state law affects local land use authority with respect to wind projects will be an important part of seeking approval for a project site. This will be particularly true in areas where wind energy development is relatively new or rare, since the local authorities may themselves be uncertain about state requirements.

2. State Laws that Create State-Level Permitting of Wind Projects

Several states have created state-level permitting processes for larger wind projects that replace local land use decision-making. For example, Minnesota has developed a statewide zoning law for projects of 5 MW or more.⁸⁹ In Oregon, wind facilities with up to 105 MW of peak capacity may choose to use either the local permitting process or a consolidated state process; projects with a peak capacity of 105 MW or more must use the state-level process.⁹⁰ For projects with a peak capacity of less than 300 MW, the state siting process is expedited.⁹¹

For the purposes of describing a state-level land use permitting process, Minnesota's wind project permitting process will be discussed in detail. In Minnesota, most wind projects of 5 MW and more must receive a site permit from the Minnesota Public Utilities Commission (PUC).⁹² The applicant must pay an application fee to the PUC to cover the cost of processing the permit application. The final fee will be estimated by the PUC after it receives the

⁸⁹ Minn. Stat. §§ 216F.01 to 216F.07 (2006).

⁹⁰ John G. White, *Oregon's Siting Process for Large Wind Energy Facilities* 1 (Oregon Office of Energy), available at <http://www.oregon.gov/ENERGY/SITING/docs/WindSite.PDF> (last visited June 15, 2007).

⁹¹ See John G. White, *Oregon's Siting Process for Large Wind Energy Facilities* 11 (Oregon Office of Energy), available at <http://www.oregon.gov/ENERGY/SITING/docs/WindSite.PDF> (last visited June 15, 2007).

⁹² Minn. Stat. §§ 216F.01 to 216F.07 (2006); see also Next Generation Energy Act, 2007 Minn. Laws (Chap. 136, art. 4, § 12) (to be codified at Minn. Stat. § 216F.011(a)) (effective Jan. 15, 2008) (adding instructions on how to determine what constitutes a single project for purposes of measuring total project size for permitting jurisdiction).

application, and any amount paid in excess of the actual processing expenses will be refunded to the applicant.⁹³

The application under Minnesota’s state-level site permitting process must include information about the location of the proposed site; wind characteristics and other weather conditions; wind rights to the land; and design of the project, including a map of turbine placement and a description of the turbines and associated electrical equipment.⁹⁴ Potential impacts of the project and proposed mitigation must also be included in the application, including impacts on nearby homes and businesses, infrastructure, public health and safety, cultural and archaeological resources, soils, water resources, vegetation, wildlife, aesthetics, and land-based economic activity.⁹⁵ Permit applicants must also plan for construction, operation, decommissioning, and restoration of the site.⁹⁶ The applicant must also identify all other federal, state, and local permits required for the project.⁹⁷

Important Changes to Minnesota’s Wind Permitting Law

Minnesota’s wind permitting law has recently been amended. Beginning January 15, 2008, county governments may assume responsibility for processing permit applications for wind projects under 25 MW. If a county pursues this option, the county may issue, deny, modify, impose conditions upon, or revoke permits based on standards established by the PUC or based on the county’s own standards, if they are more stringent than the PUC’s permit standards. For wind projects that remain under the PUC’s jurisdiction in counties that choose to adopt more restrictive standards, the PUC must consider and apply those standards unless there is good cause not to.

Next Generation Energy Act, 2007
Minn. Laws (Chap. 136, art. 4, §§ 13-14) (to be codified at Minn. Stat. §§ 216F.08, 216F.081).

⁹³ Minn. R. 4401.0800, subp. 1, 2 & 5 (2006).

⁹⁴ Minn. R. 4401.0450, subp. 4 to subp. 6 (2006).

⁹⁵ Minn. R. 4401.0450, subp. 7 (2006).

⁹⁶ Minn. R. 4401.0450, subp. 8 to subp. 13 (2006).

⁹⁷ Minn. R. 4401.0450, subp. 14 (2006). One benefit of the state-level permitting process is that the environmental information required in the siting application satisfies Minnesota’s other environmental review requirements, discussed in the next

The PUC must give notice of the proposed wind project to the local government and local residents in the county where the project will be located.⁹⁸ The local government and members of the public may submit comments on the project to the PUC, and at least one public hearing must be held.⁹⁹

A final decision on a site permit for a wind project under Minnesota's state-level process must be made within 180 days after the PUC accepts the permit application, unless there is good cause to extend the deadline or the applicant agrees to an extension.¹⁰⁰ If the permit is approved, the PUC may include any necessary conditions, including requirements for siting, turbine design, or operation, or any terms necessary to protect the environment.¹⁰¹

Even after a wind project has received a site permit under Minnesota's state-level process, the project is not authorized to begin construction until all other necessary permits have been obtained and the project has a power purchase agreement with a utility company.¹⁰² A site permit obtained through the state-level process is valid for 30 years, and may be renewed upon request.¹⁰³ The permit may be amended if there are reasonable changes to the project, and may be revoked if the permit holder violates the terms of the agreement or the wind project poses unexpected dangers that cannot be resolved.¹⁰⁴

III. Environmental Permitting and Review

In addition to obtaining a land use permit, wind project developers may be required by local, state, and federal authorities to obtain additional permits or satisfy other review requirements for environmental purposes.

section of this chapter. Minn. R. 4401.0450, subp. 7 (2006); *see* Minn. Stat. § 116D.04 (2006) (requiring Environmental Impact Statements).

⁹⁸ Minn. R. 4401.0550, subp. 1 & 2 (2006).

⁹⁹ Minn. R. 4401.0550, subp. 3 & 4 (2006).

¹⁰⁰ Minn. R. 4401.0600, subp. 2 (2006).

¹⁰¹ Minn. R. 4401.0600, subp. 4 (2006).

¹⁰² Minn. R. 4401.0610, subp. 3 (2006).

¹⁰³ Minn. R. 4401.0600, subp. 5 (2006).

¹⁰⁴ Minn. R. 4401.0700 (2006).

