**DEPARTMENT OF ENERGY**

**Office of Energy Efficiency and Renewable Energy**

**10 CFR Part 431**

**[Docket No. EE–RM–96–400]**

## Energy Efficiency Program for Certain Commercial and Industrial Equipment: Test Procedures, Labeling, and Certification Requirements for Electric Motors

**AGENCY:** Office of Energy Efficiency and Renewable Energy, Department of Energy.

**ACTION:** Proposed rule; limited reopening of the comment period.

**SUMMARY:** In a Notice of Proposed Rulemaking, 61 FR 60440 (November 27, 1996) (NOPR), concerning one through 200 horsepower electric motors that are covered under the Energy Policy and Conservation Act, as amended (EPCA), the Department of Energy (DOE or the Department) proposed to adopt test procedures (including those in Institute of Electrical and Electronics Engineers, Inc. Standard 112–1991 [''IEEE 112–1991'']), sampling plans for compliance and enforcement testing, efficiency labeling requirements, and standards and procedures under which DOE would classify an accreditation organization or a certification program as ''nationally recognized.'' The Department is now considering several additional options in these areas, which were either not set forth or not clearly described in the NOPR. Specifically, the Department is considering adoption of (1) revised sampling plans for compliance and enforcement, (2) revisions to the IEEE test procedures, (3) alternative requirements where a motor's efficiency is established under EPCA through a certification program, (4) verifying the validity of labeled efficiency by use of the proposed enforcement procedures, and (5) withdrawal of recognition from an accreditation organization or certification program that deviates from the standards for recognition. The purpose of this notice is to reopen the comment period to solicit comments on these options.

**DATES:** Written comments in response to this notice must be received by July 27, 1998.

**ADDRESSES:** Ten copies (no telefacsimilies) of written comments should be labeled ''Electric Motor Rulemaking'' (Docket No. EE–RM–96–400), and submitted to: U.S. Department of Energy, Office of Codes and Standards, EE–43, 1000 Independence Avenue, SW, Room 1J–018, Washington, DC 20585–0121. Telephone: (202) 586–2945.

Copies of the Institute of Electrical and Electronics Engineers standards may be obtained from the Institute of Electrical and Electronics Engineers, Inc., 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855–1331, 1–800–678–IEEE.

A copy of the document, ''Analysis of Proposals for Compliance and Enforcement Testing Under the New Part 431; Title 10, Code of Federal Regulations,'' NISTIR 6092, by K.L. Stricklett and M. Vangel, January 1998, may be obtained from the National Institute of Standards and Technology (NIST).[1] Information regarding availability of the report, NISTIR 6092, may be obtained from the NIST Inquiries Office at 301–975–3058. A copy of NISTIR 6092 is available through the NIST World Wide Web site http://www.eeel.nist.gov/811/div/811__pubs__ps.html#nistir6092. NISTIR 6092 is also available from the National Technical Information Service (NTIS), and may be ordered through the NTIS Sales Desk at 703–605–6000, or by telefax at 703–321–8547, or by electronic mail at orders@ntis.fedworld.gov. A copy of the document is also available at the Office of Codes and Standards World Wide Web site http://www.eren.doe.gov/buildings/codes__standards/rules/emenfpol/index.htm.

Copies of the proposed rule, a transcript of the January 15, 1997 public hearing, the public comments received (including the NEMA proposal), and NISTIR 6092 may be read at the Freedom of Information Reading Room, U.S. Department of Energy, Forrestal Building, Room 1E–190, 1000 Independence Avenue, SW, Washington, DC 20585–0101, telephone (202) 586–3142, between the hours of 9:00 a.m. and 4:00 p.m., Monday through Friday, except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:**

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**SUPPLEMENTARY INFORMATION:**

### I. Background

The Energy Policy and Conservation Act (EPCA or the Act), 42 U.S.C. 6311, *et seq.*, establishes energy efficiency standards and test procedures for certain commercial and industrial electric motors. Section 342(b)(1) of EPCA, 42 U.S.C. 6313(b)(1), requires that ''each [such] electric motor manufactured (alone or as a component of another piece of equipment) * * * shall have a nominal full load efficiency of not less than [the prescribed level].'' The Act requires generally that the test procedures be ''reasonably designed to produce test results which reflect energy efficiency,'' yet not be ''unduly burdensome'' to conduct, EPCA section 345(a)(2), 42 U.S.C. 6316(a)(2), and prescribes specific test methods for electric motors, EPCA section 343(a)(5), 42 U.S.C. 6314(a)(5). The Act also directs the Department to require, subject to certain conditions, that a motor's energy efficiency be displayed on its permanent nameplate and in material used to market the motor. EPCA section 344(d), 42 U.S.C. 6315(d). Finally manufacturers must certify ''through an independent testing or certification program nationally recognized in the United States,'' that each covered motor complies with the applicable efficiency standard. EPCA section 345(c), 42 U.S.C. 6316(c).

On November 27, 1996, the Department published a proposed rule on test procedures for the measurement of energy efficiency, efficiency labeling, and compliance and enforcement procedures for these electric motors. The proposed rule incorporated the Institute of Electrical and Electronics Engineers (IEEE) Standard 112–1991 Test Method B as one method for measuring energy efficiency, 61 FR 60446 (November 27, 1996). Other proposed provisions included two statistical sampling plans—one for compliance and labeling and another for enforcement, 61 FR 60446–49, 60459–60 (November 27, 1996), requirements that a motor's energy efficiency be stated on its nameplate and in marketing materials, 61 FR 60451–52 (November 27, 1996), and procedures as to recognition of a testing or certification program used to certify that an electric motor complies with EPCA efficiency standards, 61 FR 60457–58.

On January 15, 1997, a public hearing was held on the proposed rule, and thereafter the Department received numerous written comments on the

[1] Appendix D of NISTIR 6092 contains the sampling proposals submitted by the NEMA Motor and Generator Section, April 18, 1997, in response to the NOPR.

proposal. The hearing and written comments, as well as the Department's further review of the proposed rule, have given rise to the issues addressed in today's reopening notice. The Department seeks comments at this time only on those issues.

## II. Discussion

### *A. Modifications to the IEEE 112–1996 Method B Test Procedures*

Section 343(a)(5)(A) of EPCA requires that the test procedures to determine the efficiency of electric motors under EPCA shall be the test procedures specified in NEMA MG1–1987 and IEEE Standard 112 Test Method B (IEEE 112) for motor efficiency, as in effect on the date of the enactment of the Energy Policy Act of 1992. If the test procedures in NEMA MG1 and IEEE 112 are subsequently amended, the Secretary of Energy is required to revise the regulatory test procedures for electric motors to conform to such amendments, ''unless the Secretary determines by rule, * * * supported by clear and convincing evidence, that to do so would not meet the requirements for test procedures described in'' sections 343(a)(2) and (3) of EPCA.

