

## Re: COMFIT Renewable Electricity Device Standards

**1. PURPOSE.** The following directive is being established to adopt current renewable low-impact electricity device standards and identify emerging standards, which may be adopted in the future.

**2. POLICY RATIONALE.** The COMFIT program is designed to assist community-based organizations participate in the development of local energy resources. As many of these organizations may be unfamiliar with the technology, it is important that the program support investments that meet high standards for reliability. In addition, it is important that community-based organizations continue to build support for renewable energy in their communities; therefore, standards that address potential safety and noise hazards will be important elements in building that support. Finally, the COMFIT regulations specify the creation of a rate for machines at or below 50 kW capacity and a different rate for machines above that capacity. As the rate differs between the above and below classes, it is necessary to give a precise definition for what constitutes a 50 kW or below machine, consistent with the modeling used by the UARB to create the rates.

**3. LEGAL AUTHORITY.** Under Subsection 28(4)<sup>1</sup> of the *Renewable Electricity Regulations*, Feed-In Tariff approvals may be subject to terms and conditions that the Minister determines are appropriate. This directive provides guidance on terms and conditions the Minister may include in a Feed-In Tariff approval related to compliance with applicable performance standards. This directive is made under the authority of Subsection 2B(2)<sup>2</sup> of the *Electricity Act* and Clauses 43(1)(b)<sup>3</sup> and 43(2)(e)<sup>4</sup> of the *Renewable Electricity Regulations*.

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<sup>1</sup>**28 (4)** On approving an application, the Minister must issue the applicant a feed-in tariff approval subject to any terms and conditions that the Minister determines are appropriate.

<sup>2</sup>**2B (2)** The Minister may establish and administer policies, programs, standards, guidelines, objectives, codes of practice, directives and approval processes under this Act.

<sup>3</sup>**43 (1)** The Minister has all the power and authority necessary to implement, administer and enforce these regulations, including the power to issue directions or orders, and must do all of the following: ... (b) establish a process for approving and re-approving renewable low-impact electricity generation facilities and renewable low-impact electricity generators;

<sup>4</sup>**43 (2)** In addition to the powers and duties set out in subsection (1), the Minister may do any of the following: ... (e) prepare interpretations of these regulations, or policies, standards and guidelines under these regulations.

#### 4. DIRECTIVE.

This directive identifies standards and industry-practices that have been established by internationally recognized bodies for small- and large-scale wind devices. The Minister will use these standards when determining eligibility for the COMFIT Program. In cases where no internationally recognized standards have yet been established, eligible entities applying for COMFIT need to be aware of any emerging standards and should comply with them to the greatest degree possible. As these standards and practices become established, the Minister may adopt them as requirements for future approvals. The standards in effect at the time of the application for a COMFIT approval shall be the ones required for approval. Failure to use renewable low-impact electricity devices that meet the applicable standards, if any, may result in a COMFIT application being denied or a Feed-In Tariff approval being revoked in accordance with Section 46 (1) of the *Renewable Electricity Regulations*.

##### **Small Wind Qualification Criteria**

Small wind turbines must have a nameplate rating of 50 kW or less and a rated output of 50kw or less at a wind speed of 8.5 m/s.

The Department of Energy will require that turbines meet minimum qualification criteria and siting guidelines. Applicants must provide the Nova Scotia Department of Energy with the name and contact information of the accredited certifying organization that has verified that all testing has been completed in accordance with the appropriate standards for acoustics, durability, safety, and performance including IEC Wind Class I or II Standard or AWEA equivalent.

##### **Siting and zoning guidelines for small wind turbines**

Good siting of small wind turbines is critical to the long-term sustainability of Canada and Nova Scotia's small wind industry (see recommended setbacks and Health Canada Draft National Guidelines below).

##### **Installer training and certification:**

Installers must be qualified in one of the following ways:

- Installers who have satisfactorily completed a training program offered by a reputable small wind turbine manufacturer; or
- Installers who have successfully completed North American Board of Certified Energy Practitioners (NABCEP)'s small wind installer training.

##### **Resource Assessment**

With regards to resource assessment and ensuring wind turbines are sited in areas with an adequate wind resource, a minimum average wind speed of 4.5 meters/second at a height of 30 meters should be used to identify areas with adequate wind speeds for a wind turbine.

Preliminary information can be obtained from Nova Scotia's wind atlas map. For projects with significant capital investments and projects at any scale that require debt financing, applicants are encouraged, and may be required by lending authorities, to include Meteorological Tower (Met Tower) data collection over a 12 month period or longer to ensure local conditions match the expectations of the wind atlas.

### **Economic Viability: Recommended height**

The height of a tower of a small wind turbine is the single most important factor in determining its economic viability. When siting a turbine, the turbine should be located a minimum of 100 meters away from the nearest physical object (tree, building), and the bottom tips of the turbine should be a minimum of 10 meters above the nearest physical barrier.

### **Acceptability and Safety: Recommended Setbacks and distances to dwellings**

CanWEA recommends that the turbine base be no closer to the property line than the height of the wind turbine tower and no part of the wind system structure, including guy wire anchors, should extend closer than 3 meters to the property line. In most circumstances, this means that the minimum lot size for most wind generators is one half acre.

The Nova Scotia Department of Energy is recommending that municipalities in Nova Scotia adopt CanWEA's model zoning guidelines for small wind systems to ensure successful siting of turbines.<sup>5</sup> The guidelines can be found below.

In addition to the CANWEA small wind model zoning guidelines, we also ask that proponents pay attention to the principles in the Health Canada draft National Guidelines for Wind Turbine Noise and adhere to these guidelines once formalized.

### **Large Wind Qualification Criteria**

Large wind turbines must be certified to the IEC 61400-1 for acoustics, durability, safety, and performance.

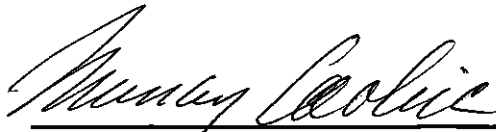
### **General Eligibility Requirements for all technologies**

All devices must obtain all permits and operating approvals from all relevant regulatory departments and agencies. The proponents must also carry insurance policies that cover all potential liabilities. Insurers may require device due diligence assessments and deployment strategy technical assessments in order to provide insurance coverage. This applies particularly to tidal devices where standards have not yet been established. Insurers and lenders will often require that groups such as Germanischer Lloyd Garrad Hassan <http://www.gl-group.com/en/certification/renewables/DesignAssessment.php> carry out these assessments.

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<sup>5</sup> See CanWEA's "small wind siting and zoning study" and AWEA's guide "In the public interest: how and why to permit for small wind systems".

An electrical safety assessment will be carried out by an electrical inspector as part of the interconnection process.

A handwritten signature in black ink, appearing to read "Murray Coolican". The signature is written in a cursive style with a horizontal line underneath it.

Murray Coolican, Deputy Minister  
Nova Scotia Department of Energy