

An Overview of the Energy Independence & Security Act of 2007 (EISA)

What is EISA?

The Energy Independence and Security Act of 2007 (EISA) was passed by Congress and signed into law on December 19, 2007. EISA builds upon the previous EPCA (Energy Policy Act of 1992) updating mandated efficiency standards for general purpose, three-phase AC industrial motors from 1 to 500 horsepower which are manufactured for sale in the United States. The U.S. Department of Energy (DOE) is responsible for establishing the rules to implement and enforce EPCA.

When is the effective date for EISA?

EISA applies to motors manufactured after December 19, 2010.

What are the efficiency standards under EISA?

For each general-purpose rating (Subtype I) from 1 to 200 horsepower that was previously covered by EPCA, the law specifies a nominal full-load efficiency level based on NEMA Premium® efficiency as shown in NEMA MG 1, Table 12-12. All motors currently under EPCA, manufactured after December 19, 2010, must meet or exceed this efficiency level.

General Purpose Electric Motors (Subtype II) not previously covered by EPCA will be required to comply with Energy Efficient efficiencies as defined by NEMA MG 1, Table 12-11. The term 'general purpose electric motor (subtype II)' means motors incorporating the design elements of a general purpose electric motor (subtype I) that are configured as 1 of the following:

- U-Frame Motor.
- Design C Motor.
- Close-coupled pump motor.
- Footless motor.
- Vertical solid shaft normal thrust motor (as tested in a horizontal configuration).
- An 8-pole motor (900 rpm).
- A poly-phase motor with voltage of not more than 600 volts (other than 230 or 460 volts).
- 201 – 500 horsepower motors not previously covered by EPCA will be required to comply with Energy Efficient efficiencies as defined by NEMA MG 1, Table 12-11.

Are fractional HP and 48 or 56 frame motors included in EISA?

Only 1 – 500 HP motors with 3-digit frame NEMA numbers (143T-up) included in EISA. This also includes equivalent IEC frame designations.

How do the efficiency levels of EISA compare to the efficiencies of Baldor's standard motors and Super-E® motors?

Generally, the mandated efficiency levels of EISA for Subtype I motors fall at the present efficiencies of Baldor's Baldor's Super-E® NEMA Premium® efficient motors for general-purpose 1 – 200 HP motors.

The Subtype II 1 – 200 HP and general purpose 201 – 500 HP motors may require Baldor to raise efficiency of some designs to comply with MG 1, Table 12-11, however many Standard-E® designs presently comply. Super-E® motors will meet or exceed the EISA requirements for either of these motor types.

What Motors are not covered by EISA?

- Design D with high slip
- Adjustable speed with optimized windings
- Customized OEM mounting
- Intermittent duty
- Integral with gearing or brake where motor cannot be used separately
- Submersible motors

Does EISA apply to every three-phase electric motor from 1 to 500 horsepower?

Not every configuration, but almost all motors except some special OEM designs with proprietary mounting configurations. The following motor configurations are exempt from EISA compliance:

- Integral garmotors
- Integral brake motors
- Inverter duty motors with windings optimized for ASD use that cannot be line-started
- Design D high-slip motors

How about motors included in OEM equipment that require listing or certification?

EISA will require that any custom motors that fall within the guidelines of the act will comply with the efficiency levels for that type of motor. Baldor urges each OEM to prepare for the changes well before December of 2010 and develop designs immediately, particularly when UL or CSA approvals are required.

How about duty-cycle rated motors?

EISA makes no distinction for duty cycle rating. Again, one has to look at the EPA definition of “electric motors” and “general purpose” to determine if a particular design falls under the requirements.

Does EISA include IEC frame motors?

Yes, the DOE considers motors built to IEC metric frame dimensions equivalent to NEMA T-frame dimension to fall under EISA.

Does EISA apply to both stock and custom motors?

Yes. EISA makes no distinction between stock or custom motors. The determining factor under EISA is whether a particular motor meets the law’s definition of “electric motor”.

Does EISA apply to motors manufactured outside of the United States and imported for use?

Yes. The requirements of EISA include imported electric motors. This also includes the electric motors “as a component of another piece of equipment”.

How about electric motors for export outside of the United States?

EISA does not apply to motors exported outside the United States, including motors mounted on equipment. The DOE will require these motors or their boxes to be specifically marked “Intended for Export”. Countries outside of the United States are enacting their own Minimum Efficiency Performance Requirements (MEPS) that may require compliance.

Does EISA require any motors in use to be replaced?

No, EISA does not contain any requirement to replace electric motors in use.

How about electric motors in inventory?

EISA does not affect any inventories of electric motors. The law only applies to motors manufactured after December 19, 2010. Motors in inventory on that date can be sold or used as before the law.

Does EISA apply to rebuilt, repaired or rewound motors?

No, EISA only applies to new motors manufactured after the effective date.

How is full-load nominal efficiency determined?

Like EPCAct, EISA specifies that the test procedures for determining a motor's efficiency shall be as specified in NEMA MG1-2006 and IEEE Standard 112, Test Method B or CSA 390. The full-load nominal efficiencies of all Baldor motors are and have been determined in accordance with these standards.

What are the labeling requirements under EISA?

Like EPCAct, EISA requires that an electric motor's nameplate include the nominal full-load efficiency for that motor rating. All Baldor motors produced today already include this information. EPCAct and EISA also require that product catalogs and literature include motor efficiency information.

HOW BALDOR WILL IMPLEMENT EISA?

Will Baldor have a new line of general purpose motors?

Baldor's plan is to raise the efficiency levels of our present general purpose standard motors. Thus, before December 19, 2010, the efficiencies of our standard, general-purpose Subtype I and II motor line will match the EISA required levels. Beginning on that date, even though they have NEMA Premium efficiency, we will continue refer to these improved motors as Baldor's Standard-E line.

Will Baldor change the catalog numbers of these motors?

No, we will not change any catalog numbers. Our customers and sales people know our present catalog numbers and use them daily. Baldor's upgraded Standard-E motors will have the same catalog numbers as today's motors. For those customers wishing higher efficiencies, Baldor Reliance Super-E motors will be available.

What will happen to motor prices for those motors affected by EISA?

In order to raise a motor's efficiency to the appropriate EISA level, we must add more materials to the motor. The new motor's design will require more and better laminations and more magnet wire.

We are completing these motor redesigns and doing our very best to limit these additional costs. To help control costs over the last few years, we have already implemented new manufacturing methods and material-saving designs to help reduce our cost increases. Baldor continues to invest millions of dollars to keep the price increase as low as possible. Most ratings will require price increases due to the addition of active material.

Baldor has a long standing policy of providing customers a minimum 60 days notice on price changes. Your Baldor salesperson can provide you specific pricing information.

What will happen to the "pre-EISA" motors in Baldor's inventory?

EISA only applies to motors manufactured after December 19, 2010. It does not affect any motor built prior to that date and in inventory. Baldor will be able to sell any inventory of "pre-EISA" motors. Since we don't plan to change catalog numbers, how will Baldor differentiate the inventory of "pre" and "post" EISA motors?

Baldor's Standard-E motor line manufactured beginning December 19, 2010 will ship in new shipping cartons with the "Standard-E" logo.

When will a new 501 Catalog be available with the EISA motors?

We expect to issue a new 501 catalog approximately mid October, 2010.