OLR RESEARCH REPORT

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STANDARDS IN OTHER STATES FOR SITING WIND PROJECTS

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You asked for a summary of energy facility siting laws in other states that apply specifically to wind projects.

SUMMARY

We have found ten states (California, Delaware, Illinois, Maine, New Hampshire, Ohio, South Dakota, Vermont, Wisconsin, and Wyoming) that have siting statutes or regulations with specific provisions on wind projects. In most cases, the legislation was adopted in the past few years. Among the most common issues addressed in these laws are setback standards and maximum allowable noise levels.

The laws take differing approaches. California, Delaware, Illinois, New Hampshire allow local governments to restrict the siting of wind projects, subject to statutory limits. California's law is limited to small projects located in non-urbanized areas and New Hampshire's to small systems. Maine requires the regulatory agency to consider the impact of a wind project on scenic values and requires large projects to enter into community benefits agreements with the host community, as well as having setback provisions. Ohio regulates wind projects at the state level and imposes setback requirements and noise restrictions on such projects, among other things. South Dakota establishes set back requirements for wind projects. Wisconsin required its Public Service Commission (PSC) to develop administrative rules that specify the restrictions that political subdivisions may impose on the installation or use of wind systems. Vermont limits local

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height restrictions and requires its Public Service Board to consider esthetic impacts in approving projects. Wyoming requires developers of larger wind projects to obtain a county permit and establishes minimum conditions for these permits.

CALIFORNIA

Legislation adopted in 2009 authorizes counties to (1) adopt an ordinance that provides for the installation of small wind systems (those with a generating capacity up to 50 kilowatts) in non-urbanized areas within the county's jurisdiction and (2) establish a process for issuing conditional use permits for these systems, subject to specified limits. The law (7 Cal. Gov. Code Sec. 68593 *et seq.*) also authorizes a county to impose conditions on the installation of these systems, but prohibits the county from imposing conditions regarding these aspects of the systems that are more restrictive than those specified in the law.

The law authorizes a county that has not adopted an ordinance providing for the installation of these systems within its jurisdiction by January 1, 2011, to adopt an ordinance covering subsequent installations so long as it is consistent with the state law. The law specifically exempts ordinances approved prior to January 1, 2011 from its provisions.

The county ordinances may impose conditions on the installation of small wind energy systems that include notice, tower height, setback, view protection, aesthetics, aviation, and design-safety requirements. But these provisions cannot be more restrictive than the following requirements and conditions:

1. the system must be located on at least one acre located outside an urbanized area;

2. for sites up to five acres, the maximum tower height is 80 feet;

3. for larger sites the maximum tower height is 100 feet, subject to further restrictions imposed by the Federal Aviation Administration;

4. the maximum setback for the tower can be no more than the tower's height, unless a greater setback is needed to comply with the applicable fire setback under the state Public Resources Code;

5. noise from the system as measured at the nearest property line may not exceed the lesser of 60 decibels or any existing maximum noise levels allowed under the applicable zoning or noise regulations, except during events such as utility outages and severe windstorms;

6. notice of an application to install a small wind system must be provided to property owners within 300 feet of the site and a county may require an applicant to place a one-eighth page notice in a local newspaper if it deems this necessary due to circumstances specific to the proposed installation;

7. the system may not substantially obstruct views of adjacent property owners and must be placed below any major ridgeline when visible from any scenic highway corridor designated under state law or by a county in its general plan;

8. the system must use a wind turbine that has been approved by the state Energy Commission as qualifying under its Emerging Renewables Program or certified by a national program recognized and approved by the commission; and

9. the application must include standard drawings and an engineering analysis of the system's tower, showing compliance with the current version of the California Building Standards Code and certification by a professional engineer licensed by the state.

The county may also require the applicant to demonstrate that the system will be used primarily to reduce onsite consumption of electricity.

The act's provisions sunset January 1, 2017.

