


Item No. 10.1.6 (i)
Halifax Regional Council
May 24, 2011

TO: Mayor Kelly and Members of Halifax Regional Council

Original signed by 

SUBMITTED BY:

Richard Butts, Chief Administrative Officer

Original Signed by 

Mike Labrecque, Deputy Chief Administrative Officer, Operations

DATE: April 11, 2011

SUBJECT: Project 00953: Wind Energy Facilities in HRM

ORIGIN

1. November 21, 2006 - Regional Council initiated a planning process to prepare policy and land use regulations for the location and siting of wind turbines in HRM.
2. January 23, 2007 - an information report was tabled outlining the community consultation process for Phase 1 of the Wind Energy Project.
3. October 24, 2007 – a motion was passed by the Regional Planning Advisory Committee to begin community consultation for Phase II of the Wind Energy Project.
4. July 2, 2009 - staff presented recommendations and proposed policy direction to the Energy and Underground Services Committee. Committee members requested additional community consultation.
5. July 15, 2009 – staff presented recommendations to RPAC indicating an additional round of community consultation would be undertaken in the fall of 2009.
6. September 29, 2009 Committee of the Whole - staff was requested to undertake a final round of community consultation, which was completed in February 2010.
7. August 18, 2010 Committee of the Whole - staff presented the recommended policy direction and the time line to bring the project for decision. At the August 18, 2010 Council session, the following motion was approved: Moved by Councilor Smith, seconded by Councilor Sloane, “that the Halifax Regional Council direct staff to proceed to draft the Land use By-law for consideration of the siting of wind turbines in accordance with the direction outline in the presentation, including as-of-right development (within the designated zones as identified).” Motion Put and Passed.

RECOMMENDATIONS ON PAGE 2

8. March 3, 2011 Environment and Sustainability Standing Committee meeting - staff presented the staff report dated February 2, 2011. The following recommendation was approved: Moved by Councilor Dalrymple, seconded by Councilor Nicoll, "that the Environment and Sustainability Standing Committee recommend that Halifax Regional Council:
 1. Give First Reading and set a public hearing date to consider amendments to the Regional MPS and the Community LUBs to create policy and regulations (typical examples are set out in Attachments A and B of the staff report dated February 2, 2011) for the purpose of regulating Wind Turbines in the Halifax Regional Municipality.
 2. Adopt the amendments to the Regional MPS and Community LUBs as provided in Attachments A and B respectively of the staff report dated February 2, 2011." Motion Put and Passed.

9. March 2 and March 16, 2011 Regional Planning Advisory Committee meetings, staff presented the staff report dated February 2, 2011. The following recommendation was approved: MOVED BY Mr. Pettipas, seconded by Mr. Dykeman, "that the Regional Plan Advisory Committee recommend that Halifax Regional Council:
 1. Give First Reading and set a public hearing date to consider amendments to the Regional MPS and the Community LUBs to create policy and regulations (typical examples are set out in Attachments "A and B" of the February 2, 2011 staff report) for the purpose of regulating Wind Turbines in the Halifax Regional Municipality.
 2. Adopt the amendments to the Regional MPS and Community LUBs as provided in Attachments A and B respectively of the February 2, 2011 staff report." Motion Put and Passed.

RECOMMENDATION

It is recommended that Halifax Regional Council:

1. Give First Reading and set a public hearing date to consider amendments to the Regional Municipal Planning Strategy (RMPS) and the Community Land Use By-laws (LUBs) to create policy and regulations (set out in Attachments A and B) for the purpose of regulating Wind Turbines in the Halifax Regional Municipality; and
2. Adopt the amendments to the RMPS and LUBs as provided in Attachments A and B respectively of this report.

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EXECUTIVE SUMMARY

The February 2, 2011 staff report entitled Project 00953: Wind Energy Facilities in HRM (Attachment C, p. 4 – 1) was presented to the Environment and Sustainability Standing Committee on March 3, 2011 and the Regional Planning Advisory Committee on March 2 and March 16, 2011. While clarification of a few outstanding issues were identified and are addressed in this report, both Committees passed motions to advance the matter to Regional Council for consideration.

