

Wind Energy Permitting in North Carolina and Six Other States

A Comparative Analysis



The Department of Energy/Sandia Scaled Windfarm Technology facility in Lubbock, Texas. Photo by Lloyd Wilson/SandiaLabs.



North Carolina
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Executive Summary

When considering where to invest, project developers often conduct comparative analyses of market conditions, including policies, to determine the most favorable site locations. This report includes a comparison of North Carolina’s wind policies relative to other states. The table below summarizes key differences in wind permitting policies for seven states.

Comparison of State Wind Energy Permitting Processes Examined in Study							
	North Carolina	Maine	Oklahoma	Oregon	South Dakota	Texas	Virginia
Origin of Permitting Authority	Both State & Local	Both State & Local	Both State & Local	Both State & Local	Both State & Local	Local	Both State & Local
Permitting Lead	Both State & Local	Both State & Local	Local	State	Both State & Local	Local	Local
Facility Size to Trigger Statute	1 MW	10 MW	500 kW	35 MW	100 MW	N/A	100 MW
Application-to-Approval Timeline	9 months, subject to extension	185 days (expedited review)	N/A	12 months	6 months	N/A	N/A
Decommissioning Requirements	Yes	No	Yes	No	Yes	N/A	Yes
Financial Assurance Requirements	Yes	Yes	Yes	None; financial capability considered in application review	None	N/A	None
Installed Capacity (MW)	0	613	5,184	3,153	977	17,713	0

North Carolina Wind Working Group stakeholders have suggested that state wind regulations may deter investors due to their lack of clarity. As evidence, these stakeholders point to the fact that no company has yet to undergo the state wind permitting process since it was adopted with the passage of House Bill 484 in 2013. This comparative analysis shows that numerous policy and regulatory options from other states could be applied to North Carolina to clarify regulations and make project assessment more efficient. High-level actions to clarify regulations include:

- Providing additional information and guidance for state wind policy features unique to North Carolina;
- Providing objective rather than subjective standards for permit approval; and
- Providing criteria for the evaluation of required information for permits.

Introduction

For the past 15 years, the North Carolina Clean Energy Technology Center has devoted programmatic resources to explore wind energy development issues. A key activity of the NC Clean Energy Technology Center has been to engage wind energy stakeholders from state and local government, manufacturing, renewable energy project development, environmental nonprofits, and others under the banner of the North Carolina Wind Working Group. A key goal of the group is to identify and discuss barriers and opportunities to wind development.

Recent NC Wind Working Group meetings have involved significant discussions regarding a state wind energy permitting bill, House Bill 484 (HB 484), which was passed into law in 2013. Specifically, many members of the NC Wind Working Group have raised concerns that a lack of regulatory clarity regarding HB 484 may deter wind developers from seriously considering investments in North Carolina. NC Wind Working Group members have stressed that the passage of HB 484 caused multiple developers to pull out of the state.

To address this perceived lack of clarity on behalf of the NC Wind Working Group, the NC Clean Energy Technology Center and North Carolina Sea Grant have collaborated to conduct a two-part analysis. Part I of the report is a comparative analysis of state wind energy permitting policies. Part II of the report is a point-by-point textual analysis of HB 484's regulatory requirements and associated uncertainties.

Wind Energy Permitting Outside of North Carolina

Our comparative analysis of state wind energy permitting rules encompasses six states in addition to North Carolina: Maine, Oklahoma, Oregon, South Dakota, Texas and Virginia. These states were selected because of their different regulatory approaches to wind energy development, particularly with respect to the superseding jurisdiction of siting policies. States such as Texas and Oklahoma have left nearly all major elements of the permitting process exclusively in the hands of local officials. Other states, such as Oregon, have opted to address the permit application process entirely at the state level. Falling in between the two ends of this spectrum are states such as North Carolina, which has enacted state-level requirements but also maintained the rights of local jurisdictions to further regulate certain elements of the wind energy facility permitting process.

As of June 30, 2015, Texas leads the nation in installed wind power capacity at 17,713 Megawatts (MW).¹ At that time, Oklahoma had 5,184 MW installed, followed by Oregon (3,153 MW), South Dakota (977 MW) and Maine at 613 MW.² North Carolina and Virginia had no installed wind power capacity as of March 2016,³ but North Carolina currently has one project under construction based upon the grandfather clause of HB 484. No projects have entered into the HB 484 process thus far.

¹ U.S. Department of Energy, *Installed Wind Capacity*, http://apps2.eere.energy.gov/wind/windexchange/wind_installed_capacity.asp (last updated Feb. 2, 2015).

² *Id.*

³ *Id.*

A. Oregon



Wind turbines at the Lime Wind energy project in Oregon. Photo courtesy Bureau of Land Management, Oregon and Washington.

In Oregon, wind energy facility permit applications fall under the jurisdiction of the Oregon Energy Facility Siting Council (Council).⁴ The Council is responsible for issuing site certificates that the Oregon Legislature requires⁵ for certain kinds of energy facilities, including electric power plants with an average electric generative capacity of 35 MW or more produced from wind energy.⁶ In Oregon, the permitting process is initiated through a generalized siting application that covers most forms of energy production.⁷ Although there are some exemptions, the Oregon statute broadly requires that “no [energy] facility shall be constructed or expanded unless a site certificate has been issued [by the Council] for the site thereof [pursuant to Oregon Statutes].”⁸ Oregon’s permitting process does not separate applications for a site certificate into specific requirements based on method of production.

Prior to filing the site certificate application, an applicant must file a “notice of intent” to the Council that will be used by the State Department of Energy to create a project order.⁹ This project order will establish “the statutes, administrative rules, council standards, local ordinances, application requirement and study requirements for the site certificate application.”¹⁰ After this process has been completed, the applicant will submit an application that addresses both the project order requirements and the “general requirements” of the statute.¹¹ After submission, the Council will approve or deny a wind energy facility permit within 12 months of the application filing date.¹² This time frame may be shortened or expedited for applications that involve the expansion of an existing facility or for projects generating less than 100 MW of energy.¹³ However, a failure by the Council to render a decision within the allotted time frame does not automatically issue or deny a site certificate.¹⁴ The statute does not clarify what, if any, remedy is available to an applicant who has not received notice within the required time.

The Oregon siting application procedure is a self-proclaimed “one-stop” process where the Council evaluates the applicant’s compliance with the specific standards of the Council as well as the standards of local government and other state permitting agencies.¹⁵ At the state level, the

⁴ Or. Rev. Stat. § 469.450 (2015).

⁵ *Id.* at § 469.320.

⁶ *Id.* § 469.300.

⁷ *Id.* § 469.310.

⁸ *Id.* at § 469.320.

⁹ *Id.* at § 469.330(1).

¹⁰ *Id.* at (3).

¹¹ *Id.* at § 345-021.

¹² *Id.* at § 469.370(9)(d).

¹³ *Id.* 469.370 (9)(c)-(10).

¹⁴ *Id.* at § 469.370(11).

¹⁵ Oregon Department of Energy, *The Siting Process for Energy Facilities*, <http://www.oregon.gov/energy/Siting/Pages/process.aspx> (last visited Jan. 10, 2016).