DELAWARE

A Delaware law adopted in 2009 (Del. Code Tit. 29 Sec. 8060) bars county and municipal governments and homeowner associations from prohibiting or restricting a property owner from using a system for obtaining wind energy for a residential single family dwelling unit. Any such restriction adopted after the law went into effect in 2009 is void and unenforceable.

The law allows a county or municipal government or homeowner association to impose restrictions on wind energy system on other types of property, so long as they are no more restrictive than the following:

1. wind turbines must be setback the amount of the turbine's height from adjoining property line;

2. the aggregate noise or audible sound of a wind system may not exceed five decibels above the existing average noise level of the surrounding area and be no more than 60 decibels measured at any location along the property line of the parcel where the wind system is located; and

3. wind systems must be free from signs, advertising, flags, streamers, decorative items, or any item unrelated to the turbine's operation and wiring for the turbines must be placed underground for systems not integrated with the building.

These provisions do not apply to any county or municipal designated historic district or historic zoning district. Any wind energy system must be buffered from any properties or structures included on the Historic Register.

ILLINOIS

Illinois law (55 Ill. Code Secs. 5/5-12020 and 5/11-13-26) adopted in 2009 allows counties and municipalities to regulate the siting of wind projects. 55 Ill. Code Sec. 5/5-12020 allows counties to establish standards for wind farms and electric-generating wind devices. The standards may include the height limits and the number of devices that may be located in a geographic area. A county may also regulate the siting of wind farms and electric-generating wind devices in unincorporated areas of the county outside of the zoning jurisdiction of a municipality and the 1.5 mile radius surrounding the zoning jurisdiction of a municipality. The law requires at least one public hearing not more than 30 days before a siting decision by the county board. Notice of the hearing must be published in a local newspaper. Counties may allow test wind towers to be sited without formal approval by the county board, but they must be dismantled within three years of installation. However, a county may not require a wind tower or other renewable energy system that is used exclusively by an end user to be set back more than 1.1 times the height of the system from the end user's property line.

Parallel provisions apply under 55 Ill. Code Sec. 5/11-13-26 to municipalities, which can regulate wind farms and electric-generating wind devices within a 1.5 mile radius surrounding their zoning jurisdiction.

MAINE

State Goals

The state's wind energy act (35-A Me. Rev. State Sec 3403 *et seq.*) was adopted in 2003 and substantially amended in 2007 and 2009. It states that "it is in the public interest to reduce the potential for controversy regarding siting of grid-scale wind energy development by expediting development in places where it is most compatible with existing patterns of development and resource values when considered broadly at the landscape level." The act sets a goal of creating 2,000 megawatts (MW) of wind generating capacity by 2015, 3,000 MW by 2020, and 8,000 MW by 2030.

Consideration of Effect on Scenic Character

In making its findings regarding the effect of an expedited wind development on scenic character and related existing uses, the primary siting authority must determine whether the development significantly compromises views from a scenic resource of state or national significance (e.g., a state park or federal wilderness area) such that it unreasonably harms its scenic character or the related existing uses. (The primary siting authority is the Department of Environmental Protection (DEP) or the Maine Land Use Regulation Commission, depending on where the development is located.) In most cases, it is not necessary for the authority to find that a development fits harmoniously into the existing natural environment in terms of potential effects on scenic character and related uses in order to approve the development.

In making its determination and in determining whether the developer must provide a visual impact assessment, the primary siting authority must consider several factors, including:

1. the significance of the potentially affected scenic resource;

2. the existing character of the surrounding area;

3. the extent, nature and duration of potentially affected public uses of the scenic resource and the potential effect of the generating facilities' presence on the public's continued use and enjoyment of the scenic resource.

The developer must give the primary siting authority a visual impact assessment of the development that addresses the evaluation criteria if the authority determines the assessment is needed. There is a rebuttable presumption that an assessment is not required for those portions of the development's generating facilities that are more than three miles from a scenic resource of state or national significance. The primary siting authority may require an assessment for portions of the generating facilities located between three and eight miles from the scenic resource if it finds there is substantial evidence that an assessment is needed to determine if there is the potential for significant adverse effects on the resource. Information intended to rebut the presumption must be submitted to the primary siting authority by any interested person within 30 days of acceptance of the application as complete for processing. The primary siting authority must determine if the presumption is rebutted based on a preponderance of evidence in the record.

