

1 H.677

2 Introduced by Representatives Potter of Clarendon, Browning of Arlington,
3 Courcelle of Rutland City, French of Shrewsbury, Howrigan of
4 Fairfield, Kilmartin of Newport City, Lewis of Derby, Malcolm
5 of Pawlet, Marcotte of Coventry, McNeil of Rutland Town,
6 Peaslee of Guildhall, Rodgers of Glover, Smith of Mendon and
7 Wheeler of Derby

8 Referred to Committee on

9 Date:

10 Subject: Energy; permitting; public service board; Act 250; local land use
11 bylaws; wind energy plant siting

12 Statement of purpose: This bill proposes to require standard setbacks, noise
13 limits, and other requirements for wind energy plants that exceed 0.49
14 megawatts, to allow nearby property owners to waive these requirements, and
15 to require that the Act 250 district commissions and appropriate municipal
16 panels be the permit review authorities for wind energy plants not owned by
17 Vermont electric utilities.

18 An act relating to wind energy plants

1 It is hereby enacted by the General Assembly of the State of Vermont:

2 * * * Standard Requirements * * *

3 Sec. 1. 30 V.S.A. § 8008 is added to read:

4 § 8008. WIND TOWER SITING REQUIREMENTS; ENFORCEMENT

5 (a) Applicability. This section applies to a plant that generates electricity
6 using wind energy as a fuel source and has a plant capacity in excess of 0.49
7 megawatts (MW). The requirements of this section shall apply to any
8 proceeding for approval of such a plant under chapter 151 of Title 10, chapter
9 117 of Title 24, or section 248 of this title, in addition to all other applicable
10 criteria.

11 (b) Definitions. As used in this section:

12 (1) “dBA” means a decibel measure of overall sound level under
13 American National Standards Institute (ANSI) S1.4 that is designed to reflect
14 the response of the human ear. Lower frequency sounds are given less weight
15 than those in the mid-range of human perception. The resulting measure is
16 said to be A-weighted, and the units are dBA.

17 (2) “dBC” means a decibel measure of overall sound level under ANSI
18 S1.4 that is similar to dBA but does not de-emphasize low frequencies to the
19 extent that dBA does. The resulting measure is said to be C-weighted, and the
20 units are dBC.

1 (3) “Height” means the total distance measured from the grade of a
2 property as it exists prior to the construction of a wind turbine or related
3 facility at the base to the highest point of a wind turbine or related facility. In
4 the case of a wind turbine, this includes the length of the blade at its highest
5 possible point.

6 (4) “Kamperman-James Guidelines” means the proposed wind turbine
7 siting sound limits contained on page 10 of George W. Kamperman, INCE,
8 Bd. Cert. Emeritus, and Richard R. James, INCE, “Simple guidelines for siting
9 wind turbines to prevent health risks” (July 27, 2008) (Rev 1.0).

10 (5) “L₉₀” means background sound, defined over a continuous
11 ten-minute period to be the average sound level during the quietest one
12 continuous minute of the ten minutes. The term refers to sound that is
13 normally present at least 90 percent of the time, and excludes any sound
14 generated by a plant subject to this section. L₉₀ may be measured relative to
15 A-weighting or C-weighting, in which case it is denoted L_{A90} or L_{C90}.

16 (6) “L_{eq}” means frequency-weighted equivalent sound level. The term is
17 defined to be the steady sound level that contains the same amount of
18 acoustical energy as the corresponding time-varying sound. L_{eq} may be
19 measured relative to A-weighting or C-weighting, in which case it is denoted
20 L_{Aeq} or L_{Ceq}.

1 (7) “Occupied building” means any structure that is or is likely to be
2 occupied by persons or animals and includes dwellings, commercial buildings,
3 other business structures, hospitals, places of worship, schools, stables, and
4 barns. This term shall include a structure on which construction has
5 commenced at the time a complete application for a plant subject to this
6 section is filed, if the structure otherwise meets the provisions of this
7 subdivision (8).

8 (8) “Rotor” means an element of a wind turbine that acts as a
9 multibladed airfoil assembly extracting, through rotation, kinetic energy
10 directly from the wind.

11 (9) “Shadow flicker” means alternating changes in light intensity caused
12 by the moving blade of a wind turbine casting shadows on the ground and
13 stationary objects, such as a window at a dwelling.

14 (10) “Wind turbine” means a mechanical device that captures the energy
15 of the wind and converts it into electricity. The primary components of a wind
16 turbine are the rotor or other component that extracts energy from the wind, the
17 electrical generator, and the tower. This term does not include wiring to
18 connect the wind turbine to the grid.

19 (c) Setbacks. At a minimum, a wind turbine shall be set back horizontally:

1 (1) One and one-quarter miles from an occupied building, if the
2 elevation change between the wind turbine and the occupied building is equal
3 to or less than 500 feet.

4 (2) Two miles from an occupied building, if the elevation change
5 between the wind turbine and the occupied building exceeds 500 feet.