Council’s standards are outlined in the Oregon Administrative Rules (O.A.R.), which include general standards for siting any facility and wind-specific standards. To evaluate an application, the statute provides that the Council will adopt standards for a range of evaluation criteria including: the effects on wildlife, historic and cultural resources, scenic and aesthetic values, and on public health and safety.¹⁶

For example, in order to issue a siting permit, the Council must find that “the design, construction and operation of the proposed facility, taking into account mitigation, are not likely to cause a significant reduction in the likelihood of survival” of any endangered or threatened species listed under O.R.S. 496.172(2).¹⁷ Under the provisions that specifically address wind energy facilities, the O.A.R. has evaluation criteria involving both public health and safety concerns, as well as standards minimizing the need for new infrastructure to support the facility.¹⁸ For example, the standards require that the facility will exclude the public from accessing the turbine blades and electrical equipment, and that the facility will be designed, constructed and operated in a way that will “preclude [a] structural failure of the tower or blades that could endanger the public safety.”¹⁹

Although local governments are permitted to enact their own standards regarding the siting of wind energy facilities, the issuance of a permit by the Council will bind all the counties, cities and political subdivisions of the state to the Council’s permit decision.^{20,21} However, this preemptive language is strictly construed and does not apply against “matters that are not included in and governed by the site certificate.”²² As a part of their review process, the Council reserves the right to overrule their own permitting criteria in cases where the “overall public benefits of the facility outweigh the damage to the resources protected by the standards the facility does not meet.”²³

Following the Council’s approval or disapproval of an application, “any party to a contested case proceeding may apply for rehearing within 30 days from the date the approval or rejection is served.”²⁴ However, the party requesting the rehearing must put forth a specific basis for the objection to the Council’s decision.²⁵ If the Council denies the rehearing, either explicitly or by failure to rehear within 30 days, an applicant can file a petition for judicial review within 60 days after the service of the council’s final order or within 30 days after the date the petition for rehearing is denied.²⁶ The Oregon Supreme Court has exclusive jurisdiction for this judicial review.²⁷ Unless otherwise permitted by statute, the Oregon Supreme Court “shall give priority

¹⁶ Or. Rev. Stat. § 469.501.

¹⁷ Or. Admin. R. 345-022-0070(2) (2016).

¹⁸ *Id.* at 345-024-0010 and 0015.

¹⁹ *Id.* at 345-024-0010.

²⁰ Or. Rev. Stat. § 469.401(3).

²¹ “The Council’s decision is binding on all state and local agencies whose permits are addressed in the Council’s review. These agencies must issue necessary permits and licenses, subject only to the conditions adopted by the Council.” *The Siting Process for Energy Facilities*, Oregon Department of Energy, <http://www.oregon.gov/energy/Siting/Pages/process.aspx> (last visited Jan. 10, 2016).

²² Or. Rev. Stat. § 469.401(4).

²³ Or. Admin. R. 345-022-0000(2).

²⁴ Or. Rev. Stat. § 469.403(1).

²⁵ *Id.*

²⁶ *Id.* at (3).

²⁷ *Id.*

on its docket to such a petition for review and shall render a decision within six months of the filing of the petition for review.”²⁸

B. Maine

In 2008, the Maine legislature enacted the State Wind Energy Act to encourage the development of wind energy production in Maine.²⁹ As a part of this act, the legislature enacted the Expedited Permitting of Grid-Scale Wind Energy Development.³⁰ In the legislative findings associated with the Wind Energy Act, the legislature recognized 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 [wind energy production] is most compatible with existing patterns of development and resources values when considered broadly at the landscape level.”³¹ The processing time for an expedited wind energy project is 185 days. If a project does not qualify under the expedited procedures, the siting process is governed by Maine’s general siting statutes under Title 38 M.R.S. § 481–490.



The Mars Hill Wind Farm in Maine. Photo by Michael Surran.

Under both the Expedited Permitting of Grid-Scale Wind Energy Development and the general siting statutes, the Maine Department of Environmental Protection (MDEP) is responsible for reviewing and issuing wind energy permits.³² However, Maine also specifically preserves the right of local governments to place additional restrictions on the application standards pertaining to noise associated with a development, noting that “[n]othing in this subsection may be construed to prohibit a municipality from adopting noise regulations stricter than those adopted by the board.”³³ In order to qualify for the expedited permitting process, the applicant must be operating in an “expedited permitting area.”³⁴ As of Jan. 1, 2016, the legislature has defined “expedited permitting area” to include the organized areas of the state, subject to some exclusions, as well as other “[s]pecific places within the State’s unorganized and de-organized areas, as defined by Title 12, section 682, subsection 1.”³⁵

Generally speaking, the Maine siting permit application statute requires that an applicant meet certain development standards regarding: financial capacity and technical ability, adverse effect on the natural environment, soil types, stormwater management and erosion and sedimentation control, groundwater, infrastructure, flooding, blasting, and lastly special provisions for wind

²⁸ *Id.* at (6).

²⁹ Me. Rev. Stat. tit. 35-A, § 3402 (2015).

³⁰ *Id.* at § 3451.

³¹ *Id.* at § 3402.

³² *Id.* at tit. 38, § 361-A.

³³ *Id.* at § 484(3)(C).

³⁴ *Id.* at tit. 35, § 3451.

³⁵ *Id.* at (3).

energy development or offshore wind power projects.³⁶ If an applicant qualifies under the “Expedited Permitting of Grid Scale Wind Energy Development” legislation, the MDEP, as a part of its siting review, will make determinations regarding the effect of the project on the scenic character of the surrounding area, the project’s impact on Bicknell’s Thrush Habitat, the tangible benefits of the development, and potential public safety issues.³⁷ Of particular significance is that the Expedited Permitting statute lays out specific criteria that the MDEP will consider while making subjective evaluations. For example, regarding a project’s effect on the scenic character of the surrounding area, the statute explains how the MDEP will consider the expectations of the typical viewer and the potential effect of the facilities’ presence on the public’s continued use and enjoyment of the scenic resource.³⁸ The statute also indicates that the MDEP will utilize quantifiable data, such as the number of turbines visible and how far they are from the scenic resource, as a part of its evaluation.³⁹

In order for the MDEP to approve a project, there must be an additional determination that the project provides tangible energy and emissions-related benefits.⁴⁰ Couched within the public safety concerns of the statute, the legislature outlines how the MDEP should make determinations regarding any setback requirements.⁴¹ The statute does not provide any guidelines regarding the typical or recommended setback distances. The MDEP will evaluate if and what distance of setback is required to protect public safety based on the recommendations of the manufacturer of the facility, as well as a professionally licensed engineer.⁴² The MDEP “may require submission of this information as a part of the application.”⁴³

C. Virginia

In contrast to the aforementioned regulatory frameworks, Virginia’s wind energy siting application process places responsibility for siting renewable energy projects on the local governments.⁴⁴ However, there is some state-level governance of the permitting process. In 2009, the Virginia General Assembly enacted the Small Renewable Energy Projects Act, which directed the state Department of Environmental Quality (VDEQ) to develop permits by rule (PBR) for the construction and operation of small-scale renewable energy projects that generate less than 100 MW.⁴⁵ This PBR requires certification by the local government that the project complies with all the applicable land-use ordinances.⁴⁶ This process further requires that the applicant provide information regarding any potential significant adverse impacts on the natural resources in the area.⁴⁷ Based on the content of this information, the VDEQ may also require a mitigation plan from an applicant.⁴⁸

³⁶ *Id.* at tit. 35 § 484.

³⁷ *Id.* at § 3452-3457.

³⁸ *Id.* at § 3452(3).

³⁹ *Id.* at (3)(F).

⁴⁰ *Id.* at § 3454.

⁴¹ *Id.* at § 3455.

