

To: **Antigonish Planning Advisory Committee
Antigonish County Council**

From: **Planning Staff (EDPC)**

Date: **June 21, 2011**

Reference: **Application by Wind Prospect Inc. to rezone two portions of a property in Fairmont, Antigonish County (PID 01231141) from General Resource (GR-1) to Wind Resource (WR-1) to allow for the construction of two (2) wind turbines.**

Recommendation:

That Council **approve** the rezoning of two 2.66 hectare portions of a property located in Fairmont, Antigonish County (PID 01231141) and owned by Charles Teasdale from General Resource (GR-1) to Wind Resource (WR-1).

Summary of Proposal:

Designation:	General Resource	
Zoning:	General Resource (GR-1)	
Area:	60.7 ha; 150 acres (Property)	
Site Visit:	May 25, 2011	
Height (H):	139 metres	
Rotor (R):	82 metres	
Setbacks:	From a Residence:	1 kilometre
	Between Turbines (H):	139 metres
	From Property Lines (10m + R):	92 metres
	Stream of Public Highway (2H):	278 metres
	Coastline:	100 metres

Information:

The applicant, Wind Prospect Inc. which owns leases on Mr. Teasdale’s property located in Fairmont, has applied to rezone two portions of the above referenced property for the purpose of placing a 2.3 Megawatt wind turbine on each separate property portion for a total of two wind turbines. In total the proponent’s proposal is to create 4.6 Mw of energy to be put directly into Nova Scotia Power’s grid. Based on the applicant’s wind data, energy production is anticipated in the range of 13.9 Gwh per year. Currently the property is mostly tree covered and the site has been predominantly used for timber operations and contains existing logging roads and trails. Mr. Teasdale, the property owner, accompanied staff on our May 25, 2011 site

visit and in discussions with him; he recalls the property being actively farmed in the 1940s. The property is divided by the Antigonish Fringe Plan Area; the Central Plan Area; and an unzoned area and as well is overlaid by the Plan Area Concerning the Regulation of Wind Turbine Development. From the Wind Turbine Plan and By-law the property is designated General Resource and zoned General Resource (GR-1), as shown on the Rezoning Map (See Map 1, Page 7). The property is approximately 60.7 hectares (150 acres) in area. The intention of the lease holder is to place the two wind turbines on the property such that they meet the requirements of the *Antigonish County Municipal Planning Strategy Concerning the Regulation of Wind Turbine Development*.

Analysis:

The *Antigonish County Municipal Planning Strategy Concerning the Regulation of Wind Turbine Development* outlines criteria for amending the Land Use Bylaw to permit a rezoning from the General Resource (GR-1) Zone to the Wind Resource (WR-1) Zone. Policy R-8 establishes the Wind Resource (WR-1) Zone in the Land Use Bylaw for development of utility scale and domestic scale wind turbines. Policy R-9 outlines three main subsections for Council's consideration when rezoning to the WR-1 Zone as follows: a) the adequacy of the area of land being rezoned in relation to the number of turbines being proposed; b) the potential for electromagnetic interference on radio, telecommunications or radar systems; and c) the proposal meets the setback and other requirements in the Land Use By-law.

The two areas of land being rezoned are delineated by the applicant in conformance with the requirements of the by-law such that only one turbine can be placed in each location. This is shown on Map 1, page 7. Each circle is 2.66 hectares in area which provides sufficient land for the construction and placement of the turbines but does not provide sufficient lands for more than one turbine to be located on each zoned area given the minimum setback requirement between turbines.

The potential for electromagnetic interference on radio, telecommunications or radar systems is addressed in a study completed April 2011 by Oldham Engineers Inc. for the applicant. They were specifically asked to investigate the potential impact the wind turbines might have on existing radio communication systems in the area in accordance with Radio Advisory Board of Canada (RABC) Guidelines. Also the applicant had completed their own internal risk assessment for other types of radio systems identified in the RABC report - weather radar, navigational and defence radar systems and satellite links. Oldham's scope of work examined the impact on local radio systems, point-to-point microwave and land mobile radio systems near the proposed wind farm as Wind Prospect had identified the existing radio site in Fairmont.