A. Activities Affecting Wetlands

Federal and state laws protect wetlands from damaging activities. Wetlands generally include swamps, marshes, bogs, and similar areas that are saturated by surface or ground water.¹⁰⁵ While this definition may seem to include rather limited areas, a parcel need not have standing water to be considered a wetland, and many seemingly dry properties can be covered by wetlands protections.

Although wind projects are generally not likely to be sited on a wetland—the desire to maximize wind power will usually lead to siting on high ground—the land preparation and construction activities needed for a wind facility may affect adjacent wetlands. It is important for farmers developing a wind project to be certain that all wetlands protection requirements are satisfied. Violation of these requirements, even if unintentional, can bring serious penalties.

Farmers should contact the state agency responsible for wetland regulation or the U.S. Army Corps of Engineers (Corps) district in the area to determine if any wetlands are present on a site selected for a wind project.¹⁰⁶

1. Federal Wetlands Protection Permits

Section 404 of the federal Clean Water Act prohibits any “discharge” into waters of the United States, including wetlands, without a permit from the Corps.¹⁰⁷ For this purpose, discharge may include draining or filling wetlands for development, grading or pushing material around within a wetland, and disturbing wetland soil during land clearing. A wetland is also

¹⁰⁵ Wetlands are defined by the federal Clean Water Act regulations as “areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” 33 C.F.R. § 328.3 (2006).

¹⁰⁶ Contact information for Corps district offices is available on the Internet. See U.S. Army Corps of Engineers, *Regulatory Program: District Offices*, <http://www.usace.army.mil/inet/functions/cw/cecwo/reg/district.htm> (last visited June 16, 2007).

¹⁰⁷ 33 U.S.C. § 1344 (2006).

affected if any return water, dredged material, or other fill material from an activity ends up in the wetland.¹⁰⁸

If a proposed wind project will be constructed near a wetland, the farmer or developer should contact the Corps district office in the area to determine whether a Section 404 permit is needed.

The Corps may issue a letter of permission rather than a permit in certain circumstances.¹⁰⁹ Standardized “general permits” are also available for routine activities, such as utility line activities, commercial developments, and agricultural activities, that will have only minimal adverse effects on a wetland, provided that the conditions for the general permit are met.¹¹⁰

If a wind project does not qualify for a letter of permission or general permit, the landowner must obtain an individual Section 404 permit, reflecting a potential for significant impacts on wetlands. The Corps project manager for the district where the project is located will review the wetlands permit application and determine whether to issue a permit. The Corps project manager may solicit public comment about a permit application, conduct environmental and other reviews, and negotiate modifications to the project

¹⁰⁸ 33 C.F.R. § 323.2 (2007); U.S. Army Corps of Engineers, *Regulatory Program: Overview*, <http://www.usace.army.mil/inet/functions/cw/cecwo/reg/oceover.htm> (last visited June 16, 2007).

¹⁰⁹ 33 C.F.R. § 325.2(e) (2007). For sample letter of permission (LOP) standards, see U.S. Army Corps of Engineers – St. Paul District, *Issuance of Letter of Permission Procedure, LOP-05-MN, Applicable in the State of Minnesota Except within the Exterior Boundaries of Indian Reservations, LOP-05-MN (2005-825-RJA)* (July 31, 2006), available at <http://www.mvp.usace.army.mil/docs/regulatory/Special%20Notices/2005000825lop05mn.pdf> (last visited June 21, 2007).

¹¹⁰ Nationwide general permits are found at 33 C.F.R. pt. 330, Appendix A (2007). National general permits cover certain categories of activities, including utility line activities (NWP 12), state-administered general permits (NWP 24), residential, commercial, and institutional developments (wind facilities are not specifically named) (NWP 39), and agricultural activities (wind facilities are not specifically named) (NWP 40). In place of national general permits, the local Army Corps of Engineers District Office may offer regional or state general permits. See, e.g., U.S. Army Corps of Engineers – St. Paul District, *Permit Information*, <http://www.mvp.usace.army.mil/regulatory/> (last visited June 21, 2007).

in order to issue a permit.¹¹¹ If a state permit is also required, the Corps and the state may use joint permit processing procedures.¹¹² Individual permits can take 2 to 4 months for processing.¹¹³ The fee for a Section 404 permit application is \$10 or \$100, depending on whether the planned project is commercial.¹¹⁴

If a Section 404 permit application is denied or issued with conditions the wind developer objects to, that decision may be appealed.¹¹⁵ Appeals are typically allowed only within a short time after the adverse decision, and farmers should pay particular attention to instructions on the Notification of Appeal Process form that should be attached to the decision. As is true for all aspects of wind development, timely and experienced legal assistance is strongly recommended.

2. State and Local Wetlands Protections

The permitting requirements under Section 404 of the Clean Water Act, discussed above, are directed at protecting waters and adjacent wetlands that fall under federal jurisdiction. Another part of the Clean Water Act, Section 401, authorizes states and tribal governments to protect waters and adjacent wetlands under their jurisdiction by imposing their own wetlands protection standards in the federal permitting process.¹¹⁶ If a state chooses to exercise this authority, any persons required to obtain one of a variety of federal permits—including Section 404 permits, discussed above, and Rivers

¹¹¹ U.S. Army Corps of Engineers, *Regulatory Program: Overview*, <http://www.usace.army.mil/inet/functions/cw/cecwo/reg/oceover.htm> (last visited June 16, 2007).

¹¹² U.S. Army Corps of Engineers, *Regulatory Program: Overview*, <http://www.usace.army.mil/inet/functions/cw/cecwo/reg/oceover.htm> (last visited June 17, 2007).

¹¹³ U.S. Army Corps of Engineers, *Regulatory Program: Overview*, <http://www.usace.army.mil/inet/functions/cw/cecwo/reg/oceover.htm> (last visited June 17, 2007).

¹¹⁴ 33 C.F.R. § 325.1(f) (2007).

¹¹⁵ See generally 33 C.F.R. pt. 331 (2007).