Permit Application

The developer must include the following as part of its permit application:

1. the estimated jobs to be created statewide and in the host community or communities, as a result of construction, maintenance, and operations of the project;

2. the estimated annual generation of wind energy;

3. the projected property tax payments; and

4. any other tangible benefits to be provided by the project.

Community Benefits Agreements

In the case of large developments, the developer must establish a community benefits package valued at no less than $4,000 per year per wind turbine included in the development, averaged over a 20-year period. This does not affect the development's property tax obligations. The package must include an agreement between the developer and the host community that involves payments by the developer for public purposes, including property tax reductions, economic development projects, land and natural resource conservation, tourism promotion, or reduction of energy costs. The payments can be made in a lump sum or over time.

To the extent practicable within existing resources, the Department of Economic and Community Development and the State Planning Office must help the host community maximize the economic development and resource conservation benefits from tax payments and payments made under a community benefit agreement or a community benefits package.

The community benefits package requirement is waived for any development that (1) has an installed capacity of less than 20 MW or (2) is owned by a nonprofit, public or quasi-public entity. In addition, the host community can waive or reduce the requirement.

Setbacks and Other Requirements

If the primary siting authority determines that the development must be constructed with setbacks to protect public safety, the authority must consider the recommendation of a professional, licensed civil engineer as well as any applicable setback recommended by a manufacturer of the generating facilities. It may require submission of this information as part of the application.

Developers of facilities with a generating capacity of more than 100 kilowatts must demonstrate that they will:

1. comply with DEP noise standards;

2. be designed and sited to avoid unreasonable adverse shadow flicker effects; and

3. be constructed with setbacks adequate to protect public safety. taking in account the recommendation of a professional, licensed civil engineer as well as any applicable setback recommended by the facility's manufacturer.

If no other DEP approval is required for the development, DEP must issue its certification within 185 days of determining that a request for certification is complete, unless the applicant requests an extension. If another DEP approval is required for the development, DEP must consolidate its approval processes.

Following certification and during construction and operation, the municipality where the generating facilities are located can enforce the noise, flicker, and setback standards at its discretion. DEP is not responsible for enforcing the above provisions.

NEW HAMPSHIRE

State law adopted in 2008 imposes notice requirements for small wind systems (those with a generating capacity of up to 100 kilowatts) that are used primarily for on-site consumption, limits the ability of municipalities to regulate them, and requires that they be taken down when abandoned. It also requires that they comply with all applicable Federal Aviation Administration requirements, including those regarding installations close to airports, and local airport zoning regulations.

Notice

N.H. Gen. Laws Sec. 674:66 requires the municipal building inspector to notify all abutters by certified mail upon application for a building permit to build a small wind system. The applicant must pay the cost of the notice. Abutters have 30 days to comment before the building permit is issued. The building inspector must notify the local governing body. An appeal may be made to the building code board of appeals or to the zoning board of adjustment, as appropriate.

Limits on Local Regulations

N.H. Gen. Laws Sec. 674:63 bars municipalities from imposing "unreasonable limits or hindrances to performance" on small systems. These are:

1. prohibiting small wind energy systems in all districts within the municipality;

2. restricting tower or system height by applying a generic height ordinance or regulation that does not specifically address allowable tower or system height of a small wind energy system;

3. requiring a setback from property boundaries for a tower more than 150% of the system height (if a municipality does not adopt specific setback requirements for small wind energy systems, any small wind energy system must be set back at least this distance but the zoning board of adjustment may issue a variance under the condition specified in state law);

4. setting a noise level limit lower than 55 decibels, as measured at the site property line, or not allowing for limit overages during short-term events such as utility outages and severe wind storms; and

5. setting electrical or structural design criteria that exceed applicable state, federal, or international building or electrical codes or laws.

