



An Overview of Ontario's Regulations and Guidelines Pertaining to the Use of Small Wood-Fired Combustors

Steven Law, P. Eng.

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Introduction

- Through the government's 2015 Fall Economic Statement, the MOECC committed to improving the Environmental Compliance Approval (ECA) process by:
 - Reducing, for the fall of 2017, the amount of MOECC time taken to review air and noise ECA applications by at least 50 per cent
 - Implementing a one-year service standard for higher-risk ECA applications received after 2017
- A new Environmental Activity and Sector Registry (EASR) Regulation was developed for facilities with air emissions that are not considered high risk or complex in support of the ministry's on-going efforts to implement a risk-based approach to environmental approvals

Introduction

- New air quality guidelines are available in Ontario that differentiate between large wood-fired combustors (LWFC) and small wood-fired combustors (SWFC)
- Under certain circumstances, SWFC may be registered under the EASR program or may even be exempt entirely from the EASR and ECA programs
- Several factors need to be assessed to determine which program applies, such as the NAICS code of the facility, the heat input and output capacity of the combustion system, the certification status of the combustion system and the characteristics of the wood fuel

Environmental Protection Act

- In Ontario, subsection 9(1) of the Environmental Protection Act (EPA) generally prohibits the discharge of air emissions from any source except in accordance with an ECA
- Exceptions to this requirement are listed under subsection 9(3) for sources that do not require an approval and subsection 9(4) for activities that are prescribed for the purposes of the EASR as described here:

<https://www.ontario.ca/laws/statute/90e19#BK11>

Environmental Protection Act

- Ontario Regulation 524/98 (updated on February 3, 2017) sets out exemptions from the approval requirement in 9(1) of the Act (e.g., SWFC with a maximum heat output of up to 50 kW and masonry fireplaces constructed on-site) can be found here:

<https://www.ontario.ca/laws/regulation/980524>

- Ontario Regulation 1/17 (effective January 31, 2017) prescribes many activities with air emissions which must be registered in the EASR can be found here:

<https://www.ontario.ca/laws/regulation/r17001>

Ontario Regulation 419/05

- Whether applying for an ECA or registering under EASR, a facility must develop a program-specific Emission Summary and Dispersion Modelling (ESDM) report to ensure that the concentration of each air contaminant emitted from the facility is below the relevant point of impingement limit and is not likely to cause an adverse effect
- Ontario Regulation 419/05 regulates local air quality and is the primary governing regulation for local air quality in Ontario which can be found here:

<https://www.ontario.ca/laws/regulation/050419>

Guideline A-13

- Guideline for the Control of Air Emissions from Large Wood-Fired Combustors (LWFC) with a Heat Input Capacity of 3 Megawatts or Greater (≥ 3 MW) which was first published in January 2015 can be found here:

<https://www.ontario.ca/page/control-air-emissions-large-wood-fired-combustors>

- Guidance varies depending on status of LWFC, including whether it is considered “existing”, “significantly modified” or “new”
- This Guideline is considered by the Director in determining ECA applications relating to LWFC

Guideline A-14

- Guideline for the Control of Air Emissions from Small Wood-Fired Combustors (SWFC) with a Heat Input Capacity of Less than 3 Megawatts (< 3 MW) was first published on January 31, 2017
- Facilities with SWFC that do not meet the eligibility requirements for EASR (O. Reg. 1/17) are required to submit an application for an ECA
- Guideline A-14 is considered by the Director in determining ECA applications and can be found here:

<https://www.ontario.ca/page/controlling-air-emissions-small-wood-fired-combustors>

Wood Fuel Parameters

- Wood Fuel Specifications: new and reassessed SWFC
- Wood Pellets: ISO 17225-2 (Type A1, A2 or B) or PFI (premium or standard grade)
- Wood Chips: moisture content of 50% or less and ISO 17225-4 (Type A1, A2, B1 or B2)
- For wood chips, 50% or less moisture content expectation will begin on Jan. 31, 2017, but ISO specification will not begin until Jan. 31, 2027
- Wood Briquettes: ISO 17225-3 (Type A1, A2 or B)
- See Guideline A-14 Appendix F for Natural Resources Canada bulletins on ISO wood fuel standards

