

State of Maine Model Comprehensive Wind Energy Facility Ordinance

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Governments



Why This Ordinance Now?

- High energy costs have generated a lot of interest in small and grid-scale wind power.
- Increasing numbers of small and large wind power facilities constructed and proposed.
- Wind power has obvious multiple benefits but potential for negative sometimes controversial impacts such as aesthetics, noise and safety.

Why This Ordinance Now? (cont.)

- Many municipalities ill-prepared to review wind power facilities
- Numerous municipal queries to SPO and regional COGs for ordinance provisions regulating small and large wind energy facilities
- Governor's Task Force on Wind Power Development charged MESPO with developing a model ordinance by Spring 2009

Model Ordinance Preparation

- Product of reviewing numerous ordinances and reports related to small and large wind energy facilities
- Ordinance drafts were reviewed by SPO and an advisory group of stakeholders

Comprehensive Ordinance

- Some standards apply to all wind energy facilities (WEF)
- Other standards apply specifically to small (Type 1) WEF
- Some standards apply only to large (Type 2 and 3) WEF
- Model can be stand-alone ordinance or part of a land use ordinance

Classification of Wind Energy Facilities

Term and Type	Turbine Height	Aggregate Capacity
Wind Energy Facility Type 1A	Less than or equal to 80'	Less than or equal to 100 kW
Wind Energy Facility Type 1B	Greater than 80'	Less than or equal to 100 kW
Wind Energy Facility Type 2	NA	Greater than 100 kW
Wind Energy Facility Type 3	NA	Greater than 100 kW

Classification of Wind Energy Facilities (cont.)

Term and Type	Review and Permit(s) and Certificate Required
Wind Energy Facility Type 1A (limited to one turbine)	CEO review Local Building Permit
Wind Energy Facility Type 1B	Municipal Reviewing Authority (MRA) review Local Conditional Use (CU) or Special Exception(SE)
Wind Energy Facility Type 2	MRA review Local CU or SE Permit DEP Site Location law Certificate if energy generated primarily used by person other than the generator
Wind Energy Facility Type 3	MRA review Local CU or SE Permit DEP Site Location law Permit

Meteorological (MET) Towers

- Used to measure and collect wind data
- Same requirements as Type 1A WEF except no height limitation
- Permit valid for 26 months with annual extensions possible
- Guy wires allowed if bird flight diverters included

Wind Energy Facility (WEF) Standards

- General WEF Standards
- Type 1 WEF Standards
- Type 2 and 3 Standards

General WEF Standard Setbacks

- 150% of turbine height from property boundaries, public or private ROWs and overhead utility lines not part of the Generating Facility.
- Waivers possible
- No minimum lot size (MLS) but setbacks establish de facto MLS.

General WEF Standard

Natural Resource Protection

- Must have no adverse effect on rare, threatened, or endangered wildlife or plants, significant wildlife habitat and rare and exemplary plant communities
- Written comments/ recommendations from Maine Department of Inland Fisheries and Wildlife's Environmental Coordinator and Maine Natural Areas Program required

General WEF Standards

Uniform Construction Code

- Shall comply with Maine Uniform Building and Energy Code

Controls and Brakes

- Requires overspeed controls and mechanical brakes

Access

- Doors must be labeled and locked.
- Towers must not be climbable up to 15 feet above ground surface

General WEF Standards

Blade Clearance

- Minimum distance from any blade to ground is 25 feet.

Signal Interference

- Avoid/mitigate loss of radio, telephone, TV, etc. signals to practicable extent

General WEF Standards

Structure Type

- Must be monopole unless no practicable alternative or if MET tower

Erosion Control

- Must employ best management practices (BMPs) from Maine Erosion Control Handbook