Review by Building Inspector

The building inspector must review the application to determine whether it is a development of regional impact. If the building inspector determines that the proposal has the potential for regional impact, he or she must give the regional planning commission and the affected municipalities the status of abutters for the purpose of providing notice and giving testimony. Within five business days after reaching a decision regarding a development of regional impact, the inspector must give the regional planning commission and affected municipalities with copies of the minutes of the meeting at which the decision was made. The inspector must, at the same time, submit an initial set of plans to the regional planning commission, at the applicant's cost. At least 14 days before the public hearing, inspector must notify all affected municipalities and the regional planning commission of the date, time, and place of the hearing and their right to testify concerning the development.

Abandonment

Under N.H. Gen. Laws Sec. 674:65, a small system that is out of service for 12 consecutive months is deemed abandoned. The planning board administrator may issue a notice of abandonment to its owner. The owner can respond to the notice of abandonment within 30 days of receiving it. The planning board must withdraw the notice of abandonment and notify the owner that the notice has been withdrawn if the owner shows the planning board that the system has not been abandoned. If the system is determined to be abandoned, the owner must remove the wind generator from the tower at his or her expense within three months of receiving the notice of abandonment. If the owner does not do so, the administrator may pursue a legal action to have the wind generator removed at the owner's expense.

OHIO

By law, electric generation facilities need a certificate from the Ohio Power Siting Board. State regulations, Oh. Admin. Code Secs. 4906.17-01 through 4906-17-08, adopted in 2008, prescribe specific requirements for a certificate for a wind project.

Information in Certificate Application

The certificate applicant must submit a project summary and overview of the proposed project. Among other things, this information must include:

1. the types of turbines or, if a specific model of turbine has not yet been selected, the potential types, estimated number of turbines, estimated net demonstrated capability, annual capacity factor, and hours of annual generation; and

2. a description of the major equipment including the footprint of the turbine, height of the turbine measured from the tower's base, excluding the subsurface foundation, and the blade length.

The applicant must conduct a project area site selection study before submitting its application. The study must evaluate all practicable project area sites for the proposed facility. As part of the study, a copy of any map the study used to show setbacks from residences, property lines, and public rights of way must be supplied to the board.

The application must contain detailed technical and safety information. Among other things, these include (1) all proposed major public safety equipment and the reliability of the equipment and (2) the turbine manufacturer's safety standards, including a complete copy of its safety manual or similar document.

Noise Studies

The applicant must also provide detailed environmental data for the project. For each turbine, the applicant must evaluate and describe (1) the operational noise levels expected at the property boundary closest to that turbine, under day and nighttime conditions and (2) the cumulative operational noise levels for the wind facility at each property boundary for each property adjacent to the project area, under day and nighttime operations. The applicant must use generally accepted computer modeling software (developed for wind turbine noise measurement) or similar turbine noise methodology, including consideration of broadband, tonal, and low-frequency noise levels. The application must identify the location of any noise-sensitive areas within one mile of the proposed facility. It must also describe equipment and procedures used to mitigate the effects of noise from the proposed facility during construction and operation.

Mapping and Setback Requirements

The application must include a 1:24,000 scale map indicating land uses in a five-mile radius of the facility, including residential, urban, manufacturing, commercial, recreational, forest, and other uses. It must include a 1:24,000 scale map covering a half-mile radius from the proposed facility that shows: (1) the proposed project area boundary; (2) undeveloped land such as wood lots, wetlands, or vacant fields; and (3) recreational areas, parks, wildlife areas, nature preserves, and other conservation areas. The application must:

1. estimate the proposed facility's impact on these land uses within a one-mile radius of the facility,

2. identify structures that will be removed or relocated, and

3. describe formally adopted plans for future use of the site and surrounding lands for anything other than the proposed facility.

