

The Energy Policy Act

*The law's requirements for
1 to 200 horsepower AC motors
effective October 24, 1997*

BALDOR[®]
MOTORS AND DRIVES

The Energy Policy Act

BALDOR ELECTRIC COMPANY

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To Our Customers,

The Energy Policy Act ("EPAAct"), which was signed into law in 1992, becomes effective on October 24, 1997. This law, for the first time, mandates energy efficiency standards for certain general-purpose industrial motors which are manufactured for sale in the United States.

Baldor announced its plan to meet the requirements of EPAAct on March 10, 1977. A copy of our announcement follows on the next page.

Our plan is to make compliance with EPAAct as simple and easy to understand for our customers in every way possible. First, we are not introducing a new line of motors. We are improving our reliable standard motor line to the EPAAct efficiency levels. Our customers recognize these motors as providing some of the best performance of any motors available.

We will continue to provide high torques with our improved standard motor line, which we will identify beginning on October 24 as Baldor's Standard-E product line. Plus, these improved motors will cost less to operate and run cooler.

Baldor's Standard-E motors will be true general-purpose motors. You can have the confidence that their performance will meet the demanding needs of a wide range of industrial applications. And finally, you can order them using the same catalog numbers you know today.

On the following pages we provide you additional information on the requirements of EPAAct and Baldor's plans. If you have any questions, please give us a call.

Sincerely,



R. S. Boreham, Jr.
Chairman



John A. McFarland
President



ENERGY SAVING INDUSTRIAL ELECTRIC MOTORS AND DRIVES



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MARCH 10, 1997

BALDOR UPGRADES EFFICIENCIES OF STANDARD MOTOR LINE

Third Major Round of Improvements in Last 20 Years

Baldor Electric Company (NYSE:BEZ), Fort Smith, Arkansas based marketer, designer, and manufacturer of electric motors and drives announces plans now under way to upgrade their standard motor line to meet the energy efficiency requirements of the Energy Policy Act ("EPAAct"). Under EPAAct, all general-purpose motors, from 1 to 200 horsepower, manufactured for use in the United States after October 24, 1997, must meet certain efficiency levels.

In making this announcement, John McFarland, President of Baldor, said, "We have thousands of customers who buy our standard motors every day. They rely on the performance and availability of these motors. We believe improving these trusted motors, rather than creating a separate new line of motors, is the best for our customers as we, together, address the EPAAct requirements."

Baldor will offer customers two broad lines of energy-efficient motors:

1. The upgraded standard motor line at the EPAAct efficiency levels, and
2. Baldor's Super-E[®] line of premium-efficiency motors which provide even greater energy savings.

R.S. Boreham, Jr., Baldor's Chairman, commented, "Baldor's commitment to providing customers with energy efficient motors goes back to our founding in the 1920s. Today's announcement is our third major energy efficiency improvement in recent years."

Baldor is a leading manufacturer of industrial motors and drives and since the "energy crunch" of the 1970s, Baldor has been a leader in improving motor efficiencies. In 1976, Baldor was the first motor manufacturer to include a motor's efficiency rating on the nameplate of every motor built. In that same year, the Federal Energy Administration (predecessor of the Department of Energy) recognized Baldor with their Merit Award.

In the 1980s, Baldor introduced their Super-E[®] line of premium efficiency motors. The Super-E[®] line offers customers some of the highest energy efficiency levels available in motors. This broad line includes general-purpose TEFC and ODP ratings, as well as, explosion-proof, chemical processing, C-face, close-coupled pump, and other special designs.

With today's release, Baldor is the first to announce a plan to upgrade an existing line of standard motors to meet the EPAAct requirements. This effort will encompass nearly 1,000 stock motor ratings and several thousand additional custom specifications.

BALDOR'S COMMITMENT

Baldor's Commitment to Energy Efficiency

Baldor has long championed the importance of energy-efficient electric motors. The founders of the Company shared this commitment in their 1924 catalog:

“A motor becomes useful only when energy is applied and for that reason we encourage the use of and do build motors that require a minimum of energy. With this fact before us, we have designed our motors to have high efficiencies and power factor.”

In 1976, Baldor was the first motor manufacturer to include a motor's efficiency rating on the nameplate of every integral A.C. motor we built. In that same year, the Federal Energy Administration (the predecessor to the Department of Energy) recognized Baldor with their Merit Award. This was the first ever awarded to an electric motor manufacturer, and was in recognition of Baldor's leadership in designing and promoting high-efficiency motors. At that time, many efficiency improvements were made to Baldor's standard motor line.