In accordance with the February 2, 2011 staff report, this report contains, in its Executive Summary, a synopsis of the planning process and the recommended regulations for the siting of wind turbines in HRM. The full suite of amendments to the Regional Municipal Planning Strategy and the specified Community Land Use By-laws are attached as Attachments A and B on Pages 2 – 1 and 3 – 2, respectively. In addition, this report also addresses the following:

1. Requests for Clarification

Requests for clarification were received at the Environment and Sustainability Standing Committee and the Regional Plan Advisory Committee as follows:

- A. Micro Wind Turbine setbacks and separation distances for urban and rural areas and inspections of roof mounted wind turbines;*
- B. Establishing a 550 metre buffer area adjacent to Restricted Zone areas to reduce impacts of wind turbines on the lands within restricted zones;*
- C. Consideration of turbines for open space design subdivisions in rural areas; and*
- D. Providing greater opportunities for utility scale wind turbines which propose to locate close to the power grid in rural locations.*

2. A Correction in the February 2, 2011 Staff Report -- Regarding a heading in one of the columns on Table 2.0 Proposed Distance Separation and Setbacks Requirements for Wind Turbines in the Rural Wind (RW-2) Zone. The heading of Column #3 was mistakenly labeled “All Adjacent Buildings”, when in fact it should have read “Adjacent Habitable Buildings”.

3. Exclusion of Certain MPS Plan Areas/LUBs (Downtown Areas) -- That wind turbines are not recommended for consideration in the Downtown Halifax, Downtown Dartmouth, and the Sackville Drive Plan Areas/Land Use By-laws at this time.

SYNOPSIS OF PLANNING PROCESS AND RECOMMENDED REGULATIONS FOR THE SITING OF WIND TURBINES IN HRM

On November 21, 2006 Regional Council, citing an increasing demand for wind power and under the strategic direction of the Community Energy Functional Plan, initiated a planning process for the purpose of creating policy and regulations for the siting of wind turbines in HRM. After the HRM initiation of the wind energy project planning process, the Province also commenced a series of initiatives intended to address the increased demand for alternative energy sources. While HRM was in the process of completing an enhanced round of community consultation in April of 2007, it was becoming evident that the results of the Provincial initiatives were interrelated to the municipal process to such an extent that these results would ultimately inform the staff recommendations. Accordingly, the HRM planning process was put into abeyance at that time until the completion of the provincial studies could be completed. These processes include completion of the following:

- the Guidelines for Provincial Environmental Assessment for Wind Turbine Siting;
- the Nova Scotia Wind Atlas; and
- the UNSM (partnered with the Dept. of Energy) Model Wind Turbine By-laws and Best Practices for Nova Scotia Municipalities.

Ultimately, it was determined that the results of these studies were integral to ensuring that HRM not require undue regulatory duplication in its own set of recommendations which lead to the adoption of an alternative direction for staff recommendations. This amended approach was then presented as an update to Regional Council, the RPAC, the EUGs Committee, and ultimately to Committee of the Whole (COW), where staff was instructed to commence an additional round of community consultation. Once that round of consultation was completed, staff then brought back a detailed outline of the proposed recommendations for wind turbine siting to COW where a motion was passed directing staff to prepare the new Policies and Land Use By-law amendments in final form for public hearing and the consideration of Regional Council.

Community Consultation

Through two rounds of community consultation, the first commencing in March of 2007 and the 2nd round commencing in November of 2009, a total of 18 public meetings were held across HRM. Three additional meetings were also held with the Greater Burnside Business Association and the Bayer's Lake Business Association to discuss the proposed regulations for the siting of wind turbines in HRM.