NEMA MG1–1987 was revised and superseded by NEMA MG1–1993, which was published in October 1993. Revision 1 to NEMA MG1–1993, was added on December 7, 1993. In the NOPR, the Department stated that it would adopt the test procedure provisions of NEMA MG1–1993 with Revision 1. IEEE 112–1991 was revised and superseded by IEEE 112–1996, which was published May 8, 1997. A minor revision was made in IEEE 112–1996 on January 20, 1998, when IEEE issued a notice of correction for the calculation at item (28) in section 10.2 Form B-Method B: ''Calculation form for input-output test of induction machine with segregation of losses and smoothing of stray-load loss.'' Under EPCA, DOE must now adopt the test procedures in IEEE 112–1996 with the minor revision, unless clear and convincing evidence supports a conclusion that such test procedures are not reasonably designed to produce test results which reflect energy efficiency, and or unduly burdensome to conduct.

The Department compared IEEE 112–1991 to IEEE 112–1996 to determine whether there were differences in Test Method B, which applies here, and, if so, whether to adopt Test Method B in IEEE 112–1996 into the final rule for electric motors. As a result of its analysis, the Department believes Test Method B in IEEE 112–1996 improves upon the version of that test method in IEEE 112–1991, because IEEE 112–1996 includes: tightened tolerances on metering instrumentation (IEEE 112, clause 4), a more comprehensive and consolidated verbal description of the components of test method B (IEEE 112, clause 6.4), and specific formulae provided for calculation of stator $I^2R$ losses (IEEE 112, clause 5.1).

After publication of IEEE 112–1996 in May 1997, however, the Department became aware, through information submitted by a testing laboratory that has gained experience using the test procedure, that Test Method B in IEEE 112–1996 contains (1) typographical errors, (2) statements of procedure that are open to interpretation, and (3) incorrect information. For a given motor, these defects could cause varying measurements of efficiency, or errors ranging from plus or minus one half to one and one half percentage points in measured efficiency. Subsequently, the Department confirmed the existence of these types of problems with IEEE 112–1996 through contacts with other testing laboratories, a certification organization, and manufacturers, each known to have experience with IEEE 112, and discussions with the Chairman of the IEEE Induction Power Subcommittee. Indeed, the Department is aware that one testing laboratory applied the test procedure to a single motor, tested the motor four times, and arrived at a different result each time based upon various interpretations of the language in the test procedure.

Even a half percentage point error in the measured efficiency could throw a motor into the next higher or lower level of nominal efficiency, effectively rendering it in compliance with the applicable EPCA efficiency standard, or out of compliance. Thus, for example, an error in IEEE 112–1996 could cause a manufacturer to incorrectly measure the efficiency of a motor that is actually in compliance, conclude that it is below the required efficiency level, and unnecessarily redesign all or part of its product line. (IEEE corrected one such error in its January 1998 notice of correction.) Also, the provisions of IEEE 112–1996 that are subject to interpretation leave room for a manufacturer to intentionally bias the measured efficiency of a motor that is actually out of compliance, so that the motor will be found to meet the applicable level required under the statute.

In sum, Test Method B in IEEE 112–1996 has several advantages, discussed above, as well as typographical errors, provisions subject to interpretation, and incorrect information. The Department's intention, therefore, is that the final rule will prescribe IEEE 112–1996 Test Method B, with the January 1998 correction, as the test procedure under EPCA for determining the energy efficiency of electric motors, but with certain modifications.[2] The following sets forth those modifications, as well as a few potential problems as to which the Department has tentatively decided not to make changes:

1. Typographical Errors

a. *Page 17, subclause 6.4.1.3, ''No-load test,''* currently reads: ''See 5.3 including 5.33, * * *'' This is an incorrect reference in the standard, because there is no subclause 5.33. The Department proposes to change the reference to read: ''See 5.3 including 5.3.3, * * *'' to point to the proper subclause dealing with the separation of core loss from friction and windage loss.

b. *Page 48, item (24), the formula for shaft power in watts,* currently reads: ''Is equal to [(23) • (11)]/$k_2$'', but the constant $k_2$ is not defined. In IEEE 112 section 10.2 Form B-Method B, the constant ''k'' is defined in terms of torque for the formula in item (22); and the constant ''$k_1$'' is defined in terms of conductivity for the formula in item (16). Upon examination of the test procedure and through inquiries made to the aforementioned organizations experienced with IEEE 112, the Department has determined that use of ''$k_2$'' in item (24) is a typographical error for the constant ''k'', since the torque constant (''k''), from item (22), is necessary to calculate shaft power in item (24). The Department proposes to correct the constant ''$k_2$'' in item (24) to the constant ''k''. The formula in item (24) would then read: ''Is equal to [(23) • (11)]/k''.

2. Provisions Subject to Interpretation

a. *Page 8, subclause 5.1.1, ''Specified temperature''* provides three methods, listed in order of preference, to determine the specified temperature used in making resistance corrections: (a) measured temperature rise by resistance from a rated load temperature test; (b) measured temperature rise on a duplicate machine; and (c) use of a temperature correction table when rated load temperature has not been measured. The Department understands that, although subclause 5.1.1 applies generally to the testing of motors under IEEE 112, part ''c'' of that subclause does not apply to Test Method B. Part

[2] It should be noted that the Department is not purporting to alter IEEE 112–1996. Rather, the Department is proposing only to mandate certain modifications to IEEE 112–1996 Test Method B *when it is used for purposes of measuring efficiency under EPCA.*

''c'' is a calculation procedure, for use when the rated load temperature has not been measured. The first test to be performed under Method B, however, per subclause 6.4.1.1, requires a measurement of rated load temperature. Hence, only options ''a'' or ''b'' in subclause 5.1.1 are applicable to Method B. Information provided to the Department indicates, however, that option ''c'' is being misapplied to Test Method B.

Such misapplication of option ''c'' can distort efficiency values. The Department understands that use of a prescribed temperature value from option ''c'' would result in a higher value of efficiency in circumstances where the measured full load (1.0 service factor) temperature is greater than such prescribed temperature, and a lower value of efficiency in circumstances where the measured full load (1.0 service factor) temperature for a motor is less than the prescribed temperature. The Department believes that to achieve consistency under EPCA, the best approach is to always use a measured winding temperature for the efficiency calculation, as is contemplated by Test Method B.