6 (3) One-half mile from the closest boundary of the parcel on which the
7 wind turbine will be located.

8 (4) One-third of a mile from any public highway or right-of-way and
9 from any above-ground utility line or facility. However, this subdivision shall
10 not apply to an electric line that directly connects a wind turbine to a substation
11 or other utility facility.

12 (d) Sound limits. At a minimum, a plant subject to this section shall
13 comply with each of the following:

14 (1) Audible sound limit. No plant shall be located so as to generate
15 postconstruction sound levels that exceed preconstruction background sound
16 levels by more than 5 dBA.

17 (2) Low frequency sound limit. The L_{Ceq} and L_{C90} sound levels from a
18 wind turbine at the receiving property shall not exceed the lower of either:

19 (A) An $L_{Ceq}-L_{A90}$ greater than 20 dB outside any occupied building;

20 or

1 (B) A sound level of 50 dBC (L_{C90}) from a wind turbine, without
2 other ambient sounds, for a parcel the closest boundary of which is located one
3 mile or more from a state highway or Class 1 or 2 town highway, or of 55 dBC
4 (L_{C90}) for a parcel with a boundary closer than one mile to such a highway.

5 (3) General sound limit. Sound from a plant subject to this section shall
6 not exceed 35 dBA within 30 meters of any occupied building.

7 (4) Demonstrating compliance with sound limits. Use of the
8 Kamperman-James Guidelines shall be required in demonstrating compliance
9 with the sound limits of this subsection.

10 (e) Other requirements.

11 (1) A plant subject to this section shall comply with the interconnection
12 requirements of the Independent System Operator of New England, Inc. or the
13 interconnection rules of the board, as applicable.

14 (2) The applicant shall perform and submit with the application an
15 analysis of shadow flicker effect for each wind turbine and proposed measures
16 to mitigate or eliminate such effect.

17 (3) Roads and power lines associated with the plant shall be the
18 minimum feasible length as determined by the permitting authority.
19 Rights-of-way for such roads and lines shall be the minimum feasible width as
20 determined by the permitting authority.

1 (4) A wind turbine shall have no lighting except those lights necessary
2 to meet the requirements of the Federal Aviation Administration.

3 (5) The application shall include the depreciation schedule that the
4 applicant will use for each wind turbine and other component of a plant.

5 (6) The application shall include a plan for replacement or removal of
6 each wind turbine in the event of the turbine's failure, including a failure due
7 to natural disaster.

8 (7) The application shall include a decommissioning and site restoration
9 plan containing the following information and meeting the following
10 requirements:

11 (A) The plan shall provide for the removal from the project parcels
12 and lawful disposal or disposition of all wind turbines and other structures,
13 hazardous materials, electrical facilities, and all foundations. The plan shall
14 provide for the removal or appropriate supervision and control of all access
15 roads. The plan shall provide for the restoration of the project parcels to a
16 condition as close as reasonably possible to that which existed before
17 construction of the plant.

18 (B) The plan shall provide for the decommissioning of the site on the
19 expiration or revocation of the permit or abandonment of the plant. The plant
20 shall be deemed abandoned if its operation has ceased for 12 consecutive
21 months.

1 (C) The plan shall include provision for the posting of a third party
2 bond to assure completion of decommissioning and site restoration, in the
3 amount of the full estimated costs of decommissioning and site restoration
4 adjusted for inflation and in accordance with the plan as approved by the
5 permitting authority.

6 (D) The plan shall include written authorization from the applicant
7 and all owners of all project parcels for each municipality in which the plant is
8 located, the permitting authority, or a designee of such municipality or
9 authority to access the project parcels and implement the decommissioning and
10 site restoration plan, in the event that the permittee fails to implement the plan.
11 The written authorization shall be in a form approved by the permitting
12 authority and recorded in the land records of each municipality in which the
13 plant is located.

14 (f) Waiver. A property owner may waive one or more of the requirements
15 of subsections (c) and (d) of this section by signing a written waiver of rights.
16 At a minimum, any such waiver shall:

17 (1) Itemize for the property owner each specific requirement for which
18 waiver is sought.

19 (2) Include full disclosure of the potential impact on the property owner
20 of waiving each such requirement.

1 (3) Describe the plant that will benefit from the waiver and state that, for
2 such plant, consent is granted to waive each itemized requirement.

3 (4) Be recorded prior to operation of the plant in the land records of the
4 municipality in which the burdened property is located. For the purpose of this
5 subsection, “burdened property” is the real property of the person signing the
6 written waiver. The recorded documents shall describe the properties
7 benefited and burdened and advise all subsequent purchasers of the burdened
8 property that the waiver shall run with the land.