⁴² *Id.*

⁴³ *Id.*

⁴⁴ Virginia Department of Energy Quality, *DEQ’s Local Government Outreach*, <http://www.deq.virginia.gov/Programs/RenewableEnergy/ModelOrdinances.aspx> (last visited Jan. 10, 2015).

⁴⁵ Va. Code Ann. §10.1-1197.5 (2009).

⁴⁶ *Id.* at § 1197.6(B)(2).

⁴⁷ *Id.* at (B)(7).

⁴⁸ *Id.* at (8).

Although Virginia has no state-level siting permit application process for large-scale wind energy facilities, the legislature has enacted several statutes clarifying Virginia’s stance on renewable energies.⁴⁹ For example, the legislature developed 14 energy objectives that cover a range of topics from increasing the efficient use of energy resources to “[r]ecognizing the need to foster those economically developable alternative sources of energy that can be provided at market prices as vital components of a diversified portfolio of energy resources.”⁵⁰ As a general matter, the restrictions enacted by the legislature are meant to ensure that statewide energy policy goals are not being subverted by local ordinances.⁵¹ Included within these statutes are provisions defining Virginia’s statewide energy policy goals.⁵² In addition to creating these goals, the legislature has adopted policies regarding the achievement of the energy policy goals.⁵³ For example, the legislature supports the research, development and promotion of the use of renewable energy resources.⁵⁴ Instead of adopting state-level policies regarding these goals, however, the legislature has enacted restrictions on the authority of local governments regarding the siting of renewable energy production facilities from wind or solar resources.⁵⁵ These restrictions allow the legislature to grant local governments limited autonomy, while simultaneously promoting the objectives of the state energy policy.⁵⁶

Any ordinance that involves the siting of renewable energy facilities must “be consistent with the provisions of the Commonwealth Energy Policy.”⁵⁷ Furthermore, the ordinance must “[p]rovide reasonable criteria to be addressed in the siting of any renewable energy facility that generates electricity from wind and solar resources.”⁵⁸ This includes “reasonable requirements” for “provisions limiting noise, requiring buffer areas and setbacks, and addressing generation facility decommissioning.”⁵⁹

For example, in Roanoke County, the Board of Supervisors adopted an ordinance specifically regulating “Large and Utility Wind Energy Systems.”⁶⁰ The ordinance addresses the siting of wind energy facilities with both general standards and application requirements.⁶¹ Roanoke County sets restrictions on a range of issues including, but not limited to: the type of tower, permissible tower colors, setback requirements, height minimums and maximums, noise, shadow flicker, tower lighting, communication and airport interference, and limits on advertising.⁶² As a part of the application requirements, the applicant must provide a physical and technical description of the project, photographic simulations, sound studies, verification of Federal Aviation Administration (FAA) compliance, a summary of wind data, shadow flicker studies,

⁴⁹ *Id.* at § 67-100 (2006).

⁵⁰ *Id.* at § 67-101 (2012).

⁵¹ *Id.* at (1).

⁵² *Id.*

⁵³ *Id.* at § 67-102 (2009).

⁵⁴ *Id.* at (1).

⁵⁵ *Id.* at § 67-103 (2011).

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Id.* at (2).

⁵⁹ *Id.* at (3).

⁶⁰ Roanoke County, Va. Code § 30-29 (2011).

⁶¹ *Id.*

⁶² *Id.*

and lastly any “additional information as deemed necessary by County staff.”⁶³ Beyond the standards laid out in the general requirements, the ordinance does not specify any criteria for evaluating this information.

D. South Dakota

In South Dakota, the permitting process is governed by S.D. Codified Laws §§ 43-13-16 through 43-13-24. Wind energy projects with a capacity at or exceeding 100 MW require a permit from the South Dakota Public Utilities Commission (SDPUC).⁶⁴ The SDPUC is the state’s primary authority regarding the permitting process for energy generation and transmission throughout the state. The SDPUC permitting process is outlined under state rule 20:10:22. Although local governments may issue more specific regulations regarding wind energy facilities, the SDPUC requirements will supersede the local ordinances upon a finding that the local regulations are “unreasonably restrictive in view of existing technology, factors of cost, or economics, or needs of parties where located in or out of the county or municipality.”⁶⁵ In addition to the SDPUC’s standards, other state agencies, including South Dakota Game, Fish, and Parks, the State Historic Preservation Office, the Department of Environment and National Resources, and the Department of Transportation, have provided nonbinding standards and guidelines for the siting and regulation of wind energy facilities. For example, the South Dakota Game, Fish, and Parks developed voluntary guidelines titled “Siting Guidelines for Wind Power Projects in South Dakota.”⁶⁶



Wind turbines at sunrise in South Dakota. Photo by PXLated.

For any wind energy project greater than 5 MW, the SDPUC requires notification four months prior to the planned start of project construction for “informational purposes.”⁶⁷ As a part of this notice, the developer must provide information regarding “the planned location of the project, the number of wind turbines, the nameplate capacity of the wind turbines, the planned method of interconnection, and the estimated construction start date and construction completion date.”⁶⁸ Other than this notification requirement, the SDPUC leaves any additional regulation for small wind energy systems to local governments.⁶⁹

To initiate the permitting process, the applicant must submit a notification to the SDPUC at least six months before the application is to be submitted.⁷⁰ Within 30 days of receiving an application, the SDPUC will schedule a public hearing, notify the relevant parties, and file a

⁶³ *Id.* at (17).

⁶⁴ S.D. Codified Laws § 49-41B-2 (2015).

⁶⁵ *Id.* at § 49-41B-28.

⁶⁶ South Dakota Game, Fish, and Parks, *Siting Guidelines for Wind Power Projects in South Dakota*, <https://gfp.sd.gov/wildlife/docs/wind-power-siting-guidelines.pdf>.

⁶⁷ S.D. codified Laws § 49-41B-25.1 (2009).

⁶⁸ *Id.*

⁶⁹ SDPUC defines “small wind energy system” as systems with a single tower height of less than 75 feet above grade.

⁷⁰ S.D. Codified Laws § 49-41B-11.

copy of the application with the auditor of the county or counties in which the proposed facility will be constructed.⁷¹ The SDPUC has six months from the date of application to make a decision on wind energy facility permits.⁷² The commission may grant the permit, deny the permit, or grant the permit with terms, conditions or modifications.⁷³ However, the SDPUC cannot modify the location of the project.⁷⁴ The state’s circuit court handles appeals of the SDPUC’s decisions; appeals may ultimately be heard before the South Dakota Supreme Court.⁷⁵

In order to receive a permit, the applicant must demonstrate that: “(1) the proposed facility will comply with all applicable laws and rules; (2) the facility will not pose a threat of serious injury to the environment nor to the social and economic condition of inhabitants or expected inhabitants in the siting area; (3) the facility will not substantially impair the health, safety or welfare of the inhabitants; and (4) the facility will not unduly interfere with the orderly development of the region with due consideration having been given the views of governing bodies of affected local units of government.”⁷⁶

As a part of the evaluation process, the SDPUC uses the Energy Facility Siting Rules, which place additional requirements on the permit application. As a preliminary matter, the applicant must provide general information about the project, including the name of the “owner and manager” of the facility, the site description, possible alternate sites, the estimated cost, and information regarding the purpose and demand for the facility.⁷⁷ Any state department, agency or units of local government may also present research and testimony regarding the potential environmental, social and economic effects of a proposed development.⁷⁸ Additionally, the applicant must provide information about the environment surrounding the site, existing land uses on the site, and how the project will comply or should preempt local zoning land use controls.⁷⁹ The applicant also must provide information about the potential effect and impacts of the proposed facility. Consequently, the applicant must provide information about the potential impact on the physical environment, terrestrial and aquatic ecosystems, water and air quality, and drainage patterns.⁸⁰ Lastly, the applicant must provide information and discussion of the potential impact on community concerns such the local economy, natural and cultural landmarks, and community dynamics.⁸¹

E. Oklahoma

In 2010, after recognizing the production and development of wind energy as an important interest of the state, the Oklahoma legislature enacted the Oklahoma Wind Energy Development Act.⁸² The statute focuses on safety concerns associated with decommissioning wind energy

⁷¹ *Id.* at § 49-41-B-15.