Associated with the Fairmont radio site is a “Fresnel” zone which crosses the site from west to east. The existence of the zone dictated to some degree the proposed placement of the wind turbines. Oldham therefore concluded that this placement was such that *“...the end of the turbine blade comes close (within 7m) to the 60% F1 clearance of the existing NSP radio link between the Fairmont site and the Maple Ridge site but is not expected to encroach on it. In the event that the blade were to encroach on the beam due to small errors in the location of the turbines, the size and proximity of the blade (approximately 3m wide, 1km away) is not expected to cause significant diffraction loss on the link.”*

The third criterion from Policy R-9 relates to the setback requirements and other requirements in the Land Use By-law (See Map 1, page 7). Wind turbines subject to an Environmental Impact Assessment must be located one thousand metres from any dwellings with the exception of dwellings located on the same lot as the wind turbine. The closest dwelling to the nearest wind turbine is located at 336 Walsh Post Road approximately 900 metres away from the North Turbine however the applicants have received a letter of confirmation from the owners of this property that they are aware that their dwelling is within the one kilometre distance but they support the project and the rezoning. Staff are of the opinion that these confirmations are adequate for the purposes of the rezoning as the plan and by-law specifically make allowances for new dwellings to be located within the one kilometre setback (Policy R-13 of the Municipal Planning Strategy). The next closest dwelling is located at 2 Triton Brook and from our mapping and field work is approximately four metres beyond the one kilometre setback requirement.

The minimum setback between wind turbines needs to be the height of the highest wind turbine (139 metres). The wind turbines are to be located approximately 360 metres apart. The minimum setback from all external property lines is 10 metres plus the height of the rotors (92 metres). Both the North and South Turbines meet this requirement with the South Turbine located closest, approximately 120 metres from the line; however this is considered an internal property line as Wind Prospect owns a lease on this property as well and therefore is exempt from the setback requirement in accordance with Subsection 5.6 of the Land Use By-law.

The wind turbines must also be either 60 metres or twice the height of the highest turbines (278 metres) whichever is greater from any watercourses or public highways. According to the Commission’s mapping, the South Turbine is closer than the required watercourse setback. The applicant therefore applied for a variance from the watercourse setback requirements for the South Turbine which is setback 100 metres from a watercourse. Planning staff reviewed this request and granted a variance reducing this setback to 100 metres. Staff’s rationale for this variance was that the main concern with stream from an Environmental review is any proposed crossings during construction not so much the location of the turbine. Therefore staff have come to consider the 60 metre requirement as more important than the two times the height

of the turbine standard. The variance decision was then circulated to all assessed property owners within thirty (30) metres of the subject site (See Map 2, Page 8) in accordance with the requirements of *Nova Scotia Municipal Government Act*. The notice set out the property owner's rights to appeal and no appeals were received so the variance came into effect, Friday June 3, 2011.

The nearest road to the wind turbines is the Fairmont Road which is over a kilometre from the wind turbines. The turbines are also located inland substantially in excess of 100 metres from the coastline.

Finally the WR-1 zone requires that the mean value of sound pressure level from a wind turbine not exceed 40 dB(A) or be above the existing background noise (whichever is greatest) at the nearest residence. According to the proponent's Noise Simulation Study the noise at the nearest buildings (338 Walsh Post Road) will be on the low end of a range from 34 to 39 dB(A). (See Map 3, Page 9). Turbine noise would have to be higher than 40 dB(A) for the ambient noise level in this area to be relevant, and therefore the applicant assumed ambient noise to be 0.0 dB(A) for their modelling.

The proposed rezoning must also be consistent with Policy I-6 of the Municipal Planning Strategy, which outlines criteria for an amendment to the Land Use Bylaw. The following is a synopsis of the criteria, its evaluation and any conditions, as outlined in Appendix 'A'. Letters were sent to those agencies, as outlined by the Municipal Planning Strategy, requesting their comments on whether the proposed development is "premature" or "inappropriate" and as well staff depended on the proponent's Environmental Assessment and Registration Document.