General WEF Standard

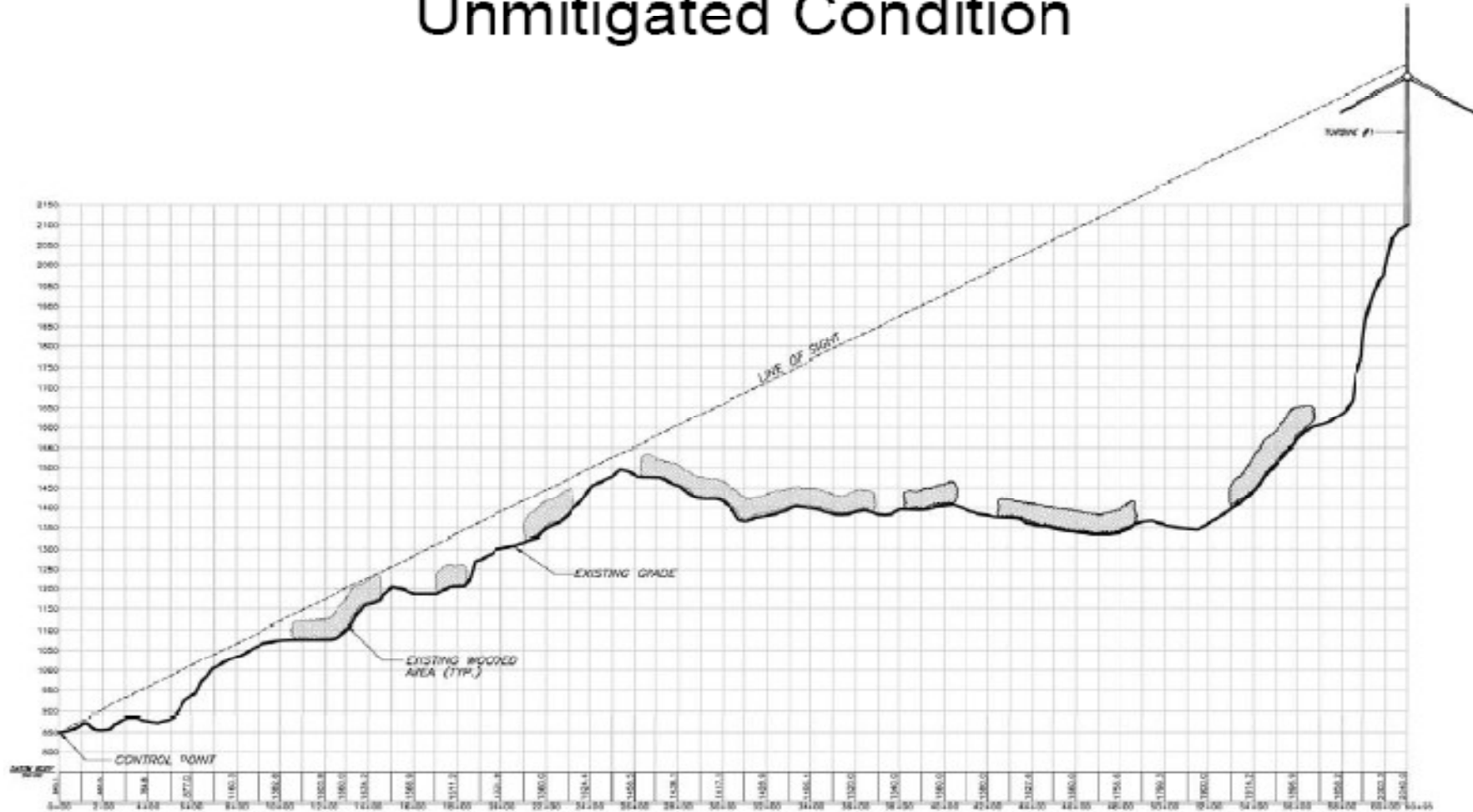
Visual Appearance

- Shall be non-obtrusive color: white, off-white, or gray unless otherwise required by another governmental agency
- No artificial lights unless required by FAA or other governmental agency
- No signs or advertising except reasonable identification of turbine manufacturer, facility owner and operator and for warnings

Type 1B and 2 WEF Standard Visibility

- Maximize existing vegetative, structural, topographic screening between turbine(s) and Occupied Buildings, Scenic Resources, and public roads to greatest practical extent
- Augment existing screening via vegetative plantings when existing features do not screen views if its feasible and effective
- Locate plantings as near as possible to Occupied Buildings, Scenic Resources and public roads