⁷² *Id.* at § 49-41B-25.

⁷³ *Id.*

⁷⁴ *Id.*

⁷⁵ *Id.* at § 49-41B-30.

⁷⁶ *Id.* at § 49-41B-22.

⁷⁷ S.D. Admin. R. 20:10:22:06-11.

⁷⁸ S.D. Codified Laws § 49-41B-19.

⁷⁹ S.D. Admin. R. 20:10:22:20.

⁸⁰ *Id.* at 20:10:22:15.

⁸¹ *Id.* at 20:10:22:23.

⁸² Okla. Stat. tit. 17 § 160.11-22, 160.12(2) (2011).

facilities.⁸³ Under the “legislative findings,” the Oklahoma legislature noted that “[w]ind energy facilities, if abandoned or not properly maintained, could pose a hazard to public health, safety, and welfare through mechanical failures, electrical hazards, or the release of hazardous substances.”⁸⁴ Although, the Wind Energy Development Act does not outline any particular state-level siting permit application process, it places some restrictions on the construction of wind energy production facilities.⁸⁵ One of the first restrictions the Act places on developers involves financial security: “[t]he owner of a wind energy facility shall submit to the Corporation Commission evidence of financial security to cover the anticipated costs of decommissioning the wind energy facility.”⁸⁶ Additionally the statute also requires that the owner of the wind energy facility maintains certain insurance requirements.⁸⁷ Lastly, the statute has a setback requirement preventing the construction of a wind energy facility within one-and-a-half nautical miles from any airport, public school or hospital.⁸⁸

Under the Wind Energy Development Act, the owner must meet certain notification requirements prior to construction.⁸⁹ In the event that a facility owner decides to commence construction without meeting the notification requirements, the owner will be subject to “an administrative penalty not to exceed One Thousand Five Hundred Dollars (\$1,500.00) fine per day.”⁹⁰



Wind turbines in Weatherford, OK. Photo by Christopher Neel.

Without the presence of a state-level permitting process, the regulation of wind energy development takes place at the local government level. For example, the cities of Tuttle and Yukon both require a permit application for any wind energy facilities.⁹¹ Much like at the state level, however, the local ordinances are concerned with the physical safety of the systems.⁹² In Yukon, for example, there are requirements for the minimum and maximum height of the rotor blades, manual and automatic overspeed controls, FAA notification requirements, and preventative measures to keep unauthorized individuals from accessing a tower.⁹³ The Yukon ordinance also places restrictions on the noise level of the wind energy conversion system at the property line.⁹⁴ Although the Tuttle ordinance addresses similar concerns, neither the Yukon nor Tuttle ordinances include any considerations or evaluations involving either wildlife or natural resource concerns, or the visual impact of the towers.⁹⁵

⁸³ *Id.* at § 160.12.

⁸⁴ *Id.*

⁸⁵ *Id.* at § 160.14-22.

⁸⁶ *Id.* at § 160.15(A).

⁸⁷ Okla. Stat. tit. 17 § 160.19.

⁸⁸ *Id.* at § 160.20.

⁸⁹ *Id.* at § 160.21.

⁹⁰ *Id.* at (D).

⁹¹ City of Tuttle, Okla., Code Chapter 4, Article 5 § 4-136; City of Tuttle, Okla., Code Chapter 18, Article 7 § 18-174.

⁹² See *Id.*

⁹³ City of Yukon, Okla., Code Chapter 18, Article 7 § 18-174.

⁹⁴ *Id.* at (8).

⁹⁵ City of Tuttle, Okla., Code Chapter 4, Article 5 § 4-136; City of Yukon, Okla., Code Chapter 18, Article 7 § 18-174.

F. Texas



The Department of Energy/Sandia Scaled Windfarm Technology facility in Lubbock, Texas. Photo by Lloyd Wilson/SandiaLabs.

Texas operates on the opposite end of the regulatory spectrum from states such as Oregon. Beyond requiring a certificate of public necessity and convenience to demonstrate the need of a facility,⁹⁶ the state government's only involvement with the wind energy development process involves the state determination of "Competitive Renewable Energy Zones" (CREZ), where the state will develop a plan to construct the transmission capacity necessary to deliver the energy to customers.⁹⁷ The Public Utility Commission of Texas is the agency responsible for designating an area as a CREZ.⁹⁸ As a part of this process, the Commission must develop a plan to construct the transmission capacity that is necessary to deliver the electric output from renewable technologies "in a manner that is most beneficial and cost-effective to the customers."⁹⁹ Lastly, the Commission is required to "consider the level of financial commitment by generators for each competitive renewable energy zone in determining whether to designate an area as a competitive renewable energy zone and whether to grant a certificate of convenience and necessity."¹⁰⁰

Despite this delegation of authority to the local governments, many of the cities with wind energy in their jurisdiction have no specific regulations regarding such development beyond their normal building permit requirements. However, some cities, like Abilene, have developed specific wind energy system permitting processes.¹⁰¹ Abilene separates the permitting process into general requirements and application requirements. The general requirements on a wind energy conversion system address the location, height, minimum setback, noise levels, shadow flicker, visual appearance and signal interference associated with the facility.¹⁰² The ordinance further specifies that the project be in compliance with both FAA and Federal Communications Commission standards.¹⁰³ As a part of the application requirements, the applicant must present a physical description of the facility and project site, as well as information about the wind systems specifications.¹⁰⁴ The city ordinance, however, does not explain how this information will be evaluated, nor does it include any considerations on the environmental impact of the proposal. The lack of a statewide policy pertaining to wind energy facility siting has led to siting disputes to be resolved in courts. One observer suggests that a combination of factors have led courts to become "very hostile to nuisance suits brought by private citizens against wind farms."¹⁰⁵ In one case, the Texas Appellate Court did not allow the jury to consider whether "the Plaintiffs are

⁹⁶ Tex. Util. Code § 37.051.

⁹⁷ *Id.* at § 39.004(g).

⁹⁸ *Id.* at § 39.004(g)(1).

⁹⁹ *Id.* at (g)(2).

¹⁰⁰ *Id.* at (g)(3).

¹⁰¹ Code of City of Abilene, Tex., Land Development Code, Chapter 2, Division 7.

¹⁰² *Id.* at § 2.4.7.1-6.

¹⁰³ *Id.*

¹⁰⁴ *Id.* at § 2.3.7.3(d).