The Municipality of the County of Antigonish confirmed that the proposed rezoning application is neither premature nor inappropriate by reason of "the financial capability of the Municipality to absorb any costs relating to the development."

With respect to access to the site, all access will be gained off the Fairmont Road. The Area Manager for the Antigonish Guysborough Office, Paul Colton confirmed June 6, 2011 that the proposed access road to Fairmont Road met the Department's stopping sight distance requirements.

The final two sections of this policy relate to the potential for the contamination of abutting watercourses or private wells or the creation of erosion or sedimentation as a result of the development and the potential impact on protected wetlands or other sensitive habitat and on endangered species in the area of the proposed site. These are issues which are addressed extensively in the proponent's Environmental Assessment and Registration Document.

The Proponent considered topography, soil, vegetation, wetlands and species of concern in the area of the project to be a Valued Ecological Component (VEC) in their assessment of the environmental conditions of the site. Also in accordance with NSE regulations, an Environmental Protection Plan (EPP) and Environmental Management Plan (EMP) is required to address environmental issues (including mitigation of potential sediment transfer into watercourses) and will be in place during construction activities and throughout operation and decommissioning. Finally project activities are sufficiently removed from identified dwellings (approximately 1.0 kilometres) so as not to pose a risk to potable water sources and further the proponent noted that groundwater resources within the project area are not used to supply residential potable water.

Conclusions:

The opinion of Planning Staff is that the proposal is in conformance with the intents of the Antigonish County Municipal Planning Strategy and Land Use By-law concerning the Regulation of Wind Turbine Development and with the requirements of all other Municipal By-laws and regulations and that the proposed rezoning does therefore meet the criteria and requirements of the Strategy (Appendix 'A'). Staff therefore recommend that Council **approve** the rezoning of two 2.66 hectare portions of a property located in Fairmont, Antigonish County (PID 01231141) and owned by Charles Teasdale from General Resource (GR-1) to Wind Resource (WR-1). to allow for the construction of two (2) Wind Turbines.

Appendix 'A': Summary of Evaluation Criteria

POLICY R-9 In considering a proposal to rezone to the Wind Resource Zone, it shall be the policy of Council to have regard for the following:	
(a) the adequacy of the area of land being rezoned in relation to the number of turbines being proposed;	Complies (See Staff Report)
(b) the potential for electromagnetic interference on radio, telecommunications or radar systems;	Complies (See Staff Report)
(c) the proposal meets the setback and other requirements in the Land Use By-law;	Complies with variance (See Staff Report)
(d) the proposal meets the implementation criteria listed in Policy I-6.	See Below
POLICY I-6 In considering amendments to the Land Use By-law, in addition to all other criteria as set out in various policies of this Strategy, it shall be the policy of Council to have consideration of the following:	
(a) That the proposal is in conformance with the intents of this Strategy and with the requirements of all other Municipal By-laws and regulations;	Complies (See Staff Report)
(b) That the proposal is not premature or inappropriate by reason of the following:	
(i) the financial capability of the Municipality to absorb any costs relating to the proposal;	Complies (Municipal Clerk Comments – June 15, 2011)
(ii) the intersection of any access road(s) with any public road and meeting the design and construction specifications of the authority having jurisdiction over public roads;	Complies (based on Preliminary Department of Transportation comments – June 6, 2011)
(iii) the potential for the contamination of abutting watercourses or private wells or the creation of erosion or sedimentation as a result of the development as determined by a qualified person from the appropriate government department;	Complies (See Staff Report)
(iv) the potential impact on protected wetlands or other sensitive habitat and on endangered species in the area of the proposed site.	Complies (See Staff Report)

ZONING CONSTRAINTS MAP

WIND TURBINE PROJECT
Fairmont, Antigonish County

- Proposed Rezoning Areas
- Proposed Turbine Location
- 1000m Residential Buffer
- 278m Watercourse Buffer
- 100m Watercourse Buffer (Variance)
- 92m Property Line Buffer