Guideline A-14

- There are two options in the Guideline – follow “certified” rules based on the European Standard EN 303-5 (2012) with some extra provisions (similar to EASR) or otherwise follow rules for “uncertified” SWFC
- Reference to use Guideline A-13 where Guideline A-14 is not applicable to the SWFC (e.g., the SWFC uses a wood fuel that is not set out in Guideline A-14)
- Expectations for “new”, “reassessed” and “existing” SWFC based on the January 31, 2017 transition date as described in Guideline A-14
 - Note: expectations can be considered “best practices” and implemented voluntarily where not required

Guideline A-14

- Generally, source testing will be required for any SWFC that receives an ECA using Guideline A-14 as this is within the Director's discretion
- Generally, continuous emission monitoring for carbon monoxide and oxygen in the flue gas will be required for any "uncertified" SWFC
- The rationale document used to support the development of Guideline A-14 contains technical and jurisdictional information and can be found here:

http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2016/012-7760%20rationale.pdf

EASR O. Reg. 1/17

- Ontario Regulation 1/17 “Registrations under Part II.2 of the Act – Activities Requiring Assessment of Air Emissions” came into force on January 31, 2017
- Prescribed activities are set out in section 2 and the prescribed activities are required to register in the EASR (specific NAICS codes and all renewable energy electricity projects cannot register)
- Accompanying document “Environmental Activity and Sector Registry – Limits and Other Requirements”

<https://www.ontario.ca/page/environmental-activity-and-sector-registry-limits-and-other-requirements-activities-air-emissions>

Requirements for Prescribed Activities

- SWFC with a nominal heat output capacity of greater than 50 kW and a heat input capacity of less than 3 MW that were installed on or after January 31, 2017 and uses wood fuel as specified in Chapter 5 must be registered in the EASR
- Prior to registration, the following must be prepared:
 - EASR ESDM report and report supplement - supplement needs to include a combustion equipment statement for SWFC
 - Noise report and odour screening report
 - If applicable, BMPP for fugitive dust, BMPP for odour and an Odour Control Report
- Reports/plans/statements must be signed and sealed by a licensed engineering practitioner (LEP)
- In stack testing may be required by the Director

Refer to Chapters 1 & 5!

- Emission limits
- Wood-fuel specifications
- Automated wood fuel feed system
- Wood fuel management plan
- Design criteria
- Operational parameters and measurement methods for monitoring operational parameters
- Installation test
- Routine inspections or remote connection
- Annual performance assessment
- Record-keeping

Design Criteria = EN 303-5 (2012)

- Must meet the requirements of EN 303-5 (2012) at nominal (100%) and partial (30%) load heat output capacity (can be above 500 kW), subject to:
 - Designed to meet Class 5 for thermal efficiency and carbon monoxide
 - Designed to meet at least one of Class 3, 4 or 5 for particulate matter, taking into account any air pollution control equipment (APCE) specified by the manufacturer (Class 3 requires extra APCE)
- Design criteria must be confirmed by an independent person that meets EN ISO/IEC 17025 lab standard

More Information

- The Ministry has created guidance material to help support the implementation of the EASR including the User Guide. These materials are available here:
<https://www.ontario.ca/page/environmental-activity-and-sector-registry>
- For more information on how to register an eligible facility please call 416-314-8001 or 1-800-461-6290 or email EAASIBGen@ontario.ca
- The Ministry's Access Environment web page allows the public to search for registered activities and sectors:
<http://www.accessenvironment.ene.gov.on.ca/AEWeb/ae/GoSearch.action?search=basic&lang=en>

Questions

Contact Information:

Steven Law, P. Eng.

Renewable Energy Engineer

Ministry of the Environment and Climate Change

Standards Development Branch

Technology Standards Section

40 St. Clair Avenue West, 7th Floor

Toronto, Ontario M4V 1M2

Tel. 416-327-6436

Email: Steven.Law@ontario.ca