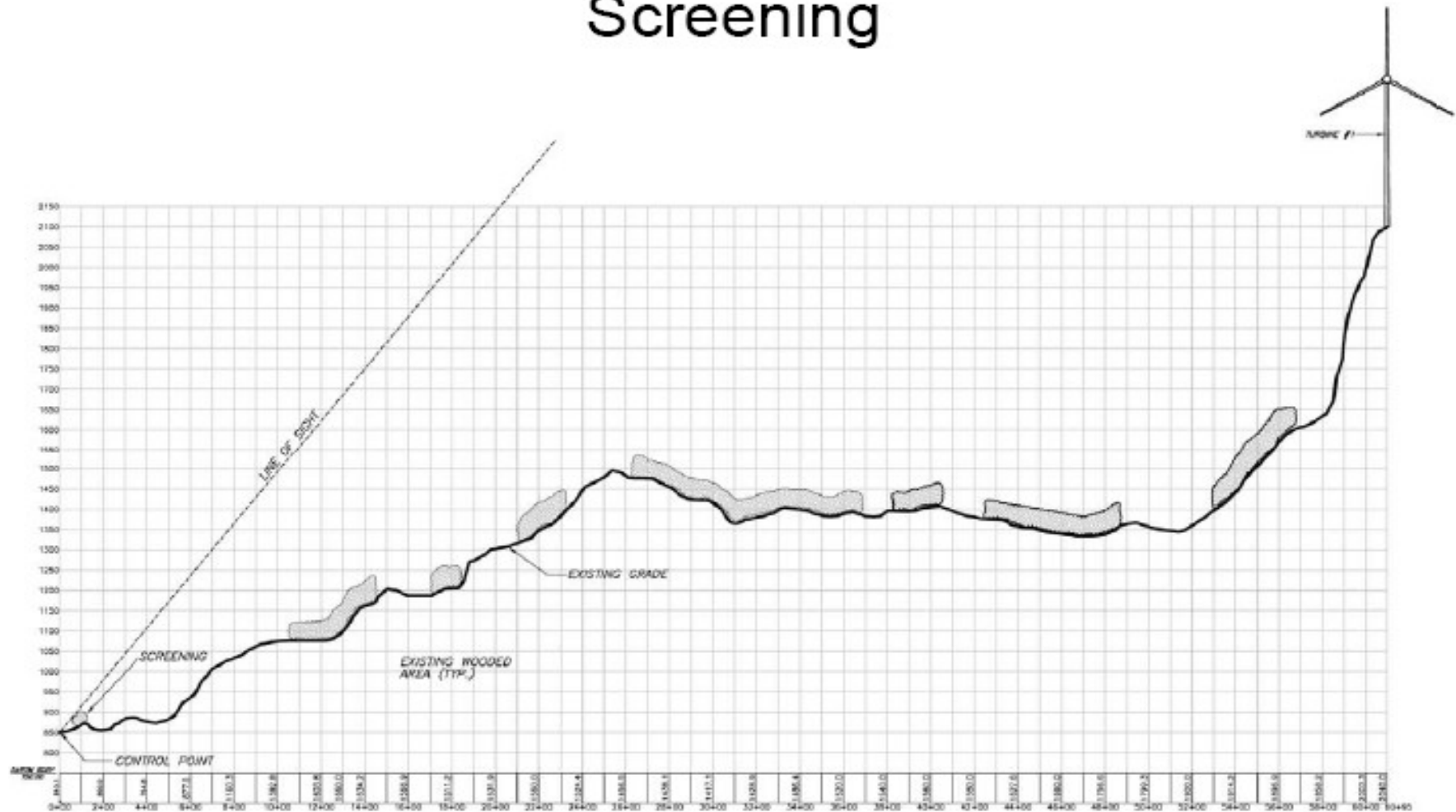
Unmitigated Condition



Line of Sight Profile 1
From Downtown Historic District to Turbine #1
PROPOSED WINDFARM DECEMBER 2005

Note: Structures Appear Elongated Due to Exaggerated Vertical Scale

Screening



Line of Sight Profile 1
From Downtown Historic District to Turbine #1
PROPOSED WINDFARM DECEMBER 2005

Note: Structures Appear Elongated Due to Exaggerated Vertical Scale

Type 1A and 1B WEF Standard Sound Limits

Protected Location with sleeping quarters

\leq 500 feet	45dBA	7PM – 7AM
	55dBA	7AM – 7PM
> 500 feet	55dBA	at all times
No sleeping quarters	55dBA	at all times
@ Prop. Boundaries	75dBA	at all times