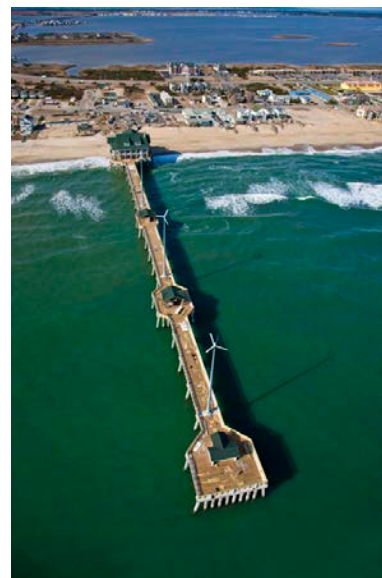
¹⁰⁵ Comment. Stemmer, Ophir (2011). "Why is Texas the Leading State for Wind Power?" *George Washington University Journal of Energy and Environmental Law*, <http://gwjeel.com/2011/03/20/why-is-texas-the-leading-state-for-wind-power/>.

offended, disturbed or annoyed because of the way the wind turbine project has affected their landscape, scenery, or the beauty of the area,’ ... [because] the appellate court characterized most of the allegations as mere ‘emotional’ injuries.”¹⁰⁶

Wind Energy Permitting in North Carolina

In 2013, North Carolina enacted legislation developing a mandatory permit application process for the “construction, operation, or expansion activities associated with a wind energy facility in this State.”¹⁰⁷ Under the statute, a wind energy facility includes: “the turbines, accessory buildings, transmission facilities, and any other equipment necessary for the operation of the facility that cumulatively, with any other wind energy facility whose turbines are located within one-half mile of one another, have a rated capacity of one megawatt or more of energy.”¹⁰⁸ The application process, which is managed by the Department of Environmental Quality (NCDEQ),¹⁰⁹ may be separated into three distinct phases:

- (1) Pre-application: the duties and obligations of a permit applicant leading up to the actual submission of the application materials;
- (2) Submission: the permit application requirements and the technical details associated with submission; and
- (3) Post-application: the criteria used to evaluate a permit application, as well as the continuing obligations that arise should a permit be granted.



Jennette's Pier in Nags Head, part of the N.C. Aquariums, has wind turbines among its environmentally friendly features. Photo courtesy N.C. Aquariums.

A. Pre-application Phase

The pre-application phase begins “[n]o less than 180 days prior to filing an application for a permit to construct, operate, or expand a wind energy facility,” at which point the permit applicant must “request a pre-application site evaluation to be held between the applicant and the Department.”¹¹⁰ According to internal NCDEQ documents, requests for the pre-application site evaluation should be sent to the NCDEQ.¹¹¹ This site meeting must occur 120 days prior to filing an application and may be used to determine if the proposed project poses a serious risk to military operations, civil or military air navigation, or natural resources and uses.¹¹² The initial site evaluation may also be used to identify areas that would help mitigate any civil, military or

¹⁰⁶ *Id.* (quoting *Rankin v. FPL Energy, LLC*, 266 S.W.3d 506, 508-511 (Tex. App. 2008)).

¹⁰⁷ N.C. Gen. Stat. § 143-215.116.

¹⁰⁸ *Id.* at § 143-215.115.

¹⁰⁹ *Id.* at § 143-212.

¹¹⁰ *Id.* at § 143-215.117.

¹¹¹ Pat McCrory, Tracy E. Davis & Donald R. van der Vaart, Procedures for the Permitting Program for the Siting and Operation of Wind Energy Facilities Pursuant to Session Law 2013-51, N.C. Gen. Stat. §§ 143-212, 143-215.115-126 1 (2015).

¹¹² *Id.*

natural resource impacts of the proposed construction.¹¹³ Based upon NCDEQ internal citing documents, there is no indication that any binding obligations or decisions are made at this time.¹¹⁴

However, “[n]o less than 45 days prior to the date of permit pre-application site evaluation meeting, the permit applicant must submit a pre-application package.”¹¹⁵ The NCDEQ staff should follow up with the applicant no less than 40 days prior to the date of the scheduled site meeting to verify that the pre-application package was filed by the applicant.¹¹⁶ The pre-application package must include a narrative description of the size and capacity of the project proposal, a map showing the approximate location, and an anticipated construction timeline.¹¹⁷ The package also requires a preliminary description of any known potential impacts on civil or military air navigation, military operations, or wildlife resource concerns.¹¹⁸ As a part of these requirements, the statute provides possible sources of the relevant information.¹¹⁹ Based on the language contained within the statute, the applicant “may” use these sources, but would appear free to procure the required information elsewhere.¹²⁰ Lastly, this package must include a list of the federal, state and local agencies “from which approvals will be obtained and . . . required to authorize construction, operation, or expansion of the proposed wind energy facility.”¹²¹

As a part of the NCDEQ evaluation, agency staff should evaluate the pre-application package for completeness.¹²² If any of the aforementioned items are missing, the deficiency should be identified and the applicant given notice within 10 working days of receipt of the package.¹²³ If the submission containing the names and addresses of interested parties is “incomplete, or if DENR [now known as NCDEQ] identifies additional interested parties, staff should gather that information and provide the applicant with the list of identified parties.”¹²⁴ The NCDEQ has indicated that an interested party could be “any agency, municipality, organization or individual with an identified interest in the subject matter related to the project that wishes to participate in the review process because of its specific expertise or concern about the proposed project, or because it could be affected by the project.”¹²⁵

The third time-sensitive requirement of the pre-application process shifts the obligation away from the applicant and on to the NCDEQ. No less than 21 days prior to the date of the permit pre-application site evaluation meeting, the NCDEQ must provide written notice to a list of “Interested Parties.”¹²⁶ This requirement is intended to allow the relevant parties “the opportunity to provide information or express their concerns about the project presented by the Applicant.”¹²⁷

¹¹³ N.C. Gen. Stat. § 143-215.117.

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ McCrory, *supra* at 6.

¹¹⁷ N.C. Gen. Stat. § 143-215.117.

¹¹⁸ *Id.*

¹¹⁹ *Id.*

¹²⁰ *Id.*

¹²¹ *Id.* at (b)(5).

¹²² McCrory, *supra* at 6.

¹²³ N.C. Gen. Stat. § 143-215.119 & 124.

¹²⁴ *Id.*

¹²⁵ McCrory, *supra* at 6.

¹²⁶ N.C. Gen. Stat. at § 143-215.117(c).

¹²⁷ McCrory, *supra* at 7.

Attached with this notice is an invitation to participate in the site evaluation meeting. The list of interested parties includes the relevant agencies and departments considering the required information for the pre-application.¹²⁸ This is the first, but not only, provision of the statute creating an obligation on the NCDEQ independent of evaluating the permit application. It is unclear what remedies are available to the permit applicant should the NCDEQ not meet its obligations. For example, if the NCDEQ does not notify the interested parties 21 days prior to the site evaluation, it is unclear if this will cause a delay in process, or if the deadline requirement will be waived.

The final stage in the pre-application phase involves a scoping meeting.¹²⁹ Similar to the process involved with the site evaluation, the applicant must submit a request for a scoping meeting no less than 60 days prior to filing an application.¹³⁰ This meeting will be held no less than 30 days prior to filing.¹³¹ This request also should be sent to the NCDEQ.¹³² The purpose of the scoping meeting is for the applicant and the NCDEQ to review the permit for the proposed wind energy facility or proposed facility expansion.¹³³ After the request has been made and the meeting scheduled, the statute again imposes a duty on the NCDEQ to give notice to an expanded list of interested parties, including but not limited to: the commanding officers of each major military installation, the FAA, the U.S. Fish and Wildlife Service, and various levels of local officials.¹³⁴ At the meeting, the applicant and the NCDEQ will review the permit for the proposed project.¹³⁵ This scoping meeting represents the last obligation on the applicant prior to filing for the permit. Consequently, it is also the last opportunity for the applicant to discover or address any potential issues prior to compiling the application materials. At this stage in the application process, agency staff should “consider the concerns expressed by the applicant and by the interested parties” in order to identify “such other data as the Department may reasonably require in order to provide full consideration of a specific permit application.”¹³⁶ As a final consideration, the NCDEQ staff should provide a list of the data required to the permit applicant and then “remind the applicant of the information required by statute.”¹³⁷

Throughout the pre-application phase, the timeline of required submissions is calculated based on the filing application date. The statute does not require that any formal application filing deadline be set. Intuitively, this allows the permit applicant flexibility in compiling the necessary materials. By calculating the deadlines based on the application filing date, the permit applicant can extend the project timeline as necessary without incurring any penalty. Consequently, the pre-application timeline may be construed to function as advanced notice requirements rather than submission deadlines. However, the statute is less clear about the applicant’s ability to move the expected application filing date up in time. Based on the recurring “no less than” formulation of deadlines, there is potential for confusion when an applicant has met all of the requirements and is prepared to file an application prior to the date used to formulate the requirement timeline.

