



**Energy Efficient
Distribution Transformers**
Compliant to DOE 2016 & NRCAN 2019
Efficiency Standards

power to perform



DOE 2016 & NRCan 2019



Improved Efficiency For A Greener Tomorrow

Transformers have been and remain an essential part of our electrical infrastructure. Everywhere we look there is a transformer supplying power to industrial, commercial, or residential applications.

Improving the energy efficiency of new transformers is a primary goal for both the U.S. Department of Energy (DOE) and Natural Resources Canada (NRCan). New and more stringent energy efficiency regulations are in effect in the US since January 1st, 2016; regulations for Canada are in effect since April 30th, 2019.

US & Canada Energy Efficiency Regulations

As of January 1st 2016, the US Department of Energy (DOE) introduced new, higher energy efficiency levels for dry-type transformers installed in the USA.

As of April 30th, 2019 Natural Resources Canada (NRCan) has new dry-type transformer energy efficiency requirements that align with most of those implemented by DOE 2016.

Low Voltage Dry-Type Distribution:

- 1PH 15-333kVA, ≤ 10 kV BIL
- 3PH 15-1000kVA, ≤ 10 kV BIL

Medium Voltage Dry-Type Distribution:

- 1PH 15-833kVA, (DOE 2016 & NRCan 2019)
- 3PH 15-2500kVA (DOE 2016)
- 3PH 15-7500kVA (NRCan 2019)

* LV & MV non-ventilated and encapsulated transformers are exempt from these efficiency requirements



2.9
additional
acres of forest
in one year

Environmental Benefits of Increased Energy Efficiency

Upgrading one 75kVA transformer to a new DOE 2016/NRCan 2019 design translates to one of the following environmental benefits per year*



1.3
tons of waste
sent to the
landfill



403
gallons of
gasoline consumed



3,846
pounds of
coal burned

*Estimated savings based on a pre TP-1 upgrade and a mix of energy sources. Calculations derived from www.epa.gov/cleanenergy/energy-resources/calculator.html

DOE 2016/NRCAN 2019 Compliant HPS Transformers

The DOE 2016/NRCAN 2019 product lines have been redesigned based on extensive customer input using industry leading technologies and materials to meet your most demanding applications.



Low Voltage Transformers:

- General Purpose - HPS Sentinel G
- K-Factor - HPS Sentinel K
- Harmonic Mitigating - HPS Sentinel H



Medium Voltage Transformers:

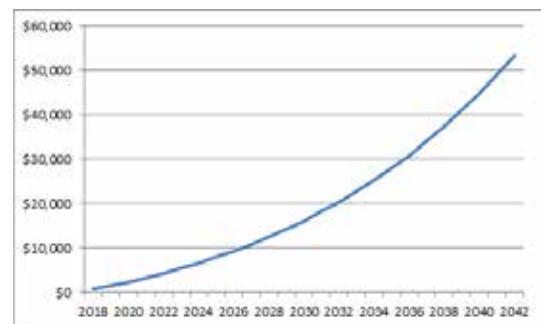
- Up to 5kV (VPI) - HPS Millennium G
- Up to 35kV (VPI) - HPS Millennium E
- Up to 46kV (VPI) - HPS Millennium C
- Up to 35kV (Cast) - HPS EnduraCoil E

Financial Benefits

Higher energy efficiency translates into:

- Increased profitability due to lower operating costs
- Decreased cost of ownership over the lifetime of the transformer
- Less air conditioning costs due to lower heat emissions

Total savings resulting from upgrading a non-energy efficient 75kVA transformer to DOE 2016/NRCAN 2019 efficiency



Total savings estimated using DOE 2016/NRCAN 2019 data, average inflation and ROI values.

Hammond Power Solutions (HPS) proudly supports the change and the environmental benefits that will result from using higher efficiency transformers.





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