The Department's final rule could incorporate into subclause 5.1.1, ''Specified temperature,'' the following language: ''(Method B only allows the use of preference a) or b).)'' The Department seeks comment on whether such a change is warranted in 5.1.1, although it currently believes that the proposed change is unnecessary, because it would be redundant with the provisions of Test Method B. It would be warranted only by reading the general information section of IEEE 112 in isolation from Test Method B. As stated above the Department understands that, under Test Method B, the first test to be performed is a rated load temperature test. This test determines the values for the rated load heat run stator winding resistance between terminals, items (3) and (4), on 10.2 Form B, per subclause 6.4.1.1, *Rated load temperature test*. The values are then used to calculate stator $I^2R$ loss, item (27) in 10.2 Form B. Per this requirement, only options ''a'' or ''b'' in the referenced section 5.1.1 are applicable to Method B. Option ''c'' is not a ''measurement procedure'' and cannot be used with Method B; it is applicable only to other IEEE 112 test methods. Moreover, if a manufacturer or testing laboratory uses option ''c'', it is not following Test Method B and cannot say the motor has been tested according to Method B.

b. *Page 47, the procedure to measure temperature* in item (4) *Rated Load Heat Run Stator Winding Temperature* is not defined. Item (4) is used in item (27), *Stator $I^2R$ Loss, in Watts, at ($t_s$)°C,* to correct the stator loss corresponding to item (16), *Stator $I^2R$ Loss, in Watts, at ($t_t$)°C,* which is based on the temperature recorded for item (7). Information in the footnote at the bottom of page 47, 10.2 Form B, indicates that the temperature for item (7) can be either determined from a temperature detector or derived from measurement of the stator resistance during the test. Because items (4) and (7) are used to calculate stator loss at different temperatures, it is preferred that the method of measuring both items be consistent. In addition, per subclause 4.2.3 Note 2 and subclause 4.3.2.2 Note 2, the values for $t_s$ and $t_t$, which are used for correction to a specified temperature, are to be based on the same method of measurement. Therefore, the Department proposes to add a second sentence to the footnote at the bottom of page 47, 10.2 Form B, to read: ''The values for $t_s$ and $t_t$ shall be based on the same method of temperature measurement, selected from the four methods in subclause 8.3.''

c. *Page 48, item (27) defines Stator $I^2R$ Loss, in W, at ($t_s$)°C, and item (29) defines Corrected Slip, in r/min,* on IEEE 112–1996 10.2 Form B. Page 48, item (29) currently reads: ''See 4.3.2.2, Eq 4.'' The Department believes that such reference, without explanation, to equation (4) in subclause 4.3.2.2, *Slip correction for temperature,* can cause confusion and errors, since the terms in equation (4) used to correct slip measurements to the specified stator temperature, are defined differently from similar terms used in 10.2 Form B.

Subclause 4.3.2.2 equation (4) defines ''k'' in terms of conductivity for copper or aluminum. The term ''k'' in 10.2 Form B, however, is defined in terms of torque. Item (29) should be defined in terms of conductivity using the term ''$k_1$'', to be consistent with the definition of ''$k_1$'' in 10.2 Form B item (16).

Also, calculating ''$S_t$'' and ''$t_t$'' for subclause 4.3.2.2 equation (4) would cause unnecessary recalculations and possible errors, because these values were already derived elsewhere on Form B. Equation (4) defines ''$S_t$'' as ''the slip measured at stator winding temperature, $t_t$,'' whereas the actual value of slip speed would have already been measured and entered at item (10) on Form B. Similarly, in equation (4) ''$t_t$'' is defined as ''the observed stator winding temperature during load test, in °C,'' whereas the actual value of stator winding temperature would have already been measured and entered at item (7) on Form B.

Subclause 4.3.2.2 equation (4) also defines ''$t_s$'' as the specified temperature for resistance correction, in °C. However, Form B, does not define ''$t_s$''. While ''$t_s$'' appears to be used in item (27), Form B, the use of ''$t_s$'' is incorporated by providing the equation for the adjustment of the resistance corresponding to ''$t_s$'', rather than by defining ''$t_s$'' itself. However, the relationship representing ''$t_s$'' in item (27) on page 48 appears to differ from the definition of ''$t_s$'' given in 4.2.3. The Department is concerned about the various definitions given for ''$t_s$'' in the body of IEEE 112 and in 10.2, Form B and the correction of the stator and rotor losses. Examination of 10.2 Form B and the supporting sections of IEEE–112 indicate the following:

1. The stator loss for item (16) is based on correcting the cold resistance in item (1) at the cold temperature in item (2) to a resistance as if the complete winding is at the test temperature in item (7) for each test point. Generally, this means that 6 different values of resistance are used in calculating the initial stator loss.

2. The rotor loss for item (18) is calculated using the measured slip item (10) which already directly includes the effect of temperature so no equation involving temperature is needed.

3. For item (27) it is indicated on the test form that the corrected stator loss is to be based on a temperature identified as ''$t_s$''. In IEEE 112–1991 no formula for this correction of the resistance to determine the loss was provided, so the counterpart of 5.1.1, IEEE 112–1996, was used in conjunction with the counterpart of equation [1] in 4.2.3, IEEE 112–1996. (The section references from IEEE 112–1996 are used instead of the actual section numbers in IEEE 112–1991 to minimize confusion with the rest of the discussion.) To do this the reference resistances and temperatures were again the cold readings as in paragraph 1 above and the hot temperature was the specified temperature from 5.1.1. In IEEE–1996 a formula was added to item (27) stating that the reference resistance to be used is to be the hot resistance measured after the heat run and the reference temperature to be used is the temperature measured at the conclusion of the heat run. Now the temperature to be used for correcting the stator loss is not the specified temperature given in 5.1.1 if the temperature in item (4) is measured directly by a temperature sensor, but instead is the reference temperature from the heat run adjusted for the difference between the heat run

ambient and an ambient of 25 °C [i.e., (4) − (5) + 25]. This change is described in 6.4.3.2. If the temperature in item (4) is instead derived from the hot resistance measured after the heat run as per 8.3.3 then the relationship of [(4) − (5) + 25] is equal to the specified temperature per 5.1.1. However, in 6.4.3.2 it is assumed that item (4) is from a direct temperature measurement and should not be a value derived from the resistance of the heat run. In this case the corrected resistance used in determining the corrected stator loss for each of the six test points is the same.

