

Wind Energy Ordinance Comparison

Ordinance Topic	Proposed for Palmyra Township	Huron County (6/1/2010)	Chandler Township (10/2/2006)	Oliver Township (3/2/2009)	Minden Township (2010 Amended)	Centerville Township (8/18/2010)	Otsego County (2/22/2010)	Ottawa County (Model Ordinance; 3/24/2009)	Gratiot County (5/5/2009)	Wright Township	Mason County (6/30/2010)	Manistee County (Model Ordinance; 2006)
Summary												
Type	Wind Overlay District	Wind Overlay District	Wind Overlay District	Special Use	Wind Overlay District / Special Use	Special Use	Wind Overlay District	Wind Overlay District / Special Use	Wind Overlay District / Special Use	Special Use	Special Use	Special Use
Will ordinance allow utility scale wind energy development (a)	Yes	Yes	Yes	Yes	Yes	No; Setback requirements will preclude wind farm development.	No; Total turbine height, sound requirements, and setback requirements will prohibit development.	No; Sound requirements and property line setbacks will restrict development.	Yes	Yes	Yes	Yes
Projects Constructed In County or Projects with Construction Scheduled (b)	Not Applicable	Yes (69 MW project)	Yes (52 MW project)	Yes (52 MW project)	Construction in 2011 (90 MW project)	No	No	No	200 MW project construction 2011	No	Yes; 100 MW project planned to construct in 2011	No
Setbacks												
Dwellings or other public structures	1,320 feet (NP); 1,000 feet (P)	1,320 feet (NP); 1,000 feet (P)	2xH or 1,320 feet (e)	1,320 feet (NP) 1,000 feet (P)	2xHH or 1,320 feet (e)	5xH	None	2xH or 1,000 feet (e)	2xHH or 1,000 feet (e)	None	2xH	1.25xH
Non-inhabited structures (c)	None	None	None	None	None	None	None	None	None	None	1.5xH	None
Property line (Non-participating parcels)	1.1xH	1.5xHH	1.5xHH	1.5xH	2xHH	10xRD	1,250 feet	1.5xH	1.5xHH	1.5xH	2xH	1.1xH
Internal Property line (d)	None	None	None	None	None	None	1,250 feet.	1.5xH	None	None	50 feet	1.1xH
Wind Overlay District	1.5xH	2xHH	2xHH	Not Applicable	2xHH	N/A	N/A	2xH	None	N/A	N/A	N/A
Public Roads	400 feet or 1.1xH (e)	400 feet or 1.5xHH (e)	400 feet or 1.1xH (e)	1.5xH	1.5xHH	10xRD	1.5xH or 1,250 feet (e)	400 feet or 1.5xH (e)	400 feet or 1.5xHH (e)	None	1.5xH	1.1xH
Electrical Lines	400 feet or 1.1xH (e)	400 feet or 1.5xHH (e)	400 feet or 1.1xH (e)	Public utility requirements	1.5xHH	None	None	400 feet or 1.5xH (e)	None	None	1.5xH	None
Tower separation	3xRD	3xRD	3xRD	3xRD	2xRD	1/2 mile	None	Industry standards	None	None	1.5xH	None
Other Setbacks	None	None	None	None	Substation - 1,320 feet from inhabited structure	Lake Leelanau - 10xRD Wetland boundary - 10xRD Other Sensitive Areas - 10xRD Sleeping Bear Dunes National Lakeshore boundary - 3 miles	None	None	Railroad & Rails to Trails ROW - 400 feet or 1.5xHH (e)	None	None	None
Noise												
Audible Noise Limit	Participant: 50 dBA or Ambient +5 dBA (e) Non-Participants: 45 dBA or Ambient +5 dBA (e)	Participant: 50 dBA or Ambient +5 dBA (e) Non-Participants: 45 dBA or Ambient +5 dBA (e)	50 dBA or Ambient + 5 dBA (e)	55 dBA or Ambient +5 dBA (e)	45 dBA or Ambient +5 dBA (e)	Daytime: 35 dBA or Ambient +5 dBA (e) Nighttime: Ambient +3 dBA	Daytime: 40 dBA or Ambient +10 dBA Nighttime: 35 dBA or Ambient +10 dBA	Lowest ambient sound level (f)	55 dBA or Ambient +5 dBA (e)	55 dBA or Ambient +5 dBA (e)	55 dBA or Ambient +5 dBA (e)	55 dBA
Compliance Point	Inhabited Structure	Inhabited Structure	Inhabited Structure	Property line	Inhabited Structure	Property line	Property line	Property line	Inhabited Structure	Property line	Property line	Inhabited Structure
Other Requirements												
Shadow Flicker	Study required; <30 hours per year at residence	No requirements	No requirements	Study required	No requirements	<30 hours per year at residence	Minimize for roadways Prevent on inhabited structure	Study required; <30 hours per year	<30 hours per year	Study required eliminate or minimize	No requirements	Study required eliminate or minimize
Construction Bond	None	None	None	Required	Required	None	None	None	None	Required	None	Required
Decommissioning Plan	Yes	Yes	Yes	Yes	Yes	Yes	None	Yes	Yes	Yes	None	None
Decommissioning Bond	> \$1 million	> \$1 million	> \$1 million	None	\$500,000; 5 years after permit	None	Cover all associated costs	Cover all associated costs	At least \$1 million.	None	Yes	Cover all associated costs
Complaint Resolution Process	Yes	Yes	None	Yes	Yes	Yes	None	Yes	None	None	Yes	Yes

LEGEND:

H - Total Height (Height from base of tower to tip of blade in vertical position)
 HH = Hub Height
 (NP) = Non-participating
 (P) = Participating

NOTES:

(a) Response based on professional review of ordinance in comparison to other areas with utility scale wind energy development.
 (b) Responses include projects in construction or those known to be in permitting process with construction schedule certainty.
 (c) Non-inhabited structures include barns, sheds, etc.
 (d) Internal property line represents property line between adjacent participating property owners with wind easements/leases.
 (e) The limit is the greater of the two listed alternatives.
 (f) Applies to agricultural or residential land.