Type 1A and 1B WEF Standard

Discontinued Use

- Deemed discontinued use if not generating electricity for 12 months and shall be removed within 120 days
- Must reclaim site to pre-construction condition at applicant's expense

Type 2 and 3 WEF Standard

Sound

- Shall comply with sound-level limits in Chapter 375 Section 10 of Board of Environmental Protection rules concerning Site Location of Development law

Type 2 and 3 WEF Standard

Shadow Flicker

- Means alternating changes in light intensity caused by the movement of Wind Turbine blades casting shadows on the ground or a stationary object
- Shall be sited and designed to avoid unreasonable adverse Shadow Flicker effects on any Occupied Building on a Non-Participating Landowner's property
- Must demonstrate via modeling software approved by DEP

Type 2 and 3 WEF Standard

Use of Public Roads

- Pre-construction and post-construction road conditions must be documented by town engineer, road commissioner, etc.
- Road damage from project must be promptly repaired at Applicant's expense
- Applicant must demonstrate sufficient financial resources and a security may be required

Type 2 and 3 WEF Standards

Artificial Habitat

- Minimize artificial habitat for raptors and raptor prey
- Shall consider required Maine Department of Inland Fisheries and Wildlife review comments

Warnings

- Must place warning sign about voltage at base of pad-mounted transformers and substations

Type 2 and 3 WEF Standard

Local Emergency Services

- Shall provide project summary and site plan to local emergency service providers (ESP)
- Shall cooperate with ESP in developing and implementing an emergency response plan if requested
- Shall equip with appropriate fire suppression system

Type 2 and 3 WEF Standard

Design Safety Certification

- Shall conform to applicable industry standards including those from American National Standards Institute and at least one other from a list of certifying organizations.

Liability Insurance

- Shall maintain a current general liability policy commensurate with scope and scale of WEF

Type 2 and 3 WEF Standards

Public Inquiries and Complaints

- Shall provide phone # and contact information for any inquiries or complaints for life of project
- Shall make reasonable efforts to respond to inquiries and complaints

Decommissioning

- Shall prepare plan in accordance with DEP decommissioning requirements

Scenic Resource

Definition

- Defined as either a Scenic Resource of state or national significance, as defined in Title 35-A M.R.S.A. Section 3451(9) or a Scenic Resource of local significance located within municipality and identified as such in a comprehensive plan found to be consistent by the Maine State Planning Office and adopted by the municipal legislative body, or in an open space plan or scenic inventory adopted by the municipal legislative body.

Type 2 and 3 WEF Standard

Effect on Scenic Resources/ Criteria

- A. The significance of the potentially affected Scenic Resource;
- B. The existing character of the surrounding area;
- C. The expectations of the typical viewer;
- D. Type 2 and 3 WEF's purpose and the context of the proposed activity;
- E. The extent, nature and duration of potentially affected public uses of the Scenic Resource and potential effect on the public's continued use and enjoyment of the Scenic resource;
- F. Scope and scale of potential effect of views including number, extent and distance of turbines visible from scenic resource and effect of development on the landscape.

Type 2 and 3 WEF Standard

Effect on Scenic Resources

Visual Impact Assessment (VIA)

- VIA required ≤ 3 miles to Scenic Resource
- VIA required > 3 miles ≤ 8 miles only if meets Effect on Scenic Resources criteria A – F
- VIA not required > 8 miles

Decision Determination on Effect on Scenic Resources

- Whether WEF significantly compromises views from a Scenic Resource such that WEF has an unreasonable adverse effect on scenic character or existing uses related to scenic character of that Scenic Resource is determined by Effect on Scenic Resources criteria A - F

Type 2 WEF Standard

only if primarily used by Person other than generator

Relationship to DEP Certification

- Must obtain DEP Certificate that certifies safety setbacks, sound (noise), and shadow flicker
- With DEP Certificate Municipal Reviewing Authority (MRA) can decide that ordinance sections concerning setbacks, sound and shadow flicker have been met

Type 3 WEF Standard

Relationship to DEP Permitting

- Requires DEP Site Location law permit
- With DEP Site Location law permit MRA can decide that ordinance sections concerning safety setbacks, natural resource protection, sound, shadow flicker and part of scenic resources section related to scenic resources of state and national significance have been met