4. In item (31) on the test form it is also indicated that the rotor loss is corrected to the temperature $t_s$. This is accomplished by temperature correction of the slip in item (29). For item (29) one is referred to 4.3.2.2, Eq. 4. In 4.3.2.2 it is indicated that $t_s$ is to be the specified temperature from 5.1.1. However, in 6.4.3.3 it is stated that $t_s$ is to be equal to the ''hottest winding temperature during the temperature test corrected to an ambient of 25 °C.'' This definition of $t_s$ corresponds to the definition given in 6.4.3.2 for the correction of the stator loss, which leads one to the formula for item (27) and the relationship that the value to be used for $t_s$ is to be that given by [(4) − (5) + 25] and not the specified temperature as given by 5.1.1. For the correction of the slip a different value of correction may be necessary for each of the six test points since the correction is based on the temperature at the time each test point is taken.

In conclusion, section 6.4.3.2 for the correction of the stator loss and 6.4.3.3 for the correction of the rotor loss define the correction to be to a temperature $t_s$ which is not the specified temperature $t_s$ given by 5.1.1. In fact, the specified temperature per 5.1.1 does not appear to be used in any of the calculations performed for Method B.

To clarify the temperatures to be used for correcting the stator and rotor loss the Department proposes the following modifications: (1) insert a new line at the top of 10.2 Form B and below the line that defines ''rated load heat run stator winding resistance,'' which will define ''$t_s$'' as it is defined in 6.4.3.2 and 6.4.3.3: ''Temperature for Resistance Correction ($t_s$) = ____ °C (See 6.4.3.2);'' (2) add a note at the bottom of 10.2 Form B to read: ''NOTE: The temperature for resistance correction ($t_s$) is equal to [(4) − (5) + 25 °C];'' (3) add the reference ''see 6.4.3.2'' to the end of item (27) on page 48; and (4) change item (29) on page 48 which presently states ''See 4.3.2.2, eq. 4'' to state ''Is equal to (10) • [$k_1$ + (4) − (5) + 25 °C] / [$k_1$ + (7)], see 6.4.3.3''.

d. *Page 48, item (32), the equation to correct stray-load loss* currently reads: ''Is equal to $AT^2$ where A = slope of the curve of (26) vs. $(23)^2$ using a linear regression analysis, see 6.4.2.7,'' and ''T = corrected torque = (23).'' The Department understands that the slope A is that of the aforementioned curve corresponding to a plot using item (26) as the dependent variable on the y axis, and the square of item (23) as the independent variable on the x axis. The Department also understands that reference to subclause 6.4.2.7, *Smoothing of the stray-load loss,* provides tutorial information with respect to the determination of the slope A using linear regression analysis. The Department understands that under ideal test conditions the linear regression line should intercept the y axis at zero stray load loss for zero torque squared, since the only losses which should remain will be stator $I^2R$, friction, and core losses previously accounted for by the no-load test.

The Department has been advised that typically ideal test conditions do not exist, and that either the y-intercept is above zero, indicating that some apparent measured loss should be subtracted; or the y-intercept is below zero, indicating that some undetected loss should be added. The Department has also been advised that it is possible, at the same time, to have a positive slope, a correlation equal to or greater than 0.9, and a sizable intercept with the stray load loss axis at zero load conditions. The Department is concerned that, when this is the case, a large portion of losses could be incorrectly subtracted off yielding an artificially high efficiency or incorrectly added on yielding an artificially low efficiency.

It also appears, however, that the purpose of the stray load loss correction in 10.2 Form B item (32), is to detect possible errors in measurement and correct for them, without repeating the test. Also, repeating a load test when the intercept is large in order to obtain a test for which the intercept is smaller, might not result in a significant change in the final determination of efficiency at 100 percent load. The Department understands that the value of the intercept must be viewed in the context of the remainder of the test workup. Thus, in 10.2 Form B, when the stray load loss is corrected in item (32), then the final torque, or shaft power in item (34), is also corrected after using item (23) in the formula $AT^2$ where ''T = corrected torque = (23).'' Instructions are provided, in IEEE 112, at the bottom of page 48 under *Motoring,* for interpolation of the test results to complete the *Summary of Characteristics* on page 47, at the bottom of 10.2 Form B, in order to determine the efficiency at the actual 100 percent rated load point.

Also, the nominal full load efficiency identified on the nameplate of an electric motor is selected from a prescribed nominal efficiency in NEMA Standards Publication MG1–1993, section 12.58.2, Table 12–8, which is not greater than the average efficiency of a large population of motors of the same design. Moreover, the nominal efficiency of a covered electric motor must equal or exceed the efficiency values in section 342(b)(1) of EPCA. Consequently, unless there are significant differences in the final determination of nominal efficiency for a particular electric motor, it appears that use of a prescribed nominal full load efficiency value would tend to ''wash out'' small variations in individual motor losses and errors in test equipment calibration.

Therefore, at this time, the Department intends to adopt IEEE 112–1996, subclause 6.4.2.7, *Smoothing of the stray-load loss,* without change. However, the Department is still considering the option of making the following changes to add a restriction on the allowable value of the intercept, and will do so if the Department determines, in the final rule, that the evidence warrants such a change. The restriction would replace the paragraph after the definition of variables for equation (21), in subclause 6.4.2.7, and would be worded as follows (emphasis added to indicate changes):

''If the slope is negative, or if the correlation factor, r, is less than 0.9, delete the worst point and repeat the regression. If this increases r to 0.9 or larger, use the second regression; *if this does not increase r to 0.9 or larger,* or if the slope is still negative, the test is unsatisfactory. Errors in the instrumentation or test readings, or both, are indicated. *In addition, the value of B must not exceed 10 percent of the uncorrected total loss at rated load; higher values indicate procedural or power supply problems. If a test fails to meet the above criteria,* the source of the error should be investigated and corrected, and the test should be repeated.''

The Department requests comments on this issue, and is interested in receiving data that would show if any significant differences[3] do occur

[3] Oftentimes what appears as a large intercept is the result of improperly performing the dynamometer correction part of the test. By

Continued

between the final determined value of efficiency at 100 percent rated load for various values of the stray-load loss intercept for repeated tests of the same motor.

e. *Page 17, subclause 6.4.1.3,* ''No-load test,'' second sentence currently reads: ''Prior to making this test, the machine shall be operated at no-load until both the temperature and the input have stabilized.'' Information provided to the Department indicates that the requirements for temperature and input stabilization during the no-load test appear to be undefined and could cause confusion. To provide clarity for locating the pertinent subclause for temperature stabilization, the Department proposes to modify the second sentence in 6.4.1.3 to read: ''Prior to making this test, the machine shall be operated at no-load until both the temperature has stabilized (see 8.6.3) and the input has stabilized.'' The Department finds that an additional modification for input stabilization is not necessary, since that is covered by previous reference to subclause 5.3 that, in turn, refers to subclause 4.3.1.1, *Bearing loss stabilization.*