In the 1980's, Baldor was one of the first electric motor manufacturers to design and sell a complete line of premium-efficient motors. Baldor's line of Super-E[®] efficient motors is among the broadest in the industry today available from 1 to 800 horsepower. This broad line includes general-purpose TEFC and ODP ratings, as well as, definite-purpose, explosion-proof, chemical processing, close-coupled pump, C-face and other special designs.

Baldor has aggressively promoted the value of energy-efficient motors to customers and end-users through advertising, literature, software programs and training classes. Thousands of copies of our SAVE software program have been distributed over the years. It is one of the programs available on Baldor's CD-ROM Electronic Catalog which has over 30,000 users.

AN OVERVIEW OF THE ENERGY POLICY ACT

What is EAct?

The Energy Policy Act (EAct) was passed by Congress and signed into law on October 24, 1992. EAct establishes mandated efficiency standards for general purpose, three-phase AC industrial motors from 1 to 200 horsepower which are manufactured for sale in the United States. In addition, EAct also establishes new testing procedures and labeling requirements for electric motors. The U.S. Department of Energy (DOE) is responsible for establishing the rules to implement and enforce EAct.

When is the effective date for EAct?

EAct applies to motors manufactured after October 24, 1997.

What are the efficiency standards under EAct?

Table I contains the efficiency standards mandated by EAct. As you can see, for each rating from 1 to 200 horsepower, the law specifies a nominal full-load efficiency level. All motors under EAct, manufactured after October 24, 1997, must meet or exceed this efficiency level.

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

Generally, the mandated efficiency levels of EAct fall somewhere between the present efficiencies of Baldor's standard motors and Baldor's Super-E[®] premium efficient motors.

TABLE I
DEPARTMENT OF ENERGY
GENERAL PURPOSE MOTORS
REQUIRED FULL-LOAD NOMINAL EFFICIENCY
UNDER EPACT-92

MOTOR HORSEPOWER	NOMINAL FULL-LOAD EFFICIENCY					
	OPEN MOTORS			ENCLOSED MOTORS		
	6 POLE	4 POLE	2 POLE	6 POLE	4 POLE	2 POLE
1	80.0	82.5		80.0	82.5	75.5
1.5	84.0	84.0	82.5	85.5	84.0	82.5
2	85.5	84.0	84.0	86.5	84.0	84.0
3	86.5	86.5	84.0	87.5	87.5	85.5
5	87.5	87.5	85.5	87.5	87.5	87.5
7.5	88.5	88.5	87.5	89.5	89.5	88.5
10	90.2	89.5	88.5	89.5	89.5	89.5
15	90.2	91.0	89.5	90.2	91.0	90.2
20	91.0	91.0	90.2	90.2	91.0	90.2
25	91.7	91.7	91.0	91.7	92.4	91.0
30	92.4	92.4	91.0	91.7	92.4	91.0
40	93.0	93.0	91.7	93.0	93.0	91.7
50	93.0	93.0	92.4	93.0	93.0	92.4
60	93.6	93.6	93.0	93.6	93.6	93.0
75	93.6	94.1	93.0	93.6	94.1	93.0
100	94.1	94.1	93.0	94.1	94.5	93.6
125	94.1	94.5	93.6	94.1	94.5	94.5
150	94.5	95.0	93.6	95.0	95.0	94.5
200	94.5	95.0	94.5	95.0	95.0	95.0

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Does EAct apply to every three-phase electric motor from 1 to 200 horsepower?

No, however the law and rules issued to date are unclear on this point. EAct defines “electric motor” to include a:

“general purpose, T-frame, single-speed, foot-mounting, polyphase squirrel cage induction motor of the National Electrical Manufacturers Association (“NEMA”) Design A and B, continuous-rated, operating on 230/460 volts and constant 60 hertz line power, as defined in NEMA Standards Publication MG1-1987.”

With such a long definition, it is easy to see why many of the terms in it could be interpreted in different ways. There are, however, several types of motors that clearly do not fall under the requirements of EAct.

Baldor believes that the following types of electric motors are presently excluded under EAct:

- Single-phase
- Direct current (DC)
- Multi speed
- NEMA Design C and D
- U-Frame Motors
- Close-coupled pump (JM and JP)
- 48 and 56 Frame Motors
- 200 volt and 575 volt
- TEAO
- TENV
- 50 hertz
- Arbor Saw
- Brake motors
- Low-Speed (900 rpm and less)
- Motors above 200 horsepower

EAct also includes explosion-proof motors, however the law provides a two-year extension (until October 24, 1999) of the effective date for explosion-proof motors to meet the efficiency standards.

Most of the confusion and continuing debate with the EAct definition of electric motor relates to the term “general purpose”. We address this point in the next section.