¹²⁸ N.C. Gen. Stat. at § 143-215.117(c).

¹²⁹ *Id.* at § 143-215.118.

¹³⁰ *Id.* at (a).

¹³¹ *Id.*

¹³² McCrory, *supra* at 8.

¹³³ N.C. Gen. Stat. § 143-215.118(a).

¹³⁴ *Id.* at (b).

¹³⁵ *Id.*

¹³⁶ McCrory, *supra* at 8.

¹³⁷ *Id.*

Strictly construed, the language of the statute may require an applicant who is prepared to file an application wait, despite having met all the statutorily required criteria, in order to preserve the originally constructed timeline.

B. Submission Phase

After the pre-application phase, the statute proceeds into the submission phase of the application process by listing the required materials for the permit application.¹³⁸ The list includes some of the factors previously included in the pre-application package, including the narrative description of the project, as well as a map showing the location of the proposed facility.¹³⁹ The applicant must also submit information regarding his or her right to the property in question, provide the names of the adjacent property owners, and then give notice to said property owners.¹⁴⁰ The applicant must also provide: a description of the potential civil and military air navigation routes that may be affected by the proposal, documentation that addresses any potential adverse impact on military operations and readiness as identified by the Department of Defense Siting Clearinghouse, and any mitigation actions agreed to by the applicant.¹⁴¹

The statute next requires that the applicant submit documentation that he or she has submitted either FAA Form 7460-1 or initiated an informal review by the Department of Defense Siting Clearinghouse.¹⁴² Each turbine must receive a Determination of No Hazard to Air Navigation from the FAA before a permit is issued.¹⁴³

Next, the statute requests that the application include a study on the noise impact and shadow flicker associated with the completed project.¹⁴⁴ Although the statute requests this information, the results of these studies are not referenced again in any subsequent part of the application process. Consequently, the manner in which this information will fit into the NCDEQ's overall evaluation is unclear aside from abiding by local standards.

Lastly, the statute reserves the NCDEQ's right to request "[o]ther data or information the Department may reasonably require."¹⁴⁵ Although the reasonableness of any data or informational request could be a point of contention between the applicant and the department, the statute includes limits regarding the circumstances for which the NCDEQ will not grant a permit.¹⁴⁶ Consequently, it would appear as though the "reasonableness" language will limit these requests to data or information that are reasonably related to the criteria for permit approval.¹⁴⁷

¹³⁸ N.C. Gen. Stat. § 143-215.119.

¹³⁹ *Id.* at (2).

¹⁴⁰ *Id.* at (4).

¹⁴¹ *Id.* at (5,6).

¹⁴² *Id.* at (7).

¹⁴³ *Id.* at (b).

¹⁴⁴ § 143-215.119(8,9).

¹⁴⁵ *Id.* at (14).

¹⁴⁶ N.C. Gen. Stat. § 143-215.120. The criteria for evaluating permit applications are addressed under the "Post-Application Phase" of this report.

¹⁴⁷ *Id.*

In evaluating the application package, the NCDEQ staff will make sure that the application package has included all the requisite information.¹⁴⁸ If any required information is missing, “the deficiency should be identified and the applicant notified, if possible, within 10 working days of receipt.”¹⁴⁹ The NCDEQ will be granted longer than 10 days on a case-by-case basis if, for example, the relevant NCDEQ staff member is on leave or if the application is particularly complex or time consuming to evaluate.¹⁵⁰ Upon a written request from either the commanding military officer or local government affected by the project, the NCDEQ will provide a copy of the permit application, except for any confidential documents, as well as any supplemental documents, changes or amendments to the application, within 10 days of receipt of the request.¹⁵¹ Within 75 days of receipt of the completed permit application, the NCDEQ will schedule a public hearing in each county in which the proposed facility or expansion will be located.¹⁵²

Starting no less than 45 days prior to the scheduled date of the hearing, the NCDEQ will publish notice of the public hearing in a newspaper “of general circulation” in each potentially affected county for at least two consecutive weeks.¹⁵³ The notice will include information about the time and location of the hearing, and provide that “any comments on the proposed wind energy facility or proposed wind energy facility expansion should be submitted to the Department by a specified date, not less than 15 days from the date of the newspaper publication of the notice or 15 days after distribution of the mailed notice, whichever is later.”¹⁵⁴ Comments also may be made in person at the public hearing.¹⁵⁵ Lastly, the NCDEQ will provide written notice of the hearing to the Utilities Commission, the Office of the Attorney General, the commanding military officer of any potentially affected major military installation, and the board of commissioners for each affected municipality with jurisdiction over potentially affected areas.¹⁵⁶

C. Post-Application Phase

After setting forth the requirements of the application, the statute proceeds into the post-application phase. The Secretary of the Department or his delegate¹⁵⁷ will make a decision on a permit application within 90 days following receipt of a completed application.¹⁵⁸ If the NCDEQ requests additional information after receiving the completed application, the Secretary will have an additional 30 days within which to make the decision.¹⁵⁹ If the NCDEQ staff has any questions regarding the legal sufficiency of the data included in the application, the staff should consult with the Office of General Counsel.¹⁶⁰

¹⁴⁸ McCrory, *supra* at 12.

¹⁴⁹ *Id.*

¹⁵⁰ *Id.*

¹⁵¹ *Id.* at 13.

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ N.C. Gen. Stat. § 143-215.119(c).

¹⁵⁷ McCrory, *supra* at 26. “When Appropriate Staff is identified, the Secretary may, at his discretion, delegate his authority to the appropriate Division/staff.”

¹⁵⁸ *Id.* at 16.