¹¹⁶ 33 U.S.C. § 1341 (2006); 33 C.F.R. § 320.3(a) (2007). See generally U.S. Environmental Protection Agency, *Section 401 Certification and Wetlands*, <http://www.epa.gov/owow/wetlands/facts/fact24.html> (last visited June 21, 2007).

and Harbors Act permits, discussed below—for their activities will also have to obtain state certification that the activities meet state water quality standards.¹¹⁷ The federal permit cannot be issued unless the state certification is granted or waived. To minimize the administrative burdens on permit applicants, states which exercise their certification authority under Section 401 generally coordinate their review with the Corps, often using a joint permitting process.¹¹⁸

In addition to their certification authority under Section 401 of the Clean Water Act, states and tribes are authorized to assume some portions of the Corps' responsibilities for the Section 404 permitting program.¹¹⁹ The state then becomes the processing agency for Section 404 permits, applying the same standards that would be used by the Corps.

Some states also have their own laws for the protection of wetlands and require a state permit for covered activities. For example, Minnesota's Wetland Conservation Act (WCA) prohibits draining, filling, or excavating wetlands unless the activity in question is exempt from the law, or wetlands of equal public value are created to replace those that are lost.¹²⁰ Local

¹¹⁷ 33 U.S.C. § 1341 (2006); U.S. Environmental Protection Agency, *Section 401 Certification and Wetlands*, <http://www.epa.gov/owow/wetlands/facts/fact24.html> (last visited June 21, 2007).

¹¹⁸ U.S. Environmental Protection Agency, *Section 401 Certification and Wetlands*, <http://www.epa.gov/owow/wetlands/facts/fact24.html> (last visited June 21, 2007). For example, a state may waive certification under Section 401 if the activities qualify for a letter of permission or general permit from the Corps, indicating limited environmental impact. See U.S. Army Corps of Engineers – St. Paul District, *Issuance of Letter of Permission Procedure, LOP-05-MN, Applicable in the State of Minnesota Except within the Exterior Boundaries of Indian Reservations, LOP-05-MN (2005-825-RJA) 2* (July 31, 2006), available at <http://www.mvp.usace.army.mil/docs/regulatory/Special%20Notices/2005000825lop05mn.pdf> (last visited June 21, 2007) (stating that the Minnesota Pollution Control Agency has waived Section 401 water quality certification for projects authorized under LOP-05-MN).

¹¹⁹ 40 C.F.R. pts. 232, 233 (2007). To date, only New Jersey and Michigan have assumed authority for Section 404 permitting. U.S. Environmental Protection Agency, *State or Tribal Assumption of the Section 404 Permit Program*, <http://www.epa.gov/owow/wetlands/facts/fact23.html> (last visited June 21, 2007).

¹²⁰ Minn. Stat. §§ 103G.222 et seq. (2006); Minn. R. 8420 et seq. (2006).

governments, typically counties, are primarily responsible for administering the WCA for wetlands in their area.¹²¹ The Minnesota Department of Natural Resources' Public Waters Permit Program (MnDNR PWPP) also requires permitting of projects that affect any public waters, including public wetlands.¹²² Finally, Minnesota watershed districts and local governments may also have their own regulations for wetlands within their jurisdiction.¹²³ Minnesota uses a combined application process if permits are required, but other states may require individual applications for each permit.¹²⁴

As the Minnesota example demonstrates, wetland protection requirements may be imposed by many different agencies and levels of government. If a wind project will affect wetlands in any way, it is important to contact state and local agencies involved with wetland protection early in the process to determine which, if any, permits will be required.

3. Federal Farm Program Restrictions

Farmers who own or manage wetlands are also affected by the Swampbuster provision of the federal Food Security Act, which denies certain farm program benefits to farmers who produce agricultural commodities on converted or modified wetlands.¹²⁵ Although most land changes related to a wind project will be for the purpose of building turbine towers and related structures, farmers should be aware that, if wetlands are converted or modified during the construction process, even inadvertently, it can have serious consequences for their future eligibility for federal farm

¹²¹ Minn. R. 8420.0110, subp. 30 (2006).

¹²² Minn. Stat. §§ 103G.005, subd. 15a, 103G.24 (2006); Minn. R. 6115 (2006); Minnesota DNR, *PWI [Public Waters Inventory] Maps Download*, http://www.dnr.state.mn.us/waters/watermgmt_section/pwi/download.html (last visited June 16, 2007).

¹²³ See Minn. Stat. § 103D (2006).

¹²⁴ See Minnesota Board of Water & Soil Resources, *Permit Application Forms*, <http://www.bwsr.state.mn.us/wetlands/wcaforms/index.html> (last visited June 16, 2007).

¹²⁵ 99 Pub. L. 198, Title XII, Subtitle C (Dec. 23, 1985) (codified as amended at 16 U.S.C. §§ 3821 to 3823). This provision of the Food Security Act has become known as the "Swampbuster" law. Further discussion of Swampbuster requirements can be found in Chapter 5 (Liability Concerns) of this guide.

programs. Farmers are encouraged to communicate with USDA's Farm Service Agency and Natural Resources Conservation Service about any proposed wind project and take potential effects on farm program income into account when considering the economics of the project.

B. Activities Affecting Bodies of Water

Wind projects may occasionally run up against federal and state regulation of activities affecting bodies of water. For example, if a wind project requires construction of access roads or power lines that will cross a stream or river, or sometimes even a drainage ditch, water protection laws may be triggered. Construction of a wind facility may itself occasionally raise water protection concerns, if debris or runoff from the construction site might enter protected waters.

1. Federal Water Protection Permits

If a wind project will affect a body of water under federal jurisdiction,¹²⁶ such as a river or a stream, Section 10 of the federal River and Harbors Act requires a permit from the U.S. Army Corps of Engineers.¹²⁷ Activities requiring permits include construction of any structure in a body of water or any deposit of materials in a body of water as a result of the construction.¹²⁸ If a proposed wind project will be constructed near a river or other body of water, the farmer should contact the local Corps district office to determine whether a Section 10 permit is needed.