The generalized findings of this extensive public consultation are as follows:

1. HRM should encourage and support wind energy;
2. Adequate measures need to be enacted to minimize the impacts of wind turbines on surrounding residential land uses; and
3. Mixed opinions as to whether wind turbines should proceed on an as-of-right basis or by discretionary approval (consideration by Council on a case by case basis).

PROPOSED REGULATIONS FOR WIND TURBINES IN HRM**Recommended Approval Procedure for Wind Turbines in HRM**

Staff recommendations support processing wind turbines on an as-of-right basis and to apply appropriate setbacks and distance separation criteria that work in tandem with the Provincial Environmental Assessment (EA) process for the siting of wind turbines in Nova Scotia. The EA process applies to all wind project exceeding 2 megawatts of power.

URBAN HRM**Suitable Locations for Urban Wind Turbines**

The new regulations seek to establish suitable sizes, locations, and setback regulations for wind turbines in all areas of HRM. In the urban area, it is recommended that a range of wind turbines (micro, small and medium) be permitted in select locations within the urban boundary (defined for this project to include the urban service boundary and designated areas identified in the Regional Plan for future residential growth). Wind turbines outside of the selected areas that include Business Parks and some select Marine Industrial waterfront locations would be prohibited. Permitted locations for micro, small and medium size turbines include Business Parks and certain Marine Industrial waterfront locations. Large scale wind turbines are not permitted within the Urban Area. In all areas of urban HRM (e.g. residential neighbourhoods), no turbines of any size are permitted. It is recommended that wind turbines in the urban areas be permitted only in the following locations.

1. Business Parks, and
 2. Select Marine Industrial Locations.
- *All other areas are in the Restricted Zone (wind turbines are not permitted)*

Maximum Heights and Power Ranges of URBAN AREA Wind Turbines (Business Parks and Marine Industrial Locations)

- Micro 23 metres (75 feet) and 10 kilowatts
- Small 35 metres (115 feet) and 50 kilowatts
- Medium 60 metres (197 feet) and 300 kilowatts
- *Large Wind turbines are not permitted*

Setbacks from Property Lines and Non Sensitive Land Uses (i.e Commercial and Industrial Office) -- Micro, Small and Medium Wind Turbines:

- Property Lines -- *1.0 times the height of the Turbine, and*
- Adjacent Non Sensitive Buildings – *1.5 times the height of the Turbine.*

Setbacks from Wind Turbines to Adjacent Sensitive Buildings (i.e., Residences and hospitals, etc.)

- Micro -- 3.0 times the height of the Turbine
- Small -- 180 metres (590 feet) from the Turbine
- Medium -- 250 metres (820 feet) from the Turbine

Large wind turbines are not recommended in the Urban area.

RURAL HRM**Suitable Locations for Rural Wind Turbines**

Unlike the Urban area, it is recommended that the full range of wind turbines categories be permitted. This includes micro, small, medium, and large scale turbines, including potential wind farms. Rural wind turbines would be permitted everywhere provided that:

1. Defined setbacks and separation distances can be met, and
2. Turbines are not permitted in any Restricted Zone.

The Restricted Zone is comprised of Conservation Areas, Protected Areas, the Western Commons, and Regional Parks. The following is a synopsis of the proposed recommendations for rural wind turbines:

Areas of Restriction – All Rural Wind Turbines

- Regional Parks
- Protected Areas
- Conservation Areas
- Western Commons

Maximum Heights and Power Ranges of Rural Wind Turbines

- Micro -- 23 metres (75 feet) and 10 kilowatts
- Small -- 35 metres (115 feet) and 50 kilowatts
- Medium -- 60 metres (197 feet) and 300 kilowatts
- Large -- 60 metres plus (197 feet +) and greater than 300 kilowatts

Setback Regulations

- a) From a micro wind turbine to:
 1. a property line – *2.0 times the height of the Turbine, and*
 2. a habitable building on an Adjacent Lot (residence, hospital, etc) – *3.0 times the height of the Turbine.*