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

At this stage in the process, the statute outlines the criteria for permit approval, provides a time frame for permitting decisions, and indicates several potential permit conditions.¹⁶¹ Based on the language of the statute, a permit is presumed granted unless the NCDEQ finds that anyone one or more of nine conditions have not been satisfied.¹⁶² In order to deny a permit application, the Department must base their decision on one of the following enumerated criteria:

- (1) Construction of project will violate the law or the rules adopted by the NCDEQ;
- (2) Construction or operation of the project would encroach or have a significant adverse impact on “the mission, training, or operations of any major military installation or branch of military in North Carolina” that would “result in a detriment to continued military presence in the State”¹⁶³;
- (3) Construction or operation would result in significant adverse impact to “ecological systems, natural resources, cultural sites, recreation areas, or historic sites of more than local significance”¹⁶⁴;
- (4) Construction or operation would have a significant adverse impact on fish or wildlife;
- (5) Construction or operation would have a significant adverse impact on views from “any State or national park, wilderness area, significant natural heritage area ... or other public lands or private conservation lands designated or dedicated due to their high recreational values”¹⁶⁵;
- (6) Construction or navigation would create a significant obstacle to navigation in coastal waters;
- (7) The permit would be denied under the criteria set forth in N.C. Gen. Stat. 113A-120;
- (8) Construction would be prohibited under the Mountain Ridge Protection Act of 1983; and
- (9) If the applicant is “not in compliance with all applicable, State, or local permit requirements, licenses, or approvals, including zoning requirements.”¹⁶⁶

Although the NCDEQ is limited in terms of the criteria it may cite as the cause for a permit to be denied, it has retained some discretionary authority with respect to interpreting or evaluating the criteria for approval. If the NCDEQ denies a permit application, agency staff will return the application to the applicant with a written statement outlining the reasons for the denial and, “if appropriate, a list of modifications to the application that would make the application acceptable.”¹⁶⁷ However, this written statement should “not put itself in the position of making business decisions or business recommendations for the applicant.”¹⁶⁸

Lastly, staff are directed to notify the applicant of his or her right to appeal the permit decision under Chapter 150B of the North Carolina General Statutes.¹⁶⁹ In granting the permit, staff may include a permit term that allows inspection staff to perform a pre-operation inspection and

¹⁶¹ N.C. Gen. Stat. § 143-215.120.

¹⁶² *Id.* at (a). “The Department shall approve an application for a proposed wind energy facility or proposed wind energy facility expansion *unless* the Department finds any one or more of the following” (emphasis added).

¹⁶³ *Id.* at (a)(2).

¹⁶⁴ *Id.* at (a)(3). Sites of “more than local significance” include: national or State parks or forests, wilderness areas, historic sites, recreation areas, segments of the natural and scenic rivers system, wildlife refuges, preserves and management areas, areas that provide habitat for threatened or endangered species, primary nursery areas designated by the Marine Fisheries Commission and the Wildlife Resources Commission, and critical fisheries habitat identified pursuant to the Coastal Habitat Protection Plan.

¹⁶⁵ *Id.* at (a)(5).

¹⁶⁶ N.C. Gen. Stat. § 143-215.120.

¹⁶⁷ McCrory, *supra* at 16.

¹⁶⁸ *Id.*

¹⁶⁹ *Id.*

annual monitoring, or even more frequent entry, to address problems that may arise.¹⁷⁰ Additionally, the permit should include terms addressing the duration of the permit, where appropriate, based on the expected life of the permit. Lastly, the permit should also address any terms regarding revocation for permit violation or abandonment of the facility.¹⁷¹

The majority of the evaluation criteria contained within this section of the statute does not articulate any quantifiable standards for approval.¹⁷² For example, the statute makes consistent use of the expression “significant adverse impact” without explaining what such an impact would be.¹⁷³ The question as to what qualifies as “significant” is not clarified within the North Carolina statutes. While this has the benefit of allowing the NCDEQ some discretion in the decision-making process, it could become a point of confusion for a permit applicant. However, North Carolina is not the only state to use subjective rather than objective standards. Maine and Oregon both utilize subjective language in establishing some of their respective standards of evaluation.

The language contained in § 143-215.120 (a)(2) exemplifies this uncertainty in the North Carolina statute. This particular provision is concerned with denying permit application where the proposed facility would have a significant adverse impact on military operations.¹⁷⁴ As a part of this consideration, the statute outlines that the NCDEQ “may consider whether the proposed wind energy facility ... would cause interference with air navigation routes, air traffic control areas, military training routes, or radar based on information submitted by the applicant.”¹⁷⁵ It is unclear if the NCDEQ is required to use these criteria, or if it is unrestricted regarding the information used in making this evaluation. If the list is permissive and not binding, then it creates a possible avenue for arbitrarily granting or dismissing permits between similarly situated proposals — what might be sufficient grounds to qualify as a significant adverse impact for one applicant, may not be considered in an evaluation of the second. If the NCDEQ grants the permit, it may include appropriate terms that will allow staff and the applicant to “dynamically address military issues should they arise,” as a result of the annual military consultation.¹⁷⁶ However, this requirement may be waived if there are no military impacts associated with the permit.¹⁷⁷

In addition to the explicitly stated criteria for evaluation, the statute also requires that the NCDEQ make sure that the applicant is in compliance with “all applicable federal, State, or local permit requirements, licenses or approvals, including local zoning requirements.”¹⁷⁸ It is unclear whether an applicant must have actually obtained said permits, licenses or approvals in order to satisfy this requirement, or if it is acceptable that the applicant would be in compliance should he or she apply. However, the statute later explains that issuance of a permit pursuant to the NCDEQ’s evaluation does not obviate the need for the applicant to obtain any other relevant

¹⁷⁰ *Id.* at 17.

¹⁷¹ *Id.*

¹⁷² N.C. Gen. Stat. § 143-215.120.

¹⁷³ *Id.* at (a)(2).

¹⁷⁴ *Id.*

¹⁷⁵ N.C. Gen. Stat. § 143-215.120(a)(2).

¹⁷⁶ McCrory, *supra* at 20.

¹⁷⁷ *Id.*

¹⁷⁸ N.C. Gen. Stat. § 143-215.120(a)(9).

permit, license or approval.¹⁷⁹ This particular language would suggest that the applicant is not required to hold such permits, licenses or approvals at the time of the application. In either case, this particular criterion could explain the request for reports on the potential noise impact and shadow flicker associated with a project because these are areas that would likely be governed by a local ordinance and not by any statewide standards. The statute could be amended to incorporate Oregon’s “one-stop” approach to the permitting process; however, it appears that the legislature expressly intended to let local governments enforce their own ordinances.

Unlike either Oregon or Maine, the North Carolina statute does not contain any provision regarding an expedited track for evaluation. However after submission, North Carolina’s standard period of review of 90 days is shorter than either Oregon’s or Maine’s expedited evaluations.¹⁸⁰ This 90-day decision deadline may be extended until the FAA has issued a Determination of No Hazard to Air Navigation.¹⁸¹ The NCDEQ is not required to make a decision until it has received this determination from the FAA,¹⁸² but may issue a conditional permit, or hold the final decision altogether, while the determination is pending.¹⁸³ Furthermore, in the event that the NCDEQ requests additional information, it will have an additional 30 days to review the application after receipt of the requested information.¹⁸⁴

The North Carolina statute closes out by requiring certain financial assurances, annual monitoring and reporting, an explanation for the process of incorporating new rules, and what civil penalties a permit holder may incur for failing to comply with the statutory requirements.¹⁸⁵ Similar to Virginia and Oklahoma, the North Carolina statute address the decommissioning phase of the energy facility. For example, the financial assurance provisions are specifically targeted at the decommissioning of the facility. The applicant must “ensure that sufficient funds are available for decommissioning of the facility and reclamation of the property to its condition prior to commencement of activities on the site, even if the applicant becomes insolvent.”¹⁸⁶ However, unlike Oregon, Oklahoma or Maine, the North Carolina statute does not specifically address any concerns of public safety regarding the operation or maintenance of the energy facility. If the applicant-submitted decommissioning plan is adequate, it will be included as a condition to the permit that must be followed at the end of the project’s life.¹⁸⁷ The NCDEQ staff may also require advanced notice of any plans to decommission a project in order to make sure that the required site inspections can be made.¹⁸⁸ In the case of abandonment, the financial assurances or the permit conditions should include a mechanism that allows the state to decommission the facility and to be reimbursed for the cost of decommissioning.¹⁸⁹

¹⁷⁹ *Id.* at (c).