As is true for Section 404 wetlands protection permits, the Corps may issue a letter of permission rather than a Section 10 water protection permit where the work would be minor, would not have a significant impact on environmental values, and is unlikely to encounter significant opposition.¹²⁹ Section 10 permit regulations also define categories of projects that are pre-approved for nationwide or regional general permits because of their likely

¹²⁶ The jurisdiction of the Corps extends to the "navigable waters" of the United States, which have been interpreted quite broadly. The relevant regulations can be found at 33 C.F.R. pt. 329 (2007).

¹²⁷ 33 U.S.C. § 403 (2006); 33 C.F.R. § 322.1 (2007).

¹²⁸ 33 C.F.R. § 322.2(b), (c) (2007).

¹²⁹ 33 C.F.R. § 325.2(e)(1)(i) (2007).

limited impact on protected waters.¹³⁰ All other projects require an individual permit, which can take 2 to 4 months for processing.¹³¹

The fee for a Section 10 permit application will be \$10 or \$100, depending on whether the planned project is commercial in nature. Adverse decisions on Section 10 permit applications may be administratively appealed.¹³²

In addition to concern about direct effects on public waters, any pollution from runoff and erosion at construction sites is a serious water-quality issue that may arise as part of a wind project. To address this concern, permitting of construction activities under the National Pollutant Discharge Elimination System (NPDES) may be required.¹³³ Construction sites that will disturb 1 acre or more of land will be subject to NPDES requirements for stormwater permits.¹³⁴ These permits are typically administered by the states, as discussed below, but may also be issued by the U.S. Environmental Protection Agency.¹³⁵

2. State-Issued Water Protection Permits

Some states have water protection laws, and permit requirements, which track the federal Rivers and Harbors Act, discussed above. For example, the Minnesota Department of Natural Resources' Public Waters Permit Program (MnDNR PWPP) requires a permit for projects that affect any public waters.¹³⁶

¹³⁰ 33 C.F.R. § 325.5(c) (2007). Nationwide general permits are found at 33 C.F.R. pt. 330, Appendix A (2007). Regional or state general permits are available from the local Army Corps of Engineers District Office. *See, e.g.*, U.S. Army Corps of Engineers – St. Paul District, *Permit Information*, <http://www.mvp.usace.army.mil/regulatory/> (last visited June 21, 2007).

¹³¹ U.S. Army Corps of Engineers, *Regulatory Program: Overview*, <http://www.usace.army.mil/inet/functions/cw/cecwo/reg/oceover.htm> (last visited June 16, 2007).

¹³² 33 C.F.R. pt. 331 (2007).

¹³³ 40 C.F.R. § 122.26 (2007).

¹³⁴ 40 C.F.R. § 122.26(b)(15), Exhibit 1 (2007).

¹³⁵ 40 C.F.R. § 122.26 (2007).

¹³⁶ Minn. Stat. § 103G.24 (2006); Minn. R. 6115 (2006).

As mentioned above, many states will also require permitting of construction projects under the NPDES.¹³⁷ Although the NPDES was created under the federal Clean Water Act, states implement the system by issuing permits through a state agency, such as the Department of Natural Resources (in Iowa), the Pollution Control Agency (in Minnesota), the Department of Environmental Quality (in Oregon), or the Department of Health Division of Water Quality (in North Dakota).

In Minnesota, the owner or operator of construction activity must obtain water pollution permits from the Minnesota Pollution Control Agency (PCA), which issues both the federal NPDES permit and a state Stormwater Disposal System permit.¹³⁸ An application must include a Stormwater Pollution Prevention Plan to identify how water pollution and erosion will be controlled at the site.¹³⁹ There are additional erosion and pollution control requirements in Minnesota if a project will use more than 10 acres of land, is within 200 feet of surface water, or discharges into wetlands or specially protected waters.¹⁴⁰

There can be significant variation in the water protection permitting process from state to state. For example, in Minnesota, the application fee for a water protection permit is \$400 and construction may begin 7 days after the

¹³⁷ 40 C.F.R. § 122.26 (2007); *see, e.g.*, Minnesota Pollution Control Agency, *Overview of Minnesota's NPDES/SDS Construction Stormwater Permit* (Nov. 2005), available at <http://www.pca.state.mn.us/publications/wq-strm2-05.pdf> (last visited June 16, 2007).

¹³⁸ Minnesota Pollution Control Agency, *Overview of Minnesota's NPDES/SDS Construction Stormwater Permit* (Nov. 2005), available at <http://www.pca.state.mn.us/publications/wq-strm2-05.pdf> (last visited June 16, 2007).

¹³⁹ Minnesota Pollution Control Agency, *Overview of Minnesota's NPDES/SDS Construction Stormwater Permit* (Nov. 2005), available at <http://www.pca.state.mn.us/publications/wq-strm2-05.pdf> (last visited June 16, 2007).

¹⁴⁰ *See* Minnesota Pollution Control Agency, *Overview of Minnesota's NPDES/SDS Construction Stormwater Permit* (Nov. 2005), available at <http://www.pca.state.mn.us/publications/wq-strm2-05.pdf> (last visited June 16, 2007).

application is filed.¹⁴¹ In Oregon, the permit fee is \$560 and processing may take several months.¹⁴² Because of these variations and the importance of these permits to a wind project's ability to go forward, it is important to contact the responsible state agencies well before the planned start date for construction.

C. Environmental Review

Additional federal and state laws require review of a project for other types of environmental impacts, including effects on natural resources, wildlife, cultural and historical resources, and social and economic activity.

1. National Environmental Policy Act

If a wind project is located on federal land or requires approval from federal agencies, it must comply with the National Environmental Policy Act (NEPA).¹⁴³ For example, NEPA review is required if the project requires an easement or lease on federally owned or managed land or requires a wetlands permit from the Army Corps of Engineers.