- b) From a small wind turbine to:
 1. a property line -- *2.0 times the height of the Turbine, and*
 2. a habitable building on an adjacent lot -- *180 metres (590 feet) from the Turbine.*
- c) From a medium wind turbine to:
 1. a property line -- *1.5 times the height of the Turbine, and*
 2. a habitable building on an adjacent lot -- *250 metres (820 feet) from the Turbine.*
- d) From a large wind turbine to:
 1. a property line -- *1.5 times the height of the Turbine, and*
 2. a habitable building on an adjacent lot -- *550 metres (1805 feet) from the Turbine.*

Waiver of Setback to Property lines for Wind Farms Utilizing More than One Property

It is also recommended that a waiver of the setback to property line requirement be included where large wind turbines on abutting property (s) that connects to the same array to form a wind farm. This recommendation is intended to remove artificial constraints where the property line setback does not form a specific function.

BACKGROUND AND DISCUSSION OF REQUESTED CLARIFICATIONS

As outlined in the February 2, 2011 staff report entitled Project 00953: Wind Energy Facilities in HRM, this report include the full package of proposed amendments to the Regional Municipal Planning Strategy (RMPS) and the Community Land Use By-laws for the siting of Wind Energy Facilities in HRM. These amendments have been included as Attachments A and B on Pages 2 – 1 and 3 – 1 of this report.

Each of the changes to the Community LUBs which implement new polices set out in Chapter 7, Section 7.6 of the RMPS, appears as a single section in the General Provisions of the LUBs. While many of the land use regulations appear to be similar, there are regulatory wording differences required for each document.

1. Requests for Clarification

Requests for clarification were received from the Environment and Sustainability Standing Committee and the Regional Plan Advisory Committee concerning the following:

- A. *Micro Wind Turbine setbacks and separation distances for urban and rural areas and inspections of roof mounted wind turbines;*
- B. *Establishing a 550 metre buffer around Restricted Zone areas to reduce impacts of wind turbines on the lands within restricted zones;*
- C. *Consideration of turbines for open space design subdivisions in rural areas; and*
- D. *Providing greater accessibility for utility scale wind turbines to the power grid in rural locations.*

A. Micro Wind Turbine setbacks and separation distances for urban and rural areas and inspections of roof mounted wind turbines

There are two fundamental principles that underlay the basis for the proposed setback and separation distances for all wind turbines in HRM:

- a) That greater distances should be provided from turbines to “Sensitive” buildings on properties adjacent to the proposed turbine, otherwise defined as “Habitable” buildings (where people live and sleep); and
- b) That it is possible that a turbine could fail and that adequate safety through a setback from the turbine to a property line should be maintained.

Urban Areas

Under the proposed recommendations, micro wind turbines in the urban area would only be permitted in locations deemed to be “non-sensitive” such as a Business Park and select Marine Industrial locations. The setback and separation distance measures were created with the knowledge that characteristics in these areas would reflect the following:

- Primarily areas where people do not sleep, and
- Where there is high ambient daytime noise that would mask turbine operational sounds.

Where there is a sensitive use in some of HRM business parks, such as a building that contains overnight accommodations like a hotel or motel, there is a larger separation distance required for the siting of a wind turbine. Where there is a non-sensitive building, such as a manufacturing operation or office building, a more moderate distance measure should be employed.

To provide an example, the following setbacks and separation distances, as set out in Table 1.0 below, apply to all micro wind turbines whether the unit is stand alone (with a foundation or guy wired) or is attached to a building.

