

OPEN MEETING AGENDA ITEM

Excerpt from Arizona Public Service Company's *Technical Reference Manual for APS Energy Efficiency Programs*, Chapter 12: "Solutions for Business - Motors"; Provided by the Southwest Energy Efficiency Project, Docket No. E-01345A-14-0261



12.2.1.5 Efficient Equipment Definition

The efficient equipment refers to three-phase induction motors of open drip-proof (ODP) and totally enclosed fan-cooled (TEFC) classifications. Efficiencies must exceed NEMA premium efficiency standards and are based on program implementation tracking data.

12.2.1.6 Unit Basis

This measure's savings, and incremental measure cost are determined based on a "per HP" basis.

12.2.1.7 Effective Useful Life

This measure has an effective useful life of 15 years determined from DEER 2008⁶⁰.

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12.2.1.8 Incremental Measure Cost

The incremental cost per HP for this measure varies depending on the motor type, motor HP, and motor rpm and includes the total material. Incremental costs are based on manufacturer and retail data.

12.2.1.9 Annual Energy Savings Algorithm

The following algorithm is used to estimate annual energy saving impacts for this measure. Numeric values for the variables can be found in Table 12-2.

$$\Delta kWh = 0.746 \times \left(\frac{1}{\eta_{base}} - \frac{1}{\eta_{ee}} \right) \times LF \times EFLH$$

Where:

- ΔkWh = Energy savings for measure (in kWh)
- 0.746 = HP to kWh conversion factor
- η_{base} = Nominal Full Load Efficiency of Baseline Motor
- η_{ee} = Nominal Full Load Efficiency of Efficient Motor
- LF = Load Factor
- EFLH = Equivalent Full Load Hours

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12.2.1.10 Coincident Peak Demand Savings Algorithm

The following algorithm is used to estimate coincident peak demand saving impacts for this measure. Numeric values for the variables can be found in Table 12-2.

$$\Delta kW_{Coincident} = 0.746 \times \left(\frac{1}{\eta_{base}} - \frac{1}{\eta_{ee}} \right) \times LF \times CF$$

⁶⁰ <http://www.deeresources.com/>

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