If NEPA review is required, the responsible federal agency must conduct the review with the cooperation of the project owner. The first level of review requires an Environmental Assessment, which can take 2 to 6 months.¹⁴⁴ If the agency issues a "finding of no significant impact," the NEPA review process is complete.¹⁴⁵ If the agency finds that there is a possibility of significant environmental impact, a full Environmental Impact Statement

¹⁴¹ Minnesota Pollution Control Agency, *Overview of Minnesota's MPDES/SDS Construction Stormwater Permit* (Nov. 2005), available at <http://www.pca.state.mn.us/publications/wq-strm2-05.pdf> (last visited June 16, 2007).

¹⁴² Energy Trust of Oregon, *Community Wind: An Oregon Guidebook* 55 (2005), available at http://www.energytrust.org/RR/wind/community/oregon_wind_guidebook.pdf (last visited June 16, 2007).

¹⁴³ 42 U.S.C. §§ 4321 to 4347 (2006); 40 C.F.R. § 1500.3 (2007).

¹⁴⁴ Timothy L. McMahan, "Siting and Permitting Wind Projects" 3-3 from *The Law of Wind* (Stoel Rives, LLP, 3d ed. 2006), available at http://www.stoel.com/webfiles/LawOfWind_WEB_02_07.pdf (last visited June 5, 2007).

¹⁴⁵ 40 C.F.R. § 1508.9 (2007).

(EIS) is required, which can take over a year.¹⁴⁶ If another state or federal agency is already conducting an EIS, the agencies may use the same documentation.¹⁴⁷

The NEPA environmental review process is exhaustive, and includes consideration of impacts on natural resources and social and economic activity.¹⁴⁸ An EIS requires a full consideration of not only the impacts of the proposed project, but also an assessment of alternatives to the proposed action to be sure that the proposed project is the best use of resources.

In general, the NEPA process for wind projects has ended in a “finding of no significant impact.”¹⁴⁹ It is therefore anticipated that the NEPA requirements will not be a significant impediment to future wind projects.

Farmers who are considering participating in a wind project that would involve siting or rights-of-way on land managed by the federal Bureau of Land Management (BLM) should review that agency’s “Programmatic Environmental Impact Statement (PEIS) on Wind Energy Development on BLM-Administered Lands in the Western United States.”¹⁵⁰ Through this document, BLM has established the policies and best management practices that will be the minimum requirements for management of all individual wind energy projects on BLM-administered land. Certain projects may

¹⁴⁶ Timothy L. McMahan, “Siting and Permitting Wind Projects” 3-3 from *The Law of Wind* (Stoel Rives, LLP, 3d ed. 2006), available at http://www.stoel.com/webfiles/LawOfWind_WEB_02_07.pdf (last visited June 21, 2007).

¹⁴⁷ Timothy L. McMahan, “Siting and Permitting Wind Projects” 3-3 from *The Law of Wind* (Stoel Rives, LLP, 3d ed. 2006), available at http://www.stoel.com/webfiles/LawOfWind_WEB_02_07.pdf (last visited June 5, 2007).

¹⁴⁸ 42 U.S.C. § 4332(C) (2006).

¹⁴⁹ Kim R. York and Richard L. Settle, *Symposium on Energy Issues in the Pacific Northwest: Potential Legal Facilitation or Impediment of Wind Energy Conversion System Siting*, 58 Wash. L. Rev. 387, 408 (1983).

¹⁵⁰ U.S. Department of the Interior, Bureau of Land Management, *Final Programmatic Environmental Impact Statement on Wind Energy Development on BLM-Administered Lands in the Western United States* (June 2005), available at <https://www.eh.doe.gov/nepa/otheragency/fes0511/index.html> (last visited June 19, 2007).

require individual review, but because such review need only address site-specific concerns, the process should be considerably expedited, reducing costs and delays.¹⁵¹

2. State and Local Environmental Review

About half of the states have enacted a State Environmental Policy Act that closely mirrors NEPA, discussed above.¹⁵² These laws require state or local authorities to conduct an environmental review before taking any action that may significantly affect the environment, such as issuing any type of permit to a wind project.¹⁵³

To use Minnesota's law as an example, any state or local government agency that is taking an action with potential for significant environmental effects must prepare an environmental review.¹⁵⁴ First, the agency will work with the project developer to complete an Environmental Assessment Worksheet (EAW), which is a 6-page questionnaire about the project's environmental effects. EAWs take 2 to 3 months to complete, and there is a 30-day public comment period. The agency will then determine whether a full Environmental Impact Statement will be required.¹⁵⁵

For wind projects in Minnesota that are capable of operating at 50 MW or more, the environmental review process is a part of Minnesota PUC's

¹⁵¹ U.S. Department of the Interior, Bureau of Land Management, *Final Programmatic Environmental Impact Statement on Wind Energy Development on BLM-Administered Lands in the Western United States* ES.5, ES.6 (June 2005), available at <https://www.eh.doe.gov/nepa/otheragency/fes0511/index.html> (last visited June 19, 2007).

¹⁵² Percival, Schroeder, Miller & Leape, *Environmental Regulation: Law, Science and Policy* 783 (4th ed. 2004); see, e.g., Minn. Stat. § 116D (2006); Minn. R. 4410.4300 (2006).

¹⁵³ Timothy L. McMahan, "Siting and Permitting Wind Projects" 3-2 from *The Law of Wind* (Stoel Rives, LLP, 3d ed. 2006), available at http://www.stoel.com/webfiles/LawOfWind_WEB_02_07.pdf (last visited June 5, 2007). Minnesota, California, and Washington are examples of states that require local authorities to also conduct an environmental review.

¹⁵⁴ Minn. Stat. § 116D.04, subd. 2a (2006).

¹⁵⁵ Minnesota Pollution Control Agency, *Background on: Minnesota's Environmental Review Program 2* (Jan. 2005), available at <http://www.pca.state.mn.us/publications/gp5-03.pdf> (last visited June 16, 2007).

