



NATURAL RESOURCES CANADA - INVENTIVE BY NATURE

# Amendment 15 to the *Energy Efficiency Regulations*

## Technical Bulletin: Pumps

April 27, 2017



Natural Resources  
Canada

Ressources naturelles  
Canada

Canada

# 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***  
**&**  
***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

<http://www.tbs-sct.gc.ca/hgw-cgf/priorities-priorites/rtrap-parfa/guides/cdrm-dcgr-eng.asp>

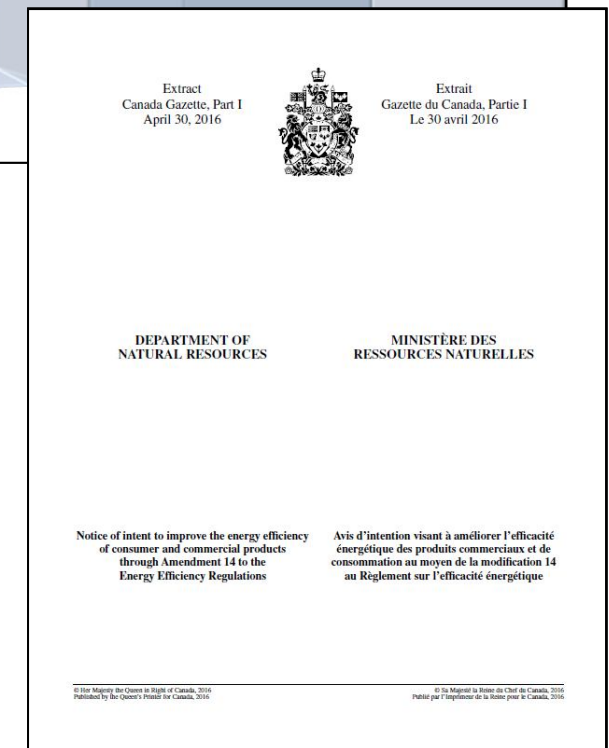
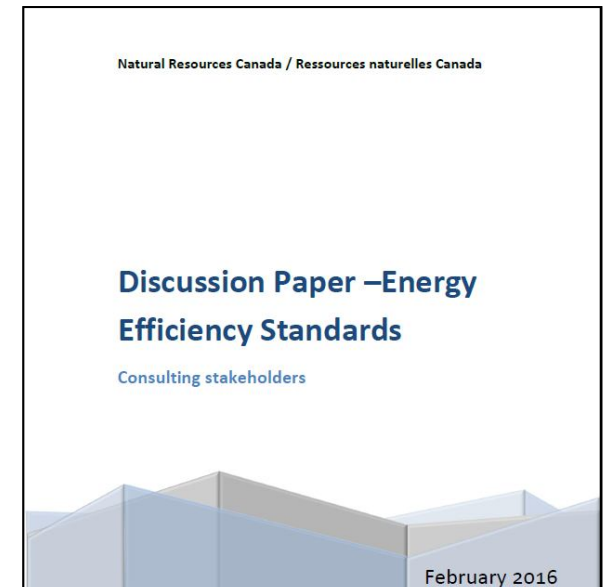


# Amendment 15 - Regulatory Process



# 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:

## Residential (9 product categories)

Existing Product Categories	New Product Categories
<ul style="list-style-type: none"> <li>• Electric ranges</li> <li>• Battery chargers (uninterruptible power supplies)</li> <li>• Refrigerators (wine coolers)</li> <li>• Residential oil boilers</li> <li>• Residential gas boilers</li> <li>• Residential gas furnaces (including mobile homes)</li> <li>• Gas fireplaces</li> </ul>	<ul style="list-style-type: none"> <li>• tankless water heaters</li> <li>• ceiling fans (airflow)</li> </ul>

## Commercial and Industrial (8 product categories)

Existing Product Categories	New Product Categories
<ul style="list-style-type: none"> <li>• Vending machines</li> <li>• Vertical air conditioners and heat pumps</li> <li>• Chillers</li> <li>• Walk-in coolers and freezers</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Pumps</b></li> <li>• Commercial water heaters</li> <li>• Commercial oil boilers</li> <li>• Commercial gas boilers</li> </ul>





# 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

[https://www1.eere.energy.gov/buildings/appliance\\_standards/standards.aspx?productid=41&action=viewlive](https://www1.eere.energy.gov/buildings/appliance_standards/standards.aspx?productid=41&action=viewlive)

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

<b>Equipment class</b>	<b>C-value</b>
ESCC.1800.CL	128.47
ESCC.3600.CL	130.42
ESCC.1800.VL	128.47
ESCC.3600.VL	130.42
ESFM.1800.CL	128.85
ESFM.3600.CL	130.99
ESFM.1800.VL	128.85
ESFM.3600.VL	130.99
IL.1800.CL	129.3
IL.3600.CL	133.84
IL.1800.VL	129.3
IL.3600.VL	133.84
RSV.1800.CL	129.63
RSV.3600.CL	133.2
RSV.1800.VL	129.63
RSV.3600.VL	133.2
ST.1800.CL	138.78
ST.3600.CL	134.85
ST.1800.VL	138.78
ST.3600.VL	134.85



# 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/>
  - 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
  - extend 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>