3. Incorrect Information

*Page 40, subclause 8.6.3, Termination of test,* currently reads: ''For continuously rated machines, readings shall be taken at intervals of ½ h[our] or less.'' One reason for taking these readings during the efficiency test of a motor is to show when the motor's temperature rise has ended, and so that the test can be terminated. As written, however, subclause 8.6.3 allows temperature readings to be taken at intervals of, for example, five seconds. If such short intervals were used, there could be little or no rise in temperature between any two consecutive readings, even if the motor temperature was actually still rising. Consequently, the motor's temperature could be misconstrued as being stable. As a result, the measured efficiency would appear to be two to three percentage points higher than it actually is, since efficiency goes down as temperature goes up. In view of the need to correctly determine the leveling of temperature rise for measuring efficiency, as the Department believes is intended in subclause 8.6.3, the Department proposes to change the third sentence in subclause 8.6.3. Subclause 8.6.3 currently reads: ''For continuous rated machines, the temperature test shall continue until there is 1°C or less change in temperature rise between two successive readings.'' The Department proposes to change that subclause to read: ''For continuous rated machines, the temperature test shall continue until there is 1°C or less change in temperature rise over a 30-minute time period.''

In sum, the Department believes that use of IEEE 112–1996 Test Method B, without corrections, could produce results that provide an inaccurate measurement of the energy efficiency of the motor being tested, and that vary from one test to the next of the same motor or comparable motors. In addition, manufacturers would be burdened by having to resolve its typographical errors and unclear provisions, and deal with unnecessary references to other parts of IEEE 112. Therefore, the Department intends to adopt, in the final rule for electric motors, the test procedures in IEEE 112–1996 Test Method B, and the correction to the calculation at item (28) in section 10.2 Form B-Method B issued by IEEE on January 20, 1998, but with the aforementioned corrections and modifications. The Department seeks comments on the technical merits of, and the need for, the aforementioned corrections and modifications to the IEEE 112. If the record should indicate that any of these changes is unwarranted, the Department will decline to adopt such modification. Thus, the Department might still adopt IEEE 112–1996 Test Method B, and the correction to the calculation at item (28) in section 10.2 Form B-Method B, without modification, or with only a portion of the above modifications.

Finally, interested parties are also invited to identify other problems they believe exist in IEEE 112 Test Method B and section 10.2 Form B. The Department requests that such other problems, and changes to correct them, be clearly identified, and that evidence be provided that substantiates the need for these changes.

*B. Sampling Plans for Compliance and Enforcement*

1. Background

As per the proposed rule at 10 CFR 431.24, the efficiency of each basic model of electric motor would initially be established either by testing (''compliance testing'') or by application of an Alternative Efficiency Determination Method (AEDM), for purposes of determining whether the motor complies with the applicable efficiency standard, and of labeling the motor. 61 FR 60466–67 (November 27, 1996). As per the proposed rule at 10 CFR 431.127, the Department would ascertain in any enforcement proceeding, which could include testing (''enforcement testing''), whether a motor complies with the applicable EPCA standard and with the labeled value for efficiency.[4] 61 FR 60472 and 60474–75 (November 27, 1996). Each of these sections incorporates a sampling plan for testing a motor. The sampling plans are intended to provide statistically meaningful sampling procedures for conducting tests, so as to reduce the testing burden while giving sufficient assurance (1) that the true mean energy efficiency of a basic model (i.e., the average efficiency of all units manufactured) meets or exceeds the applicable energy efficiency standard established in EPCA, and (2) that an electric motor found to be in noncompliance will actually be in noncompliance. The November 27, 1996 **Federal Register** notice, at section XIII.C.3. and 8., *Issues for Public Comment,* requested comments on the proposed sampling plans for compliance and enforcement testing.

During the January 15, 1997, public hearing on the proposed rule for electric motors, the National Electrical Manufacturers Association (NEMA) and motor manufacturers raised issues concerning the Department's proposed sampling plans for electric motors. They asserted that the sampling plan for compliance testing would, for example: (1) be inconsistent with current industry practice under NEMA Standards Publication MG1–1993, ''Motors and Generators,'' (2) place a high burden on manufacturers because the risk of a false determination of noncompliance is not less than 50 percent for motors that are in compliance, and (3) require covered equipment to be engineered to *exceed* the nominal energy efficiency levels for electric motors established by EPCA; they also claimed the sampling plan for enforcement testing was not in harmony with the sampling plan for compliance testing. (Public Hearing, Tr. pgs. 64–111).[5] Thereafter, NEMA submitted to the Department a proposed sampling

definition the dynamometer correction adjusts all data points by the same amount of torque which is basically the same thing that occurs when the intercept of the stray load loss curve is adjusted to go through zero. Should there be a great discrepancy between the values for the intercept obtained for testing the same motor several times using the same equipment, then this would suggest a more fundamental problem of following the procedure correctly than just errors in the measurements.

[4] Part II–D below addresses the issue of whether the proposed enforcement procedures apply to alleged labeling violations.

[5] ''Public Hearing, Tr. pgs. 64–111,'' refers to the page numbers of the transcript of the ''Public Hearing on Energy Efficiency Standards, Test Procedures, Labeling, and Certification Reporting for Certain Commercial and Industrial Electric Motors,'' held in Washington, DC, January 15, 1997.

plan for compliance testing and a proposed plan for enforcement testing.[6] NISTIR 6092 ''Analysis of Proposals for Compliance and Enforcement Testing Under the New Part 431; Title 10, Code of Federal Regulations,'' January 1998, (the NIST analysis) compares the DOE's proposed rule and NEMA proposals through model calculations of their operating characteristics, i.e., the estimated probability of demonstrating compliance for a given true average of efficiency.

Although the Department continues to consider adoption of the sampling plans in the NOPR, it is now also considering adoption of the NEMA proposals, or variants of these proposals, in place of the sampling proposals in the NOPR. It is also considering adoption of a modified version of the NOPR sampling plan for enforcement. The Department seeks comment on these alternatives to the NOPR's sampling plans.

2. The Proposals Under Consideration

In the NOPR, the Department proposes that when a manufacturer tests a basic model of an electric motor[7] to establish its efficiency, a sample of units of the motor, comprised of production units or representative of production units, shall be selected at random and tested. The proposed rule does not specify a particular sample size, but provides that the sample must be of sufficient size so that any represented value of energy efficiency is no greater than the lower of (A) the mean of the sample or (B) the lower 90 percent confidence limit of the mean of the entire population of that basic model, divided by a coefficient applicable to the represented value. The coefficient applicable to a given represented value is derived from NEMA MG1–1993, Table 12–8.