Certificate of Need decision-making process, discussed in the last section of this chapter.¹⁵⁶ The applicant is responsible for paying the costs of that process, with a \$5,000 payment required at the time of application and additional amounts due as billed.¹⁵⁷ Wind projects in Minnesota of at least 25 MW but less than 50 MW are not required to get a Certificate of Need, discussed below, but are required to complete an EAW.¹⁵⁸ Minnesota wind projects of at least 5 MW but less than 25 MW are not automatically required to prepare an EAW, but the regulating government authorities may require review.¹⁵⁹ And wind projects in Minnesota under 5 MW are exempt from completing an EAW.¹⁶⁰

Minnesota's law is considered to be more stringent than other state laws or the federal environmental review law.¹⁶¹ However, wind project developers in all states should be aware that some form of environmental review may be required.

IV. Other Permitting and Review Issues

A. Local Building and Electrical Codes

Before approving a conditional use permit or other land use permission to build wind facilities, local authorities typically require the applicant to secure needed building, electrical, and road permits to ensure compliance with local structural and electrical codes.¹⁶²

¹⁵⁶ Minn. R. 4410.4300, subp. 3, 4410.7010 to 4410.7070 (2006).

¹⁵⁷ Minn. R. 4410.7070 (2006).

¹⁵⁸ Minn. R. 4410.4300, subp. 3 (2006).

¹⁵⁹ Minn. R. 4410.4500 (2006).

¹⁶⁰ Minn. R. 4410.4600, subp. 3 (2006).

¹⁶¹ Minnesota Pollution Control Agency, *Background on: Minnesota's Environmental Review Program 2* (Jan. 2005), available at <http://www.pca.state.mn.us/publications/gp5-03.pdf> (last visited June 16, 2007).

¹⁶² National Wind Coordinating Committee, *Permitting of Wind Energy Facilities: A Handbook 11* (Aug. 2002), available at <http://www.nationalwind.org/publications/siting/permitting2002.pdf> (last visited June 19, 2007); see, e.g., Union County, Or., Wind Facility Permitting Ordinance, § 52.05(2) (2006), available at

Even if wind facilities are a permissible use in the area and require no special land use permission, local building codes typically make it unlawful to do any construction work without a building permit.¹⁶³ A building permit application generally requires detailed plans and a location for the structure. Fees may be based on the value of the proposed project, and the permit may be valid for only a specific period of time.¹⁶⁴

B. Notice to the Federal Aviation Administration

For any new structures higher than 200 feet, and shorter structures within certain distances of an airport, landowners are required to file a notice of construction with the Federal Aviation Administration (FAA).¹⁶⁵ The owner of a wind project must file a Notice of Proposed Construction or Alteration (Form 7460-1) with the FAA.¹⁶⁶ This notice must be filed at least 30 days before beginning construction.¹⁶⁷ To notify the FAA of actual construction, the owner must file a

http://www.oregon.gov/ENERGY/RENEW/Wind/Permitting-UnionCountyOregon.shtml#Section_52_02_Definitions (last visited June 20, 2007).

¹⁶³ See, e.g., Marshall County, Ia., Zoning Ordinance, art. XIX, § 1 (2006), available at <http://www.co.marshall.ia.us/departments/zoning/zoningordinance/article1/>; Steele County, Minn., Zoning Ordinance, § 402(3)(a) (2006), available at http://www.co.steele.mn.us/PLANZONE/zonord5_7.html#sec7 (both sites last visited June 20, 2007).

¹⁶⁴ See, e.g., Marshall County, Ia., Zoning Ordinance, art. XIX, § 3 (2006), available at <http://www.co.marshall.ia.us/departments/zoning/zoningordinance/article1/> (last visited June 20, 2007).

¹⁶⁵ 14 C.F.R. § 77.13 (2007). The distance restrictions depend on the characteristics of the airport and surrounding area.

¹⁶⁶ Federal Aviation Administration, Advisory Circular, *Proposed Construction or Alternation of Objects that May Affect the Navigable Airspace*, AC 70/7460-2K, at 1-4 (Mar. 1, 2000), available at [http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/22990146db0931f186256c2a00721867/\\$FILE/ac70-7460-2K.pdf](http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/22990146db0931f186256c2a00721867/$FILE/ac70-7460-2K.pdf) (last visited June 16, 2007).

¹⁶⁷ Federal Aviation Administration, Advisory Circular, *Proposed Construction or Alternation of Objects that May Affect the Navigable Airspace*, AC 70/7460-2K, at 4 (Mar. 1, 2000), available at http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.

Notice of Actual Construction or Alteration (Form 7460-2) with the Air Traffic Division of the FAA Regional Office for the area.

It is possible that the FAA would not allow the project to be built as proposed if it deems the project a risk to air safety. However, the project developer and FAA may redesign the project so that it is not a danger to air safety.¹⁶⁸ The FAA may also require markings and lighting on the structure as necessary for air safety.¹⁶⁹

Although FAA regulations have not historically posed an impediment to wind project siting, the FAA was recently involved in what was presumably only a temporary obstacle to wind energy development. Beginning in early 2006, the FAA began issuing a “Notice of Presumptive Hazard” to wind facilities in response to a Department of Defense (DOD) and Department of Homeland Security (DHS) policy opposing construction of any wind turbine in sight of Air Force or Homeland Security radars until the completion of a congressionally mandated study of wind turbine impacts on radar.¹⁷⁰ At least 12 Midwestern

[nsf/0/22990146db0931f186256c2a00721867/\\$FILE/ac70-7460-2K.pdf](#) (last visited June 16, 2007).

¹⁶⁸ Federal Aviation Administration, Advisory Circular, *Obstruction Marking and Lighting*, AC 70/7460-1K (Feb. 1, 2007), available at [http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/b993dcdcf37fcdc486257251005c4e21/\\$FILE/AC70_7460_1K.pdf](http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/b993dcdcf37fcdc486257251005c4e21/$FILE/AC70_7460_1K.pdf) (last visited June 16, 2007).

¹⁶⁹ Federal Aviation Administration, Advisory Circular, *Obstruction Marking and Lighting*, AC 70/7460-1K (Feb. 1, 2007), available at [http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/b993dcdcf37fcdc486257251005c4e21/\\$FILE/AC70_7460_1K.pdf](http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/b993dcdcf37fcdc486257251005c4e21/$FILE/AC70_7460_1K.pdf) (last visited June 16, 2007).

