Amendment 15 to the Energy Efficiency Regulations

Technical Bulletin: Pumps

April 27, 2017
Housekeeping

- Lines will remain muted
- Questions & answers
- Comments invited
- Presentation will be available
Objectives

- Provide an overview of Canada’s *Energy Efficiency Act* and *Energy Efficiency Regulations* (the Regulations)
- Provide an overview of the process of amending the Regulations
- Discuss information included in the technical bulletin released on April 13, 2017
- Outline next steps in the regulatory development process for Amendment 15 to the Regulations
- Introduce the Natural Resources Canada (NRCan) team responsible for work on pumps
ENERGY EFFICIENCY ACT

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ENERGY EFFICIENCY REGULATIONS
Energy Efficiency Act

- Canada's *Energy Efficiency Act* was passed by Parliament in 1992 to eliminate inefficient energy-using products from the marketplace; amended in September 2009

- It provides for the making and enforcement of regulations concerning:
  - minimum energy performance levels for energy-using products
  - the labelling of energy-using products, and
  - the collection of data on energy use
Energy Efficiency Regulations

- February 1995: The first *Energy Efficiency Regulations* came into effect.

- The Regulations:
  - establish **energy efficiency standards, labelling, reporting and importing requirements** for a number of energy-using products
  - apply to regulated energy-using products **imported into Canada** or **manufactured in Canada and shipped from one province to another**, and
  - continue to apply to an energy-using product even if it has been **incorporated into another product**

- Apply to almost 50 energy-using products
Regulations Apply to Dealers

- **A dealer is:**
  - A person engaged in the business of
    - a) manufacturing energy-using products in Canada
    - b) importing energy-using products into Canada, or
    - c) selling or leasing energy-using products obtained directly or indirectly from (a) or (b) or an agent thereof
Demonstrating Compliance

- Dealers of prescribed energy-using products must ensure that the following 5 requirements are met:

  - Product must meet the energy efficiency standards
  - An energy efficiency report must be filed with NRCan
  - All regulated products must bear an energy efficiency verification mark
  - Necessary import information must be provided to Canada Border Services Agency
  - Product must bear an EnerGuide label (if applicable)

- Compliance with all of these requirements is monitored by NRCan
Federal and Provincial Relation

- **Federal Regulations** cover products for sale or lease that are *imported* into Canada or *shipped* between the provinces.

- **Provincial Regulations**, where they exist, cover products manufactured and sold *within* that province.
AMENDMENT 15 TO THE ENERGY EFFICIENCY REGULATIONS
Amending Regulations

- The Regulations are amended on a regular basis in accordance with the Government's federal regulatory process
- There have been 13 amendments to the Regulations to date
- **Amendment 13** was published on December 28, 2016, and comes into force on June 28, 2017;
- **Amendment 14**: pre-publication planned for Fall 2017
- **Amendment 15**: pre-publication planned for Fall 2018
Policy Context

Regulatory Alignment

- **August 2014:** NRCan and U.S. DOE established the goal, under Regulatory Cooperation Council, of aligning new and existing standards and test methods to the extent practicable and permitted by law.

- **March 2016:** Prime Minister Trudeau and President Obama pledge to better align and further improve appliance and equipment efficiency standards by 2020.

Climate Change

- Energy efficiency standards expected to play role in pan-Canadian strategy to achieve climate change goals.
Cabinet Directive on Regulatory Management

Requirements include:

1. **Small Business Lens**
   - Identify Canadian dealers that meet definition of a small business

2. **One for One**
   - Identify incremental regulatory burden ($)
     - Administrative – reporting
     - Compliance – if a small business

Amendment 15 - Regulatory Process

- Pre-Consultations
- Regulatory Proposal Development
- Pre-Publication (Canada Gazette, Part I)
- Consultations
- Final Regulation Development
- Publication (Canada Gazette, Part II)
- Regulations Come Into Force 6 Months After Publication
Pre-Consultations To Date

- February 2016: **Discussion Paper** was released to seek stakeholder views and feedback on the list of products for Amendment 15
  - Several comments were received, which informed decisions on priorities

- March 2017: **Notice of Intent** published in *Canada Gazette*, Part I, establishing a list of 17 product categories, formally initiating Amendment 15 regulatory process
Product Categories

17 products are being considered for Amendment 15:

<table>
<thead>
<tr>
<th>Residential (9 product categories)</th>
<th>New Product Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing Product Categories</strong></td>
<td></td>
</tr>
<tr>
<td>• Electric ranges</td>
<td>• tankless water heaters</td>
</tr>
<tr>
<td>• Battery chargers (uninterruptible power supplies)</td>
<td>• ceiling fans (airflow)</td>
</tr>
<tr>
<td>• Refrigerators (wine coolers)</td>
<td></td>
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<tr>
<td>• Residential oil boilers</td>
<td></td>
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<tr>
<td>• Residential gas boilers</td>
<td></td>
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<tr>
<td>• Residential gas furnaces (including mobile homes)</td>
<td></td>
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<tr>
<td>• Gas fireplaces</td>
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<tr>
<td><strong>Commercial and Industrial (8 product categories)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Existing Product Categories</strong></td>
<td><strong>New Product Categories</strong></td>
</tr>
<tr>
<td>• Vending machines</td>
<td>• <strong>Pumps</strong></td>
</tr>
<tr>
<td>• Vertical air conditioners and heat pumps</td>
<td>• Commercial water heaters</td>
</tr>
<tr>
<td>• Chillers</td>
<td>• Commercial oil boilers</td>
</tr>
<tr>
<td>• Walk-in coolers and freezers</td>
<td>• Commercial gas boilers</td>
</tr>
</tbody>
</table>
TECHNICAL BULLETIN
Purpose

- The following slides present an overview of the content of the technical bulletin for pumps
- The bulletin provides stakeholders with detailed description of proposed Regulations that are being considered by NRCan for pumps and to solicit feedback
- The regulatory proposal may differ from technical bulletin based on stakeholder feedback and a cost-benefit analysis
Proposed Scope

**Definition:**
A pump means equipment designed to move liquids by physical or mechanical action. It can include mechanical equipment, driver and controls.

**Inclusions** (clean water pumps):
- end suction close-coupled (ESCC)
- end suction frame mounted/own bearings (ESFM)
- in-line (IL)
- radially split, multi-stage, vertical, inline diffuser casing (RSV)
- submersible turbine (ST)

**Exclusions:**
- fire pump
- self-priming pump
- prime-assist pump
- magnet driven pump
- pump specifically designed for use in nuclear facilities
- pump specifically designed for use in military applications
Proposed Test Procedure

- United States Code of Federal Regulations 10 CFR Part 431, Subpart Y, Appendix A

- test method is based on Hydraulic Institute (HI) Standard 40.6-2014

- some variations, such as reporting and test temperature

Link to US DOE final rule  

Link to NRCan pump bulletin  http://www.nrcan.gc.ca/energy/regulations-codes-standards/19531
Proposed Minimum Energy Performance Standard (MEPS)

- A regulated pump shall have a Pump Energy Index (PEI) not exceeding 1.00
- PEI is determined based on calculation using c-value
- Equipment class is based on equipment family (ESCC, ESFM, IL, RSV, ST), its speed (1800 or 3600 rpm), and load (constant or variable)
## C-values for calculating PEI

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<th>Equipment class</th>
<th>C-value</th>
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Important Dates

- The Regulations would come into force **six months** after the date it is published in the *Canada Gazette, Part II*, and

- They would apply to pumps manufactured on or after **January 27, 2020**
Labelling and Verification

- Labelling requirements: none
- Verification requirements:
  - Products must carry a verification mark indicating that the efficiency requirements of the product has been verified.
  - Verification mark is the mark of a Standards Council of Canada (SCC) accredited certification organization that administers an energy performance verification program for this product [http://www.scc.ca/](http://www.scc.ca/)
  - NRCan also accepts labels issued by a province indicating that the product meets the provincial energy efficiency levels as a verification mark, provided the provincial level is not less stringent than the federal level.
Reporting Requirements

1. Energy efficiency reports
   • name of product
   • brand name
   • model number
   • name of the manufacturer
   • name of the certification body whose verification mark will be affixed to the product
   • equipment class*
   • Pump Energy Index (PEI) value
   • horsepower

* written as (equipment family).(speed).(load type)

2. Import reports
   • name of product
   • model number
   • brand name
   • address of the dealer importing the product
   • purpose for which the product is being imported
Feedback

NRCan is interested in receiving information on:

- Canadian dealers that fall under “small business” definition
- Extent of pump manufacturing in Canada versus importing
- Extent of pump system manufacturing in Canada
- Comments on the proposed Regulations, in general
Next Steps

- **Stakeholder comments on bulletin requested by May 19, 2017**
  - Bilateral meetings can be arranged

- Market study will be undertaken to support a cost-benefit analysis (CBA)

- **Stakeholder comments and CBA results will inform the development of a regulatory proposal, which is targeted for pre-publication in Fall 2018**
  - 75-day comment period will follow pre-publication
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http://www.nrcan.gc.ca/energy/regulations-codes-standards/6845