In the NOPR, the Department proposed to establish a sampling plan for enforcement testing based on NEMA MG1–12.58.2, Efficiency of Polyphase Squirrel-cage Medium Motors with Continuous Ratings, and NEMA MG1 Table 12–8, Efficiency Levels, which establish a logical series of nominal motor efficiencies and a minimum associated with each nominal. The minimum efficiency is based on 20 percent loss difference. Under this proposed sampling plan, the motor would be found in compliance provided (1) the mean of the sample is not less than a lower confidence limit and (2) the sample is of sufficient size to provide a statistical confidence that is not less than 90 percent. The lower confidence limit is found within the sampling plan by calculation and is based on the EPCA efficiency standard that is applicable to that basic model, the sample standard deviation for the initial sample, and the *t* value corresponding to the 10th percentile for the initial sample. In all cases, the lower confidence limit lies below the EPCA standard efficiency. DOE's proposed sampling plan for enforcement testing assumes that the true mean full load efficiency and standard deviation of the motor efficiencies are not known. The proposed sampling plan establishes benchmarks for the standard error in the mean, based on the existing NEMA guidelines for identifying motor efficiency levels at NEMA MG1–12.58, and NEMA Table 12–8. Under the NEMA guidelines, no single unit can have energy losses more than 20 percent greater than the average losses for that type of motor, i.e., a 20 percent loss tolerance is permitted for a given unit but the average must still be met. The NOPR states the Department's belief that the 20 percent loss tolerance is reasonable and meaningful. 61 FR 60459–60, 60474–75 (November 27, 1996).

The NEMA proposal, as stated above, contains a sampling plan for compliance testing as well as one for enforcement testing. The plan for compliance testing provides that two conditions must be met to establish that a motor meets a particular nominal efficiency level. First, according to DOE's understanding, the average full load efficiency of the sample of units tested must not be less than the value of efficiency that equals the applicable nominal efficiency reduced by an amount equivalent to a 5 percent increase in losses at full load, i.e., the value given by

$$\frac{100}{1+1.05\left(\frac{100}{NE}-1\right)}$$

Second, DOE understands, the full-load efficiency of each motor in the sample must be greater than the value of efficiency equal to the applicable nominal efficiency reduced by an amount reduced by an amount equivalent to a 15 percent increase in losses at full load, i.e., the value given by

$$\frac{100}{1+1.15\left(\frac{100}{NE}-1\right)}$$

NEMA's plan for enforcement testing is very similar, and provides that the same conditions must be met to establish that a motor complies with the applicable EPCA standard, except that the percentages are based on the total variation in energy efficiency permitted by NEMA MG–1.[8] The NEMA plans neither specify nor suggest sample sizes.

In support of these plans, the NEMA proposal discusses a number of issues, including: the analyses of testing samples from a total and from a limited population of motors, the implications of overlapping nominal efficiency distributions, and NEMA's proposed sampling schemes for compliance and enforcement. The NEMA proposal claims to balance the manufacturer's and consumer's risks and to streamline sampling schemes for compliance testing and enforcement testing.

The NIST analysis examines each of the sampling plans contained in the NOPR and the NEMA proposal, and certain variations of those sampling plans. NISTIR 6092 assumes that a basic model of an electric motor satisfies the applicable energy efficiency requirement in EPCA if the mean full load efficiency of the entire population of motors of that basic model equals or exceeds the applicable nominal efficiency. It compares the NOPR and NEMA proposals through model calculations of their operating characteristics, i.e., by estimating the probability of demonstrating compliance for a model of electric motor where the true average efficiency of that model is known. NISTIR 6092 seeks to clarify the issues raised from testimony and comments given during the public hearing, January 15, 1997. It provides both a qualitative comparison of the operating characteristics of the NOPR

[6] ''Proposal for the Method of Determining Compliance and Enforcement for Electric Motors Under the Efficiency Labeling Program of DOE 10 CFR Part 431,'' NEMA Motor and Generator Section, Friday, April 18, 1997 (Docket No. EE–RM–96–400, No. 23) (the ''NEMA proposal'').

[7] For electric motors, *basic model* would mean all units of an electric motor that are manufactured by a single manufacturer, and which have the same rating, have electrical characteristics that are essentially identical, and do not have any differing physical or functional characteristics which affect energy consumption or efficiency. For purposes of this definition, ''rating'' means one of the 113 combinations of an electric motor's horsepower (or standard kilowatt equivalent), number of poles, and open or enclosed construction, with respect to which section 431.42 prescribes nominal full load efficiency standards. 61 FR 60465 (November 27, 1996).

[8] Thus, for enforcement testing DOE understands the conditions for establishing compliance to be as follows: (1) the average full load efficiency of the sample of units tested must not be less than the value of efficiency that equals the applicable nominal efficiency prescribed by EPCA, reduced by an amount equivalent to a 15 percent increase in losses at full load, i.e., the value given by 100/[1+1.15(100/NE − 1)], and (2) the full-load efficiency of each motor in the sample must be greater than the value of efficiency equal to the applicable nominal efficiency prescribed by EPCA, reduced by an amount equivalent to a 20 percent increase in losses at full load, i.e., the value given by 100/[1+1.20(100/NE − 1)].

and NEMA proposals and a quantitative estimate of the risk, or statistical confidence, associated with testing under such proposals.

Based on the NIST analysis the Department is considering the following with respect to the final rule for electric motors:

(1) DOE could adopt the NEMA proposal for compliance testing rather than the method given in DOE's proposed rule. Alternatively, DOE could adopt the NEMA proposal, but could substitute a coefficient of 1.03 or 1.01 for the 1.05 coefficient in the formula above. DOE could also adopt the NEMA proposal, with or without a change in the 1.05 coefficient, but with a requirement that the number of sample units to be tested be fixed, at five motors for example.

The Department understands the advantages in simplicity and reduced burden on manufacturers presented by the NEMA sampling proposal for compliance testing, but believes there is a higher risk, relative to the NOPR criteria, of overly optimistic estimates of efficiency. The Department believes that the 1.05 coefficient proposed by NEMA could be changed to 1.01, for example, and this would substantially reduce the risk under the NEMA proposal that a motor failing to meet the energy efficiency standard prescribed in EPCA would nevertheless be found in compliance. Also, the Department understands that the performance of the NEMA proposal for compliance testing depends on the sample size. It appears to DOE that a fixed sample size of 5 motors would not be unduly burdensome and would provide the statistical confidence needed for determining whether an electric motor complies with the applicable EPCA standard, for labeling that motor, and for using test results as a basis for substantiating alternative methods used to determine the efficiencies of other motors.