¹⁷⁰ The National Defense Authorization Act for Fiscal Year 2006 required the DOD to study and report on the effects of wind turbines on military readiness and military radar by May 8, 2006. 109 Pub. L. 163, Div. A, Title III, Subtitle F, § 358, 119 Stat. 3208 (Jan. 6, 2006). Due to concerns about the impact of wind turbines on military radar, the DOD and the DHS circulated an “Interim Policy on Proposed Windmill Farm Locations” on Mar. 21, 2006. See American Wind Energy Association, *Wind Turbines and Radar: An Informational Resource*, available at http://www.awea.org/pubs/factsheets/060602_Wind_Turbines_and%20Radar_Fact_Sheet.pdf (last visited June 16, 2007); Sierra Club, *Sierra Club Calls on Rumsfeld, DOD to Stop Blocking Wind Farms*, (June 28, 2006), available at

wind facilities received a “Notice of Presumptive Hazard” from the FAA as a result of this policy.¹⁷¹

The congressionally mandated study of the impact of wind turbines on military radar was to be issued by May 8, 2006.¹⁷² The DOD missed this deadline, prompting a Sierra Club lawsuit to compel completion of the study.¹⁷³ On September 27, 2006, the DOD finally released its report, concluding that although wind turbines can adversely affect radar units, the magnitude of the impact varies with circumstances.¹⁷⁴

The FAA has resumed approving wind development near radar facilities, putting to rest some worries that the DOD would use its participation in the FAA review process to inhibit new wind development.¹⁷⁵ It is, however, certainly possible that the DOD, DHS, or even the FAA will impose further restrictions on the siting of wind facilities in the future, and farmers should stay abreast of any developments on this matter.

<http://www.sierraclub.org/pressroom/releases/pr2006-06-28.asp> (last visited June 16, 2007).

¹⁷¹ See Kari Lydersen, *Wind-Power Projects Halted*, Wash. Post A02 (June 10, 2006), available at <http://www.washingtonpost.com/wp-dyn/content/article/2006/06/09/AR2006060901420.html>; Marcus Wohlsen, *Sierra Club Sues Pentagon Over Wind Farms*, Common Dreams News Center (June 29, 2006), available at <http://www.commondreams.org/cgi-bin/print.cgi?file=/headlines06/0629-09.htm> (both sites last visited June 16, 2007).

¹⁷² 109 Pub. L. 163, Div. A, Title III, Subtitle F, § 358, 119 Stat. 3208 (Jan. 6, 2006).

¹⁷³ Sierra Club, *A Win for the Wind Industry*, <http://www.sierraclub.org/environmentallaw/lawsuits/0318.asp> (last visited June 22, 2007).

¹⁷⁴ United States Department of Energy, *Wind Radar Frequently Asked Questions* (Oct. 5, 2006), http://www.eere.energy.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=1368 (last visited June 18, 2007).

¹⁷⁵ United States Department of Energy, *Wind and Radar* (Oct. 5, 2006), http://www.eere.energy.gov/windandhydro/windpoweringamerica/issues_radar.asp; Letter from Department of Defense to Senator Richard Durbin (Sept. 29, 2006), available at <http://www.senate.gov/~durbin/record.cfm?id=264170> (both sites last visited June 18, 2007).

C. Historic Preservation

1. National Historic Preservation Act

Proposed wind projects subject to federal authority—due, for example, to participation in federal programs—will also have to undergo a historic preservation review. Section 106 of the National Historic Preservation Act (NHPA) requires all federal agencies to take into account the effects of their actions on historic properties.¹⁷⁶ Federal actions that trigger this review include such things as issuing Clean Water Act permits or providing financial assistance, including loans.¹⁷⁷ The agency whose action triggers the NHPA review must consult the Advisory Council on Historic Preservation, the state, and any federally recognized Native American tribes in the area to preserve any historical or cultural artifacts on the site.¹⁷⁸ The agency must try to avoid, minimize, or mitigate any adverse effects the proposed wind project would have on historic properties.¹⁷⁹

Traditionally, only the footprint of a project and the immediate surrounding area have been the subject of review under NHPA. However, because large commercial wind turbines can be seen from a great distance, the Advisory Council on Historic Preservation may broaden the range of historic properties that it feels may be negatively impacted by the changed visual landscape. This type of challenge to proposed projects is becoming more common.¹⁸⁰

¹⁷⁶ 36 C.F.R. pt. 800 (2007).

¹⁷⁷ 16 U.S.C. § 470 (2006); Advisory Council on Historic Preservation, at <http://www.achp.gov/index.html> (last visited June 17, 2007). USDA Rural Development, *Letter to Applicants to the Renewable Energy Systems and Energy Efficiency Improvement Program*, available at <http://www.windustry.org/farmbill/windenvironmental.doc> (last visited June 17, 2007).

¹⁷⁸ See United States Department of the Interior, *Native American Consultation Database*, <http://home.nps.gov/nacd/> (last visited June 21, 2007). This resource can help identify tribes in the vicinity of a project.

¹⁷⁹ 36 C.F.R. § 800.1(a) (2007).

¹⁸⁰ Andrea J. Kirk, *The Area of Potential Effect under Regulations Promulgated by the American Council for Historic Preservation*, *Ag. Law Update* Vol. 23, No. 5, at 4 (May 2006).