How does EAct define “General Purpose” motor?

It might be helpful to first look at the long-established definition contained in NEMA MG1-1987 for both a “general purpose” and a “definite purpose” motor:

NEMA MG1-1987

General-purpose motor . . . designed in standard ratings with standard operating characteristics and mechanical construction for use under usual

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service conditions without restriction to a particular application or type of application.

Definite-purpose motor . . . for use under service conditions other than usual or for use on a particular type of application.

Common examples of definite-purpose motors under NEMA's definition would include washdown motors, chemical-processing, brake motors, close-coupled pump and explosion-proof motors.

On October 30, 1996, the Department of Energy ("DOE") issued for public comment a series of Proposed Rules for Implementation of EAct. These Rules include the following definition of a "general purpose" motor:

Department of Energy

General-purpose motor . . . designed in standard ratings with either (1) standard operating characteristics and mechanical construction for use under usual service conditions, such as those specified in NEMA Standards Publication MG1-1987, paragraph 14.02 "Usual Service Conditions", and without restriction to a particular application or type of application, or (2) standard operating characteristics for use under unusual service conditions, or for a particular type of application, and which can be used in most general purpose applications (emphasis added).

Using the DOE definition, many of the definite-purpose motors under NEMA would be considered general-purpose under EAct, and thus fall under the efficiency and other standards.

In draft regulations issued on May 8, 1997, the DOE identified these types of "definite purpose" which, according to the DOE, can be used in most general purpose applications. They are:

- Thermally protected motors
- Motors with roller bearings
- Intermediate horsepower ratings

The DOE believes that these definite purpose motors fall under EAct. However, the DOE believes that each of these type of motors will require substantial redesign and testing in order to meet the efficiency requirements of EAct.

Accordingly, the DOE has granted a delay in enforcement of EAct requirements for these three types of definite purpose motors until "no later that October 25, 1999."

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

EPAct specifically addresses this situation with Baldor's OEM customers. OEM customers may have equipment or motors in equipment that require listing or certification by a nationally recognized safety testing laboratory. Consequently, no substitution could be made for the motor without review of the new motor and the entire machine or equipment by the safety testing laboratory.

The DOE is concerned that certain OEM equipment that requires such safety listings may be unavailable because of a change in the motor because of EPAct. The DOE will permit a 24-month delay in the enforcement of EPAct efficiency motors for these motors.

Baldor must notify the DOE of these motors prior to October 24, 1997. Contact your Baldor sales person for additional information and the DOE requirements for this delay.

How about duty-cycle rated motors?

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

Does EPAct include IEC frame motors?

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

Does EPAct apply to both stock and custom motors?

Yes. EPAct makes no distinction between stock or custom motors. The determining factor under EPAct is whether a particular motor meets the law's definition of "electric motor".

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

Yes. The requirements of EPAct 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?

EPAcT 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".

Does EPAcT require any motors in use to be replaced?

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

How about electric motors in inventory?

EPAcT does not affect any inventories of electric motors. The law only applies to motors manufactured after October 24, 1997. Motors in inventory on that date can be sold or used as before the law.

Does EPAcT apply to rebuilt, repaired or rewound motors?

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

How is full-load nominal efficiency determined?

EPAcT specifies that the test procedures for determining a motor's efficiency shall be as specified in NEMA MG1-1987 and IEEE Standard 112, Test Method B. 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 EPAcT?

EPAcT 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. EPAcT also requires that product catalogs and literature include motor efficiency information.

HOW BALDOR WILL IMPLEMENT EPACK?

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, after October 24, 1997, the efficiencies of our standard, general-purpose motor line will match the EPACK required levels. Beginning on that date, we will 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 upgrade Standard-E motors will have the same catalog numbers as today's motors.

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

In order to raise a motor's efficiency to the EPACK 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 redesigns and doing our very best to limit these additional costs. We are also looking at new manufacturing methods to reduce our costs. Baldor is investing millions of dollars to keep the price increase as low as possible. Some design changes will be minor and the price increase for those ratings will be small. Other ratings will require price increases in the 8-12% range.

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-EPACK" motors in Baldor's inventory?

EPACK only applies to motors manufactured after October 24, 1997. It does not affect any motor built prior to that date and in inventory. Baldor will be able to sell any inventory of "pre-EPACK" motors.

Since we don't plan to change catalog numbers, how will Baldor differentiate the inventory of "pre" and "post" EAct motors?

Baldor's Standard-E motor line manufactured beginning October 25, 1997 will ship in new shipping cartons with the "Standard-E" logo.

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

We intend to issue a new 501 catalog approximately mid September.

BALDOR[®]
MOTORS AND DRIVES

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