(2) With regard to enforcement testing, DOE could adopt NEMA's proposal, with or without modification of the coefficient, or could retain the NOPR Sampling Plan for Enforcement Testing with the statistical confidence level increased from 90 percent to 99 percent, or to some other value higher than 90 percent.

NEMA asserts that the NOPR sampling plan for enforcement is not consistent with the NOPR sampling plan for compliance, claiming the possibility is too great that a motor found in compliance under the enforcement plan would have been found in non-compliance under the compliance plan. The NIST analysis indicates, however, that the sampling criteria proposed by NEMA for enforcement testing make little distinction between efficiencies that are at and significantly below the EPCA nominal values. Also, the NEMA sampling plan for enforcement could produce draconian results. Under the NEMA criteria, the efficiency performance of a *single unit* could cause a basic model to fail the entire test, without recourse.

As proposed, the NOPR Sampling Plan for Enforcement Testing establishes that testing be consistent with a statistical confidence of not less than 90 percent. This statistical confidence implies that the likelihood of falsely concluding that a product is not in compliance may be as high as 10 percent. According to the NIST analysis, the NOPR Sampling Plan for Enforcement Testing could be modified to increase the confidence level from 90 to 99 percent. Although this modification could require testing a larger sample of motors, it would reduce the risk that a manufacturer would be falsely found in non-compliance. NIST believes it is highly unlikely that a product that is labeled in accordance with the NEMA MG1 guidelines would require testing beyond the initial sample of five, and that any risk of additional testing is more than offset by the increased value of the test in assuring that a manufacturer's interest is protected. Moreover, the Department understands that, in contrast to the NEMA sampling plan for enforcement testing, the *t*-test used in the NOPR is a widely accepted basis for a testing protocol and is not strongly influenced by the exact form of the underlying distribution of energy efficiency measurement data.

The Department of Energy is interested in receiving comments and data concerning the accuracy and workability of the NEMA Motor and Generator Section proposals for sampling electric motors for compliance and enforcement, and would welcome recommendations regarding improvements to NEMA's suggested approaches, particularly in the following respects:

(1) *Compliance.* The Department seeks comments on variations to NEMA's proposed sampling plan for compliance, such as requiring the sample size to be fixed at five units and setting the coefficient at 1.01 or 1.03. Are further clarifications needed in the plan? For example, if a sample of five units of a basic model of electric motor is selected and fails compliance after being tested, under what circumstances, if any, would additional samples of the same basic model be selected and retested?

(2) *Enforcement.* Would the absolute pass/fail nature of the NEMA Motor and Generator Section proposal create an undue burden on motor manufacturers? What is an appropriate level of confidence for enforcement testing? If the NEMA Motor and Generator Section proposal for enforcement testing was to be adopted, should the 1.15 and 1.2 coefficients for the mean and the extreme criteria, respectively, be modified? If so, what other values are recommended?

### *C. Sampling Requirements Where a Motor's Efficiency Is Established Through a Certification Organization*

Section 345(c) of EPCA, 42 U.S.C. 6316(c), directs the Department to require motor manufacturers to certify compliance with the applicable energy efficiency standards through an independent testing or certification program nationally recognized in the United States and, as is further discussed below, EPCA requires that, subject to certain conditions, a motor's nameplate and marketing materials include its efficiency. Accordingly, the proposed rule, at sections 431.24, 431.25(a), 431.82, and 431.123(b), 61 FR 60466–67, 60470–71, requires manufacturers to certify and label the efficiency level of each basic model of electric motor based on use of either (i) a third party independent testing laboratory accredited by a nationally recognized accrediting body, such as the National Voluntary Laboratory Accreditation Program (NVLAP), (ii) the manufacturer's own testing laboratory, if it is accredited by a nationally recognized accrediting body, such as NVLAP, or (iii) a nationally recognized third party certification program.

Under section 431.24(a) of the proposed rule, the energy efficiency of each basic model of electric motor must be determined by compliance testing or by application of an alternative efficiency determination method (AEDM) which calculates the energy efficiency of an electric motor. Use of an AEDM is permitted, however, only if the efficiency of at least five basic models, selected in accordance with criteria specified in section 431.24(b)(1)(i)–(ii), is determined through compliance testing. For each basic model selected for testing, section 431.24(b)(1)(iii) in the proposed rule provides, as discussed above, a sampling procedure for selecting units to be tested. Moreover, to use a particular AEDM, it must (1) meet certain general criteria specified in section 431.24(b)(2), and (2) be applied to at least five basic models that have

been selected and tested in accordance with the criteria in proposed section 431.24(b)(1), with the total power loss predicted for each of these models by the AEDM being within plus or minus ten percent of the mean total power loss determined from the testing (section 431.24(b)(3)). Finally, section 431.24(b)(4) requires subsequent periodic verification of an AEDM by (1) testing by an accredited laboratory, (2) a nationally recognized certification organization or (3) an independently state-registered professional engineer.

As currently written, the proposed regulations impose these requirements both when a manufacturer seeks to establish a motor's efficiency without using a certification program (i.e., solely through testing and AEDMs) and also when efficiency is established through a certification program.

In its comments following the NOPR, Reliance Electric recommends that the Department not impose DOE's sampling plan for compliance testing when a manufacturer establishes compliance through a third party certification program. Reliance asserts that the testing and sampling procedures of a certification program, such as the Canadian Standards Association (CSA) in Canada, are reliable and fulfill the Department's intent that a sampling plan give assurance that the nominal full load efficiency reported is correct. (Reliance, No. 11 at pg. 7.) NEMA also recommends that the Department's sampling plan requirements not apply when compliance is certified through a recognized certification program. NEMA asserts, however, that the certification program's specific criteria and plan for testing should be reviewed and approved by the Department as part of the process of reviewing its petition to become a ''nationally recognized'' certification program, as described in section 431.27(b)(4) of the proposed rule. (NEMA, No. 18 at pgs. 8 & 9.)