9 (g) Enforcement. With respect to a plant described in subsection (a) of this
10 section, any appropriate action may be instituted in the superior court of the
11 county in which the plant is located to prevent, restrain, correct, or abate any
12 violation of this section, of the statutes identified in subsection (a) of this
13 section, or of the conditions of any permit or approval issued under those
14 statutes. The following may institute such an action: a municipality in which a
15 plant subject to this section is located; any person aggrieved by a plant’s
16 violation of this section, of the statutes identified in subsection (a) of this
17 section, or of a permit issued under one of those statutes; and the attorney
18 general on his or her own motion or at the request of the department of public
19 service, of the land use panel of the natural resources board, or of a
20 municipality in which a plant subject to this section is located. This authority
21 shall be in addition to any other enforcement statute applicable to the plant.

1 or trailer parks, with 10 or more units, constructed or maintained on a tract or
2 tracts of land, owned or controlled by a person, within a radius of five miles of
3 any point on any involved land, and within any continuous period of five years.

4 (v) The construction of improvements on a tract of land involving
5 more than 10 acres that is to be used for municipal, county or state purposes.

6 In computing the amount of land involved, land shall be included that is
7 incident to the use such as lawns, parking areas, roadways, leaching fields, and
8 accessory buildings.

9 (vi) The construction of improvements for commercial, industrial,
10 or residential use above the elevation of 2,500 feet.

11 (vii) Exploration for fissionable source materials beyond the
12 reconnaissance phase or the extraction or processing of fissionable source
13 material.

14 (viii) The drilling of an oil and gas well.

15 (ix) The construction, at any elevation, of improvements for an
16 electric generation plant that uses wind as a fuel source, exceeds 0.49
17 megawatts (MW) in plant capacity, and does not have majority ownership or
18 control by a Vermont retail electricity provider. For the purpose of this
19 subdivision (ix):

20 (I) "Plant," "plant capacity," and "retail electricity provider"
21 have the same meaning as under section 8002 of Title 30.

1 protect and provide access to, among others, the collection or conversion of
2 direct sunlight, wind, running water, organically derived fuels, including wood
3 and agricultural sources, waste heat, and geothermal sources, including those
4 recommendations contained in the adopted municipal plan, regional plan, or
5 both. The bylaw shall establish a standard of review in conformance with the
6 municipal plan provisions required pursuant to subdivision 4382(a)(9) of this
7 title.

8 * * *

9 (14) Green development incentives. A municipality may encourage the
10 use of low-embodied energy in construction materials, planned neighborhood
11 developments that allow for reduced use of fuel for transportation, and
12 increased use of renewable technology by providing for regulatory incentives,
13 including increased densities and expedited review.

14 (15) Merchant wind generation. A municipality may adopt bylaws to
15 regulate, as a conditional use under subdivision (3) of this section, an electric
16 generation facility that uses wind as a fuel source, exceeds 0.49 megawatts
17 (MW) in plant capacity, and does not have majority ownership or control by a
18 Vermont retail electricity provider.

19 (A) For the purpose of this subdivision (15):

20 (i) "Plant," "plant capacity" and "retail electricity provider" have
21 the same meaning as under 30 V.S.A. § 8002.

1 (B) The application is for approval under chapter 151 of Title 10,
2 30 V.S.A. § 248, or chapter 117 of this title.

3 (C) The costs relate to the municipality's review of the application or
4 participation in a proceeding under the provisions identified in subdivision (2)
5 of this subsection or an appeal from such a proceeding.

6 (3) When a municipality decides to allocate costs under subdivision (2)
7 of this subsection, the municipality shall notify the applicant of the costs to be
8 allocated and their purpose. Upon petition of an applicant to the body
9 conducting the proceeding, that body shall review and determine, after
10 opportunity for hearing, having due regard for the size and complexity of the
11 proposed plant at issue, the necessity and reasonableness of such allocation,
12 which it may amend or revise. From time to time during the progress of the
13 work, the municipality shall render to the applicant detailed statements
14 showing the amount of money expended or contracted for in the work, which
15 statements shall be paid by the applicant to the municipality at such time and in
16 such manner as the municipality may reasonably direct. A municipality may
17 require an applicant to pay an estimated cost in advance of the work being
18 performed, provided that any unused portion of such payment is returned to the
19 applicant within 30 days of final disposition of the proceeding, including any
20 appeals.

1 * * * Health Department Role * * *

2 Sec. 6. 18 V.S.A. § 12 is added to read:

3 § 12. SOUND LIMITS; WIND PLANTS; PERIODIC REVIEW

4 Every second December 31, the commissioner of health shall report to the
5 house and senate committees on natural resources and energy on whether the
6 sound limits contained in 30 V.S.A. § 8008(d) are appropriate to protect public
7 health and whether those limits should be amended. The basis of the report
8 shall include developing science and actual, on-the-ground experience with
9 respect to wind plants of the type that are subject to 30 V.S.A. § 8008 and their
10 impacts on persons and animals. The report shall include recommended
11 statutory language for any amended limits and state the reasons for any
12 proposed amendments.

13 Sec. 7. HEALTH; SOUND LIMIT REPORT; INITIAL DATE

14 With respect to the report required by Sec. 6 of this act, the commissioner
15 of health shall submit the initial report by December 31, 2010.

16 Sec. 8. EFFECTIVE DATE

17 This act shall take effect on passage.