The application must provide the number of residential structures within 1,000 feet of the boundary of the proposed facility, and identify all residential structures for which the nearest edge of the structure is within 100 feet of the boundary of the proposed facility. It must describe proposed locations for wind turbine structures in relation to property lines and habitable residential structures, consistent with the following minimum requirements:

1. the distance from a wind turbine base to the property line of the wind farm property must be at least 1.1 times the total height of the turbine structure as measured from its tower's base (excluding the subsurface foundation) to the tip of its highest blade, and

2. the wind turbine must be at least 750 feet in horizontal distance from the exterior of the nearest habitable residential structure located on adjacent property at the time of the certification application.

These minimum setbacks may be waived if all owners of property adjacent to the turbine agree to the waiver.

The applicant must evaluate and describe the potential impact from ice throw and blade shear at the nearest property boundary, including its plans to minimize potential impacts if warranted. The applicant also must evaluate and describe the potential impact from shadow flicker at adjacent residential structures and primary roads, including its plans to minimize potential impacts if warranted.

Environmental Studies

The application must provide the results of surveys of the vegetation and animal life within a quarter-mile distance from the facility boundary. The application must provide a list of major species from these surveys. These are species that are of commercial or recreational value or designated as endangered or threatened under state or federal law. The applicant must estimate the impact of facility construction and operation on these species. It must also provide a summary of any studies that have been made by or for the applicant addressing the ecological impact of the proposed facility.

SOUTH DAKOTA

S.D. Laws Sec. 43-13-23 requires each wind turbine tower less than 75 feet high be set back at least 1.1 times the height of the tower from any surrounding property line. Under S.D. Laws Sec. 43-13-24, larger towers must be set back at least 500 feet or 1.1 times the height of the tower, whichever is greater, from any surrounding property line. In both cases, the tower may be placed closer to the property line shared with that adjacent land owner if the tower owner has a written agreement with an adjacent land owner.

VERMONT

State law (24 Vt. Stat. Ann. Sec. 4412(6), adopted in 2004, bars municipalities from regulating the height of wind turbines with blades that are less than 20 feet in diameter unless the bylaws provide specific standards for regulation. Although not specified in statute, these standards could include address visual impacts and specific setback requirements according to the Vermont League of Cities and Towns.

Another law (30 Vt. Stat. Ann. Sec. 248) requires the Public Service Board to consider aesthetics in approving generation facilities. It must adopt rules regarding the application of its esthetics criterion to an application for a certificate for a single, net metered (i.e., grid-connected) wind turbine that is less than 150 feet tall.

WISCONSIN

2009 Wisconsin Act 40 (Act 40 – Wis. Stat. Sec. 196.378) establishes statewide criteria for the installation or use of a wind energy system with a capacity of less than 100 megawatts, and helps ensure consistent local procedures for such systems. Act 40 directs the Public Service Commission (PSC) to develop administrative rules that specify the restrictions that may be imposed on the installation or use of wind systems. No political subdivision (city, village, town, or county) may impose, directly or indirectly, any restriction on the installation or use of a wind system that is more restrictive than the rules the PSC promulgates.

Act 40 also requires PSC to adopt rules must include:

1. setback requirements that provide reasonable protection from any health effects, including those from noise and shadow flicker, associated with wind systems;

2. requirements for removing wind turbines and other facilities associated with the wind system and restoring the site of the system;

3. the information and documentation to be provided in an application to demonstrate that a proposed wind system complies with the rules;

4. the information and documentation to be included in a political subdivision's record of decision;

5. the procedure a political subdivision must follow in reviewing an application for approval;

6. the requirements and procedures for enforcing the restrictions allowed under the PSC's rules.

The final rules require a wind energy system owner to give notice to landowners within one mile of proposed wind turbine locations at least 90 days before filing an application. They allow a political subdivision to require these systems to be sited and operated in a way that does not exceed 45 dB during nighttime hours and 50 dB during daytime hours. Noise limits will be measured from the outside wall of non-participating residences (those whose owners have not entered into a compensation agreement with the system

owner) and occupied community buildings. A political subdivision can also require systems to be sited and operated in a way that does not cause more than 30 hours per year of shadow flicker for non-participating residences or occupied community buildings. If a wind energy system causes more than 20 hours per year of shadow flicker, a political subdivision can require its owner to install mitigation measures for affected landowners, at its expense.

