

# Energy Efficient Medium Voltage Transformers

2016 Department of Energy Compliance



On April 18, 2013 the United States Department of Energy (DOE) issued its final ruling on transformer efficiency for liquid-filled and dry-type distribution transformers. The ruling impacts single phase (10 kVA to 833 kVA) and three phase (15 kVA to 2,500 kVA). Distribution transformers manufactured in, or imported into the U.S. and its territories on or after January 1, 2016 are required to comply with the new DOE standards.

Schneider Electric medium voltage transformers provide the solution to help end users to comply with this DOE ruling. Our commitment is for you to meet DOE compliance, improve energy efficiency, and create a positive impact on the environment by updating to our energy efficient products.



Make the most of your energy<sup>SM</sup>

by Schneider Electric



## Features and Benefits

- > Improved energy efficiency
  - Decreased operating costs equal increased profits
- > Less heat generated
  - Lower A/C and ventilation costs/requirements if located indoors
- > Lower total ownership costs over the life of the transformer

## Environmental Impact

According to the DOE (10 CFR Part 431), these new standards provide significant benefits to the nation.

- > Saves 2.74 quads (1,015 BTUs) of energy over 29 years
  - Equivalent to energy used in 27 million U.S. households in a single year
  - Eliminates the need for six new 400 MW power plants
- > Reduces greenhouse gas emission by approximately 238 million tons of CO<sub>2</sub>
  - Equivalent to removing 80% of all light vehicles for one year

## Medium Voltage Transformers

Power Cast™ II



Liquid-Filled Pad-Mounted



Liquid-Filled Substation



Power Dry II



### Schneider Electric meets your needs.

As a sustainable corporation committed to national energy conservation, Schneider Electric™ supports higher energy efficiency standards and regulations. We construct medium voltage distribution transformers designed to achieve the maximum improvement in energy efficiency that DOE demands. With decades of experience meeting DOE established challenges, we have developed expertise on this compliance. Furthermore, we understand the impact this change has on you, and are committed to use our technology and material supply management expertise to meet your needs in 2016 and beyond.

# New Medium Voltage Transformer Efficiencies

## Single phase

kVA	Liquid-Filled	Dry-Type		
		BIL*		
		20 – 45 kV efficiency (%)	46 – 95 kV efficiency (%)	≥ 96 kV efficiency (%)
10	98.70	—	—	—
15	98.82	98.10	97.86	—
25	98.95	98.33	98.12	—
37.5	99.05	98.49	98.30	—
50	99.11	98.60	98.42	—
75	99.19	98.73	98.57	98.53
100	99.25	98.82	98.67	98.63
167	99.33	98.96	98.83	98.80
250	99.39	99.07	98.95	98.91
333	99.43	99.14	99.03	98.99
500	99.49	99.22	99.12	99.09
667	99.52	99.27	99.18	99.15
833	99.55	99.31	99.23	99.20

## Get Ready!

DOE standards  
effective date:  
**January 1, 2016**

## Three phase

kVA	Liquid-Filled	Dry-Type		
		BIL*		
		20 – 45 kV efficiency (%)	46 – 95 kV efficiency (%)	≥ 96 kV efficiency (%)
45	98.92	98.10	97.86	—
75	99.03	98.33	98.13	—
112.5	99.11	98.52	98.36	—
150	99.16	98.65	98.51	—
225	99.23	98.82	98.69	98.57
300	99.27	98.93	98.81	98.69
500	99.35	99.09	98.99	98.89
750	99.40	99.21	99.12	99.02
1,000	99.43	99.28	99.20	99.11
1,500	99.48	99.37	99.30	99.21
2,000	99.51	99.43	99.36	99.28
2,500	99.53	99.47	99.41	99.33

\*BIL - basic impulse insulation level  
Note: All efficiency values are at 50% of rated load.

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