Table 1.0 -- Proposed Setbacks and Distance Separation Requirements for URBAN Wind Turbines in the URBAN Wind (UW-1) Zone at the Micro Scale

Wind Turbine Type (max. height)	Setbacks from Turbine -- URBAN Wind Zone (Selected Areas Only include Business Parks and Commercial Campuses and selected Marine Industrial Locations.)		
	Property Boundary Lines	Adjacent Non – Sensitive Buildings	Adjacent Sensitive Buildings
Micro 23 metres (75 feet)	1.0 times height	1.5 times height	3.0 times height

Rural Areas

In the rural areas, the setback to property line is intended to serve a number of functions, keeping in mind that unlike the urban area, wind turbines at all scales, including the micro scale, are recommended for all areas except the proposed Restricted Zone areas. This means that wind turbines would be permitted in all rural residential neighbourhoods, provided that there is enough land area to meet the setbacks to property line and the separation distance to adjacent habitable buildings (for example residential uses).

The following is an example of the proposed setback and separation requirements at the micro scale in Rural HRM.

Table 2.0 -- Proposed Distance Separation and Setbacks Requirements for Wind Turbines in the RURAL Wind (RW-2) Zone

Wind Turbine Type (<i>maximum height</i>)	Setbacks from Turbine—RURAL Wind (RW-2) Zone (Restricted from Regional Parks, Protected Areas, Conservation areas and the Western Commons)	
	Property Lines	Adjacent Habitable Buildings
Micro <i>23 metres (75 feet)</i>	2.0 times height	3.0 times height

Explanation

There are other important distinctions between urban and rural contexts concerning micro wind turbines and the setback to property line. The following are “rationales” considered when creating the setback to property line regulation:

- a) Zoning in Rural LUBs - Currently many of the LUBs in the rural locations are worded in such a way that there is a long list of permitted uses with many potential “habitable” and “non-habitable” uses that would be permitted on vacant adjacent lands within close proximity to residential uses. By increasing the setback to property boundaries, greater distances achieve greater impact mitigation in the event that a Habitable building is constructed on an adjacent vacant lot.
- b) Lot sizes in rural areas larger by design – Enables a greater setback to property line so that the turbine will be more centrally located to the middle of the property.
- c) The smaller the lot the smaller the wind turbine - Lands with greater land area have distinct advantages for wind turbine siting, specifically in the micro category. Since the setback and separation distances are both functions of the height of the turbine, a larger property has the potential to accommodate a larger wind turbine, while still maintaining adequate impact mitigation from adjacent uses.

However, whether in the Rural or Urban areas, the separation distance (that distance between a micro turbine and an adjacent Habitable or “Sensitive” building) is the same at 3.0 times the height of the wind turbine. This applies no matter if the turbine is a stand alone model with a foundation (or with guy wires), or if it is attached to a building.

Building Code Inspections

All wind turbines attached to a building are required to undergo a building inspection.

B. Establishing a 550 metre buffer around Restricted Zone areas.

The proposed regulations prohibit wind turbine development in all Restricted Zone areas, namely Regional Parks, Protected Areas, Conservation Areas, and the Western Commons. The suggestion was made that consideration be given to establishing a buffer area surrounding these areas in order to further mitigate the impact of wind turbines (for example visual impacts) on the intrinsic qualities of the lands within in the Restricted Zone areas.

The protection of views is not only a contentious issue for residents but is also a concern to the municipality. As stated in the February 2nd staff report, the nature of wind turbine development is such that the machines are highly visible on high points of land and are very difficult to hide from view. Concern has been raised that wind turbine development could impact the recreational enjoyment of some protected areas. For example, areas have been identified containing views from the Western Common. The presence of wind turbines that might be sited just outside the Western Common boundary may be considered a potential disruption to the natural setting preferred by enthusiasts that would utilize the area as a wilderness experience. This issue may also be similar for other proposed Restricted Zone locations throughout HRM.

Fundamentally, the creation of a 550 metre buffer surrounding all Restricted Zone areas would not necessarily ensure that a large scale wind turbine (120 metre [400 ft.] in height) high would be screened from views from locations within the protected areas. In addition, it might be assumed that as part of the process in establishing Protected Areas and Regional Parks, the designating agencies would have incorporated a sufficient “buffer area” in order to protect the intrinsic assets of the lands being designated.