A political subdivision can impose minimum safety setbacks of 1.1 times the maximum height of a turbine for participating residences, non-participating property lines, public road rights-of-way, and overhead communication and electric transmission or distribution lines. Setbacks of up to 3.1 times the maximum height of a turbine may be established for nonparticipating residences and occupied community buildings.

The rules allow local government units to require wind energy system owners to provide monetary compensation to non-participating landowners located within one-half mile of a wind turbine site. A political subdivision may not require these payments for non-participating landowners to exceed 25% of the payments being made to a landowner hosting a wind turbine in the project.

The rules establish complaint resolution requirements for wind energy system owners and a process for requesting political subdivision review of unresolved complaints. A political subdivision's decision on review of a complaint is appealable to the PSC. The rules require the owner of a wind system with a capacity of at least one megawatt to maintain proof of financial responsibility ensuring the availability of funds to decommission the system once it is no longer in use.

The rules are available at
http://psc.wi.gov/mediaRoom/documents/windSitingRules.pdf

By law, an electric generating facility with a capacity of 100 megawatts or more may not be constructed unless the PSC grants it a certificate of public convenience and necessity. Act 40 requires the PSC to consider the restrictions specified in these rules when determining whether to grant a certificate.

WYOMING

Legislation passed in 2010, (Wyo. Stat. Sec. 18-5-501 through 513) requires the developer of any wind facility of 0.5 megawatts or more to obtain a permit from the board of commissioners of the county where the facility is located. A county permit is also required to expand any wind facility that was originally built after July 1, 2010.

The application must certify that the developer has made reasonable efforts to provide notice in writing to all landowners within one mile of the proposed facility and to all cities and towns located within 20 miles. The notice must include a general description of the facility, including its location, projected number of turbines, and the likely entrance and exit routes. The developer must publish a notice in a local newspaper at least 20 days before the public hearing on the application.

The developer must certify that there will be no advertising or promotional lettering on any tower, turbine, nacelle (the housing around the turbine), or blade (other than the manufacturer's or the applicant's logo on the nacelle). The developer must include a site and facility reclamation and decommissioning plan that indicates the facility's planned life and how the facility and its site will be decommissioned and reclaimed at the end of the facility's life. The developer must certify that any owner of land of the facility site who is not the applicant has been consulted in developing the plan. The plan must comply with all requirements adopted by the state's Industrial Siting Council. If the permit is granted, the plan must be updated every five years until site reclamation and decommissioning is complete. Developers must provide a detailed summary of any significant adverse environmental, social, or economic effects that the proposed wind energy facility may have together with any preliminary plans developed to alleviate these effects.

The board must require that the base of any tower be at a distance of at least 110% of the maximum height of the tower from (1) any property line contiguous or adjacent to the facility (unless waived in writing by the owner of every property which would be located closer than the minimum distance) and (2) any public road right-of-way. Any tower or other structure, other than underground structures, transmission lines, and roads, must be at least 5.5 times the maximum height of the tower and not less than 1,000 feet from any platted subdivision unless this restriction is waived in writing by the owners of all lands included within the specified distance. It requires the base of the tower to be the same distance from any residential dwelling or occupied structure, unless waived in writing by the person holding title to the dwelling or structure. Towers cannot be located within one-half mile from the limits of any city or town.

No county may adopt a less stringent standard. The minimum standards must be incorporated into every existing or future county permitting or licensing process to which they are applicable**.**

The board must review the application to determine if it contains all the required information. If the board determines that the application is incomplete, it must notify the applicant within 30 days of receiving the application. The applicant must provide the additional information within 30 days of receiving this request. The board must hold a hearing between 45 and 60 days after determining that the application is complete. The board must accept written comments for at least 45 days after determining that the application is complete. It must issue a decision within 45 days after completing the hearing. The board must grant a permit if it determines that the facility complies with all standards properly adopted by the board and the statutory standards.

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