Permitting Small-Scale Wind Projects in New England

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Introduction

– An overview of federal permitting requirements, which apply to all projects equally.

– Permitting requirements of each New England state.
  • Some states have different requirements for small scale projects while others treat all projects the same.

– A brief discussion of local permitting ordinances.

– An overview of the studies needed to meet permitting requirements.
Small Scale Wind Defined (AWEA)

- **Distributed Wind** – Small and mid-sized turbines between 1 kilowatt and 1 megawatt, installed to produce electricity at the point of use.

- **Community-Scale Wind** – Projects greater than 1 MW, but generally less than 20 MW in name-plate capacity, producing electricity for off-site use, partially or totally owned by members of a local community.
Resource and Impact Types Addressed by Wind Project Permits

- Scenic Resources
- Shadow Flicker
- Noise
- Public Safety, Zoning, Setbacks
- Financial Capacity, Public Good, Decommissioning
- Cultural Resources
- Natural Resources
  - Wetlands/Soils/Water Quality
  - General Fisheries and Wildlife, Protected Species
Levels of Permitting

– Federal
  • Cultural Resources
  • Natural Resources
    – Wetlands
    – Protected Species
– State
  • All Topics
– Local/Municipal
  • Noise, Shadow Flicker
  • Public Safety, Zoning, Setbacks, Decommissioning
Federal Permits

– There are no Federal permits specific to wind power.

– Like any other type of development project, wind projects that meet applicable thresholds must obtain federal permits.
  • Wetlands – Clean Water Act
  • Federal Aviation Safety
  • Endangered Species Act, MBTA, BGEPA
  • Cultural Resources

– USFWS Wind Siting Guidelines
Permitting Requirements vary substantially from State to State.

- Some states have developed a wind-specific permitting process.

- Some states apply existing statutes regarding general development projects.
Local/Municipal

– Zoning ordinances apply, some specifically address wind turbines and/or other tall structures, some do not.

– Some localities have wind specific ordinances
  • May include considerations of safety, setbacks, financing, noise, lighting, aesthetics, operations, and decommissioning.
  • Some are crafted to limit wind development.

– Lack of local ordinances or specific zoning can slow or stop projects.
Maine

– Well-developed State-level regulatory process for wind projects under Title 38 and 35-A.

– Small-scale wind defined by statute as larger than 1 MW, but with a project area of less than 20 acres.

– Small-scale treated differently than grid-scale wind development:
  - Project must meet the noise, shadow flicker and safety setback standards.
  - Project may need to meet natural resource impact standards and/or stormwater standards depending on the size and location of the project.

– Some municipalities have local wind ordinances.
New Hampshire

– Governed by Title XII Public Safety and Welfare Chapter 162-H
  • Applies to all energy developments greater than 30 MW automatically.
  • Renewable projects 30MW or less but greater then 5 MW can be included by petition.

– Applicant must demonstrate adequate financial, technical, and managerial capability to construct and operate the facility.

– Project must not have an “unreasonable adverse effect” on aesthetics, historic sites, air and water quality, the natural environment, and public health and safety.

– Few municipalities have local wind ordinances.
Vermont

- Permitting of wind projects is regulated by 30 V.S.A. § 248. *New gas and electric purchases, investments, and facilities; certificate of public good.*

- Applies to all energy projects greater than 150 kW in size.

- Project may not have an “undue adverse effect” on esthetics, historic sites, air and water purity, the natural environment and the public health and safety.
Connecticut

- State-level permitting requires a Certificate of Environmental Compatibility and Public Need for renewable energy projects greater than 1 MW (Connecticut General Statute § 16-50).

- Certificate issued based on compliance with local statues including municipal zoning and wetland regulations.

- Public hearings and meetings conducted at the municipal level.

- Lack of municipal capacity and wind-specific ordinances makes permitting slow and unpredictable.
Massachusetts

– Currently no State-level wind-specific regulatory process.
– All local and state general development permitting regulations apply (e.g., zoning, wetlands, stormwater, NHESP).
– Small wind not treated differently than grid-scale wind development.
– Many municipalities have local wind ordinances.
Rhode Island

- Has been focused on grid-scale, off-shore wind.
- Currently no terrestrial wind-specific regulatory process.
- Small wind treated like general development, all general state and local permitting regulations apply (e.g., zoning, setbacks, wetlands, stormwater).
- Many municipalities are currently developing local wind ordinances.
Studies Needed for Permitting
Noise, Shadow Flicker, Visual Impacts

– Noise - model operational conditions, estimate impacts based on assumptions.
– Shadow Flicker – model operational conditions.
Cultural Resources

– Historic Resources
  • Identify and evaluate existing resources within the viewshed.
  • Apply results of viewshed analysis.
  • Develop mitigation plan as needed.

– Archeological Resources
  • Evaluate potential for and document resources in the construction zone.
Natural Resources

– Wetlands, Water Quality
  • Includes streams and vernal pools
  • Delineate all resources
  • Develop site plans that minimize impacts
  • Develop a mitigation plan for unavoidable impacts

– Fisheries and Wildlife
  • Birds, Bats
  • Terrestrial Wildlife
  • Aquatic Species
Birds and Bats - Impacts

– Mortality due to strike
– Habitat impacts
– Migration corridors
Birds and Bats – Study Methods

- Breeding bird surveys
- Raptor migration surveys
- Radar surveys
- Acoustic surveys
- Post-construction mortality surveys
Radar Surveys

- Standard marine radar units
- Does not differentiate target type (birds vs. bats)
- Direction, speed, height, and number of targets
Acoustic Surveys

- Limited sample zone
- Species present, relative use and abundance only
- Does not tell you how many bats
- May or may not predict risk of mortality
Post-Construction Mortality Surveys
Questions?

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