It appears to the Department that these comments from Reliance Electric and NEMA have substantial merit. Therefore, although it continues to consider the approach in the proposed rule, the Department also proposes for consideration that the final rule provide as follows: when a manufacturer establishes a motor's efficiency under EPCA through a certification organization, the certification organization would not be required to (1) select basic models for testing in accordance with the final rule's criteria for making such selections,[9] or (2) follow the sampling provisions that the final rule requires for compliance testing.[10] The other requirements in proposed section 431.24(b) for testing and for use of an AEDM would still have to be met. For example, the certification organization would be required to establish the efficiency of at least five basic models through compliance testing. By way of further example, an AEDM could not be used unless it had been applied to at least five basic models that had been tested, and the results of such application were within the bounds prescribed in the proposed rule. Furthermore, the Department proposes that the final rule provide that the criteria used by a certification program to select basic models for testing, as well as its sampling plan for choosing the units to be tested, will be reviewed and approved by the Department as part of the evaluation for national recognition under section 431.27(b) of the proposed rule. Finally, proposed section 431.24(b)(4)(i)(B) requires verification of an AEDM subsequent to its use, stating that one way to achieve such verification is for a certification organization to certify the efficiency of a basic model to which the AEDM was applied. To provide the independent AEDM verification that this provision contemplates, the Department proposes that, when a manufacturer has used a certification organization to establish a motor's efficiency rating, and the rating is based on an AEDM, the AEDM cannot be subsequently verified by having that same certification organization certify the efficiency of the motor.

The Department seeks comments on whether it should adopt the foregoing proposals, or whether it should adopt the approach in the proposed rule, i.e., that certification organizations be required to adhere to the provisions specified in the rule for the selection and sampling of basic models. In particular, the Department seeks comment on the following:

1. *Sampling for compliance testing.* The Department seeks comments on whether a certification organization should be required to select basic models for compliance testing in accordance with criteria such as those in proposed section 431.24(b)(1)(i)–(ii). Once a basic model is selected, should a certification organization select specimens to be tested in accordance with a prescribed sampling plan? The Department of Energy is also interested in receiving comments and data concerning the workability of sampling plans used by certification organizations, and how such sampling plans could be evaluated.

2. *Substantiation and Verification of an AEDM.* To substantiate the accuracy and reliability of an AEDM, five basic models must be tested. When this is done through a certification program, should the certification program be required to select and test the basic models in accordance with criteria such as those proposed in section 431.24(b)(1)? Should the same certification organization, used to initially substantiate an AEDM under section 431.24(b)(3), be prohibited from subsequently verifying an AEDM under section 431.24(b)(4)(i)(B)?

*D. Enforcement Testing Where Violation of a Labeling Representation Is Alleged*

Section 344(f) of EPCA provides for the Secretary to prescribe rules for electric motor labeling, including requirements that the energy efficiency be on the permanent nameplate and be displayed prominently in catalogs and other marketing materials. Section 431.82 of the proposed rule incorporates and implements these provisions, by requiring each electric motor's nominal full load efficiency to be marked clearly on its permanent nameplate and to be prominently displayed in marketing materials for the motor. Section 431.127(a) in the proposed rule, which sets forth enforcement procedures, provides that the Department may conduct enforcement testing, subject to certain conditions, to ascertain the accuracy of the efficiency rating disclosed on the nameplate or in marketing materials for an electric motor, as well as to determine whether the motor is in compliance with the applicable energy efficiency standard.

Other provisions of the proposed rule, however, as well as language in the preamble, can be read as suggesting that the enforcement provisions apply only in determining compliance with the applicable standard, and not to whether a labeling representation is accurate. Under proposed section 431.127(a)(1), for example, enforcement testing is pursued after a manufacturer has had an opportunity to ''verify compliance with the applicable efficiency standard.'' 61 FR 60472. Verification of a label's accuracy is not mentioned. Moreover, the sampling procedures for enforcement testing set forth steps to assess compliance with the ''applicable statutory full load efficiency,'' and refer to whether a basic model being tested is in ''compliance'' or ''noncompliance.'' 61 FR 60474–75. But no language in these sampling procedures indicates that they are to be used to assess the accuracy of a labeling representation as

[9] In the proposed rule, such criteria are in section 431.24(b)(1)(i)–(ii).

[10] In the proposed rule, such sampling provisions are in section 431.24(b)(1)(iii).

to efficiency. The preamble indicates that the purpose of the enforcement sampling plan is to ascertain whether the mean efficiency of a basic model is equal to or exceeds the statutory full load efficiency. 61 FR 60459.

In response to the proposed rule, Mr. W. Treffinger asserts that testing and sampling should ensure that the published and nameplate data represent the actual efficiency of a motor in use. (Treffinger, No. 4 at 5.) NEMA asserts that certification programs for motors currently verify the nameplate efficiency. (NEMA, No. 18 at pg. 8.)

In proposing the enforcement procedures in section 431.127, the Department intended that they would apply to allegations that the labeled efficiency rating for a motor is erroneous. Moreover, the Department continues to believe that these procedures, including the proposed sampling plan at section 431.127(c), should be used to determine the validity of labeling representations for an electric motor, and not just whether the motor meets or exceeds the regulatory standard for efficiency. The Department intends to make clear in the final rule that the provisions of section 431.127 apply to labeling representations. However, because the NOPR was not clear on this point, the Department seeks comments whether the proposed enforcement procedures should be used to determine the validity of labeling representations, or should only be used only to determine if the motor meets the applicable efficiency level prescribed by EPCA. If the latter, on what basis would a determination be made, during an enforcement investigation, as to the validity of labeling representations?

*E. National Recognition*

Section 345(c) of EPCA requires that compliance be certified through a testing or certification program that is ''nationally recognized.'' The proposed rule provides that this requirement would be met (1) by a testing facility that has been accredited either by NVLAP or by an accrediting body that DOE classifies as nationally recognized to accredit facilities to test motors for efficiency, or (2) by a certification program that DOE has classified as nationally recognized. In the proposed rule at section 431.26, *Department of Energy recognition of accreditation bodies*, and section 431.27, *Department of Energy recognition of nationally recognized certification programs*, the Department proposes criteria and procedures under which it would make such classifications.

Neither section 431.26 nor 431.27 addresses a situation where DOE has classified an organization as an accreditation body, or as a nationally recognized certification program, and the organization subsequently ceases to comply with the conditions for such classification. Therefore, the Department proposes that the final rule would provide that the Department will notify such an accreditation body or a certification organization if the Department believes the entity is failing to comply with the conditions of section 431.26 or 431.27, respectively, and at the same time the Department will request that appropriate corrective action be taken. The rule would also provide that the accreditation body or certification organization would be given an opportunity to respond, and if, after receiving such response, the Department believes satisfactory correction has not been made, the Department would withdraw its recognition from that organization. If an accreditation body or certification organization wishes to withdraw itself from recognition by the Department, it could do so by advising the DOE in writing. The Department seeks comments on whether the Department should adopt the foregoing approach for corrective action, and for revocation of an organization's classification as an accreditation body or nationally recognized certification program under sections 431.26 and 431.27.

## III. Conclusion

The Department seeks comments only on the aforementioned issues arising from possible changes in the NOPR concerning test procedures, sampling for compliance and enforcement, verification of labeled efficiency, and recognition of accreditation bodies and certification organizations.

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