It is also worth noting that for any utility-scale wind turbines (those projects over 2 megawatts in size), a Provincial Environmental Assessment process is required. This process would necessarily include a thorough analysis of all potential impacts, including any potential affects on Restricted Zone areas.

Given the analysis that staff has undertaken, it is recommended that no wind turbines of any size be permitted *within* any Regional Park, Protected Area, Conservation Area or the Western Commons (known collectively in the rural area as the Restricted Zone). However, for reasons described above, staff does not recommend imposing a 550 M buffer area on lands abutting the Restricted Zone areas.

C. Consideration of turbines for open space design subdivisions in rural areas

Under the proposed recommendations for rural areas, wind turbines will have to meet setback requirements from the property boundary as well as a distance separation from adjacent habitable buildings. Upon meeting these requirements, a development permit would then be issued to erect a wind turbine. However, satisfying these municipal regulations may not be sufficient to meet the requirements of an interconnection agreement with NSPI or for entry into the COMFIT program and thus, would not necessarily facilitate an entitlement on the part of residents to attach to the electrical grid. It should be noted that these issues are not under the jurisdiction of the municipality.

D. Providing greater opportunities for utility scale wind turbines which propose to locate close to the power grid in rural locations.

The suggestion has been made that staff should consider easing the proposed regulations in locations that are adjacent to NSPI's major electrical grid. Staff advises that the primary intent of the wind turbine siting regulations is to encourage this form of alternative energy production, provided that adequate impact mitigation measures (setbacks and separation distances) from "sensitive uses" (i.e. residential uses) are maintained. This premise should be maintained, irrespective of the proximity of the proposed turbine(s) to the electrical grid.

2. Correction in the Feb 2nd Staff Report

A correction is required on Page 18 of the February 2, 2011 staff report. On the Table 2.0 – entitled Proposed Distance Separation and Setbacks Requirements for Wind Turbines in the Rural Wind (RW-2) Zone, the heading of Colum #3 should read "Adjacent Habitable Buildings" instead of "All Adjacent Buildings". The following Table 2.0 has been adjusted to reflect this change.

Table 2.0 -- Proposed Distance Separation and Setbacks Requirements for Wind turbines in the Rural Wind (RW-2) Zone

Wind Turbine Type (maximum height)	Setbacks from Turbine - Rural Wind (RW-2) Zone (Restricted from Regional Parks, Protected Areas, Conservation areas and the Western Commons)	
	Property Lines	Adjacent Habitable Buildings
Micro 23 metres (75 feet)	2.0 times height	3.0 times height
Small 35 metres (115 feet)	2.0 times height	180 metres (590 feet)
Medium 60 metres (197 feet)	1.5 times height	250 metres (820 feet)

Large <i>60 metres (197 feet) plus</i>	1.5 times height	550 (1805 feet)
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3. Exclusion of Certain MPS Plan Areas/LUB (Downtown Areas)

There are three areas where amendments to the LUBs are not required:

1. Downtown Halifax LUB,
2. Downtown Dartmouth LUB, and
3. Sackville Drive LUB

In these areas, the current LUBs prohibit wind turbine development. This is consistent with the Regional Plan policies being proposed herein for these areas, with the result that no regulatory amendments are necessary at this time.

BUDGET IMPLICATIONS

There are no budget implications associated with this report.

FINANCIAL MANAGEMENT POLICIES/BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Project and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Project and Operating reserves, as well as any relevant legislation.

COMMUNITY ENGAGEMENT

For the community engagement program undertaken for the wind turbine process, and the synopsis of input received from the numerous public information session held, please refer to the February 2, 2011 staff report.

ATTACHMENTS

Attachment A: Proposed Amendments to the Regional Municipal Planning Strategy
Attachment B: Proposed Amendments to the Community Land Use By-laws of the Halifax Regional Municipality for the purpose of siting Wind Energy Facilities

A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/cagenda.html> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

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