¹⁸⁰ N.C. Gen. Stat. § 143-215.120(b).

¹⁸¹ *Id.*

¹⁸² McCrory, *supra* at 16.

¹⁸³ *Id.*

¹⁸⁴ N.C. Gen. Stat. § 143-215.120(b).

¹⁸⁵ The financial assurances can be met “in a number of ways.” Examples of financial assurances that the NCDEQ would find sufficient are in “Financial Assurance for Solid Waste Management Facilities,” at <https://deq.nc.gov/about/divisions/waste-management/waste-management-permits/solid-waste-section-financial-assurance>. If the applicant wishes to use alternate methods that are not listed, the NCDEQ notes that staff will consider those assurances on a case-by-case basis.

¹⁸⁶ N.C. Gen. Stat. § 142-215.121.

¹⁸⁷ McCrory, *supra* at 17.

¹⁸⁸ *Id.*

¹⁸⁹ *Id.* at 19.

As a part of the monitoring requirements, the NCDEQ staff will schedule an annual follow-up date for each year that the facility permit has been granted.¹⁹⁰ The one-year follow-up date should be calculated one year after the issuance of the permit.¹⁹¹ As a part of the follow up, the NCDEQ should analyze and monitor the documents and reports that have been submitted by the applicant as outlined in § 143-215.122.¹⁹² For example, the applicant should annually submit copies of any post-permit construction reports to the NCDEQ, such as reports on wildlife impact or potential facility expansion.¹⁹³ Additionally, the NCDEQ staff may include permit terms that grant the agency the authority to require action to avoid or mitigate, based on practicability, any adverse impacts discovered during the monitoring stage of development.¹⁹⁴ This condition may be waived if the permit holder is subject to other permits that sufficiently cover these concerns.¹⁹⁵ In the event that the permit holder is found in violation of any of the aforementioned conditions, the permit holder should be notified and, where appropriate, should be penalized as outlined in N.C. Gen. Stat. §143-215.126.¹⁹⁶

In contrast to Virginia, the North Carolina statute does not expressly place a limit on the authority of local governments to pass ordinances regarding the development of wind energy. For example, prior to the passage of HB 484 into law, Carteret County enacted an ordinance that indirectly addresses the local requirements for any wind energy facility.¹⁹⁷ As a part of this ordinance, Carteret County established more specific standards than the state regarding noise levels, shadow flicker and visual impact.¹⁹⁸ For example, Carteret County requires computer-generated modeling and pictorial representations in order to evaluate the proposal's visual impact.¹⁹⁹ The ordinance also sets specific parameters on requirements like the Environmental Impact Study, where the ordinance outlines the scope and methodology of the report.²⁰⁰ Unlike the state-level permitting process however, Carteret County outlines specific minimum setback requirements for wind turbines as measured from any public or private property line or access easement.²⁰¹ For example with a "utility-scale" wind energy facility that produces 1,000 kW or more, the required setback is calculated at 6 feet of setback for each foot of height, with a maximum permissible height of 550 feet.²⁰²

Although not all local governments in North Carolina have ordinances governing the permitting process for wind energy development, the Carteret County ordinance raises a question as to the function of the state-level permitting process. Unlike Oklahoma or Texas, North Carolina made the policy decision to take a lead role in the permitting process, rather than leaving the issue to the discretion of local governments. North Carolina also has taken its involvement a step further than Virginia, which involves the state's legislature only to the extent necessary to ensure that local governments are not being unreasonable in their ordinances. Unlike Maine and Oregon,

¹⁹⁰ *Id.* at 18.

¹⁹¹ *Id.*

¹⁹² *Id.*

¹⁹³ N.C. Gen. Stat. § 143-215.122.

¹⁹⁴ McCrory, *supra* at 18.

¹⁹⁵ *Id.*

¹⁹⁶ *Id.*

¹⁹⁷ Carteret County, N.C., Code, Appendix F, Article 3.

¹⁹⁸ *Id.*

¹⁹⁹ *Id.* at § 4-4 (D)(1).

²⁰⁰ *Id.* at § 3-2.5.

²⁰¹ *Id.* at Article 1, § 3-3.

²⁰² *Id.*

however, the North Carolina process does not operate in concert or in place of the local permitting process. Instead, the North Carolina permitting process operates as a distinct evaluation that neither incorporates nor limits the authority of local governments to further legislate the issue. Consequently, the North Carolina permitting process operates in between the two ends of the regulatory spectrum without fully realizing the benefits of either side.

Conclusion

As currently written, North Carolina's wind permitting program includes unique features, such as the evaluation of local military impacts, the evaluation of impacts upon navigating coastal waters, and a required consistency with other rules adopted by the NCDEQ. More clarity and additional information surrounding these and other policy features unique to North Carolina would make evaluation of prospective wind investments easier for out-of-state investors.

Providing objective standards to determine permit approval could also clarify key details for potential projects. The criteria for permit approval under § 143-215.120 are all subjective, albeit to varying degrees. Five of the nine criteria rely heavily upon evaluations without reference to objective standards. These include:

- (1) Inconsistency with or violation of other rules adopted by the NCDEQ.
- (2) Encroaching upon or causing “a significant adverse impact” on military operations.
- (3) Significant adverse impacts to ecological systems, natural resources, cultural sites, recreation areas, or historic sites of more than local significance.
- (4) Significant adverse impact on fish or wildlife.
- (5) Significant adverse impact on views from any state or national park, wilderness area, significant natural heritage area as compiled by the North Carolina Natural Heritage Program, or other public lands or private conservation lands designated or dedicated due to their high recreational values.

When materials are required for the application, it is often unclear what criteria will be utilized for permit approval evaluations. Under § 143-215.120(a)(5), for example, the NCDEQ may deny a permit upon a finding that the proposed facility would have a significant adverse impact on views from designated areas. However, there is no requirement that the applicant submit any information pertaining to the visual impact of the project. Consequently, it is unclear as to what information the NCDEQ would, or even should, be relying on in making the relevant determination.²⁰³ Conversely, the statute also requires the applicant to submit information, such as studies on noise and shadow flicker impacts, without any clear indication as to how, if at all, this information will be used in evaluating the application. Many other states offer guidelines or have binding requirements for noise and shadow flicker information submitted to state entities for evaluation and also provide specific criteria used to evaluate site-specific information. When viewed in conjunction, these concerns demonstrate how the statute leaves a potential applicant with questions that may be answered only after initiating the application process.

²⁰³ For example, under § 143-215.120(a)(6), the NCDEQ will not grant a permit if it finds that the facility will obstruct a “major navigation channel or create a significant obstacle to navigation in coastal waters, as determined by the United States Army Corps of Engineers and the United States Coast Guard.” However, at no point in the required listing of permit application materials is there any reference to navigable waters, the Army Corp of Engineers or the United States Coast Guard.

Lastly, the statute is extremely specific when it comes to notifying stakeholders, but not at all specific when it comes to siting, a key issue for scoping of projects. The statute outlines in detail all the parties that need to be notified and when, but it does not provide the necessary information a developer may need to quickly assess the feasibility of investing in a particular site.

While none of these issues render the statute fatally flawed, as currently written, the statute does not offer potential developers a great deal of certainty should they attempt to self-assess the viability of a project on their own. This in turn may have an impact on deterring wind industry investment in North Carolina. Consequently, adding additional clarification in these areas could help eliminate or minimize the regulatory uncertainties that may deter potential investment in North Carolina.