Artifacts from Native American cultures are also protected by the NHPA, and Native American tribes are becoming more active in the NHPA review process.¹⁸¹

2. State Historic Preservation

Some states have laws that require review and mitigation measures if a project funded or licensed by the state will affect a designated historic site. In Minnesota, for example, an agency making a permitting or funding decision must consult with the Minnesota Historical Society about ways to mitigate impacts on historic sites before a project can be approved.¹⁸²

Some states, including Minnesota, also have laws that make it illegal to disturb any burial grounds, including unmarked Native American burial grounds.¹⁸³ It is therefore advisable to check with local tribes or a state archeologist before construction if the presence of such grounds is a possibility on the land. If any Native American artifacts are found in the course of preparing a wind turbine site, it is advisable to contact the state historic office to get guidance about how to proceed.¹⁸⁴

D. State Utility Planning Requirements for Large Energy Facilities

States may require a separate permitting process to determine the need for a new large energy facility. Minnesota is one state that has such a requirement: If a planned wind project will have a capacity of 50 MW or more, it must get both a site permit from the Pollution Control Agency, discussed above, and a *Certificate of Need* from the Minnesota Public Utilities Commission (PUC).¹⁸⁵ (A joint

¹⁸¹ Andrea J. Kirk, *The Area of Potential Effect under Regulations Promulgated by the American Council for Historic Preservation*, Ag. Law Update Vol. 23, No. 5, at 4 (May 2006).

¹⁸² Minn. Stat. § 138.665 (2006).

¹⁸³ See, e.g., Minn. Stat. § 307.08 (2006) (amended by 2007 Minn. Laws Ch. 115).

¹⁸⁴ Andrea J. Kirk, *The Area of Potential Effect under Regulations Promulgated by the American Council for Historic Preservation*, Ag. Law Update Vol. 23, No. 5, at 4 (May 2006).

¹⁸⁵ Minn. Stat. §§ 216B.243, subd. 2 & 4, 216B.2421, subd. 2 (2006). A Certificate of Need is also required for the construction of certain power lines in Minnesota: (1) lines over 1,500 feet long with a capacity of 200 kilovolts or more; and (2) lines with a

hearing will be held unless it is not feasible to do so.) Other states may also have a similar requirement.

To illustrate this type of certification process, Minnesota's rules will be discussed here. There are some exceptions to Minnesota's Certificate of Need requirement. For example, several large wind projects in the state have not been required to complete the full Certificate of Need process because they were built specifically to meet a unique statutory requirement that Xcel Energy, a large investor-owned Minnesota utility, obtain additional energy from wind sources.¹⁸⁶ The legislative mandate for wind energy was considered sufficient evidence of need for these wind projects. In addition, if a wind project of 50 MW or more sells its generated energy at retail rates to meet Minnesota's Renewable Energy Objective, and gets at least 10 percent of its capacity from Community-Based Energy Development projects, a Certificate of Need is not required.¹⁸⁷ *Qualifying Facilities* under the Public Utility Regulatory Policies Act (PURPA), discussed in more detail in the selling power chapter of this guide (Chapter 9), are also exempt from the requirement to obtain a Certificate of Need.¹⁸⁸ An independent wind project of 50 MW or more in Minnesota that does not qualify for one of these exceptions must obtain a Certificate of Need from the Public Utilities Commission.

Minnesota law explicitly prefers renewable energy when determining whether a Certificate of Need will be issued, so a wind facility owner should not have a difficult time meeting the criteria.¹⁸⁹ However, it is not an insignificant process. The application must include: general information about the project;¹⁹⁰ alternatives to the proposed facility, with detailed information about cost, service life, availability, effect on rates,¹⁹¹ and environmental data;¹⁹² major factors that

capacity of 100 kilovolts or more which extend over more than 10 miles in Minnesota or cross state boundaries.

¹⁸⁶ See Minn. Stat. § 216B.2422, subd. 5(d) (2006).

¹⁸⁷ Minn. Stat. § 216B.243, subd. 8(1) (2006); see also Minn. Stat. § 216B.1691, subd. 6 (2006) (mandate on Xcel Energy).

¹⁸⁸ Minn. Stat. § 216B.243, subd. 8(7) (2006).

¹⁸⁹ Minn. Stat. § 216B.243, subd. 3a (2006).

¹⁹⁰ Minn. R. 7849.0250 (2006).

¹⁹¹ Minn. R. 7849.0250(C) (2006).

¹⁹² Minn. R. 7849.0310 (2006).

justify need for the facility, including the social and environmental benefits of the project, promotional activity that gave rise to a demand for the facility, and the effects of the facility in inducing future development;¹⁹³ information about the service area, including electrical consumption and peak demand, with a breakdown of different kinds of end users for each forecast year;¹⁹⁴ the amount of land used; traffic generated; noise characteristics; work force needed for construction and operation; and transmission facilities needed.¹⁹⁵ A detailed environmental report is also required along with the application, to satisfy the state environmental review requirement, discussed above.¹⁹⁶

The basic processing fee for a Certificate of Need application is \$10,000, plus \$50 for each megawatt of capacity of the proposed project, 25 percent of which is due with the application and the balance due in three equal installments thereafter.¹⁹⁷ The ultimate fee is equal to the cost of processing the application, so any costs that accumulate in excess of the basic processing fee will be billed to the applicant, with a maximum application fee of \$100,000.¹⁹⁸ A certificate will not be issued until all fees have been paid.¹⁹⁹

An applicant for a Certificate of Need must supply copies of the application to all state agencies with regulatory responsibility over the project and to other interested persons who request a copy.²⁰⁰ A public hearing must be held, including notification to all other interested government agencies. If the project is sited on agricultural land, the Minnesota Department of Agriculture must be notified, and the Agriculture Commissioner will have the lead role in developing

¹⁹³ Minn. R. 7849.0240 (2006).

¹⁹⁴ Minn. R. 7849.0270 (2006).

¹⁹⁵ Minn. R. 7849.0320 (2006).

¹⁹⁶ Minn. R. 7849.0230 (2006).

¹⁹⁷ Minn. R. 7849.0210 (2006).

¹⁹⁸ Minn. R. 7849.0210 (2006), Minn. Stat. § 216B.243, subd. 6 (2006).

¹⁹⁹ Minn. Stat. § 216B.243, subd. 6 (2006).

²⁰⁰ Minn. R. 7849.0200, subp. 1 (2006).

an agricultural mitigation plan if required for the project.²⁰¹ A final decision on a Certificate of Need application must be made within 12 months.²⁰²



²⁰¹ Minn. Stat. § 216B.243, subd. 7 (2006).

²⁰² Minn. Stat. § 216B.243, subd. 5 (2006).