ACEEE
American Council for an Energy-Efficient Economy
529 14th Street, N. W., Suite 600 Washington, D.C. 20045 202.507.4000 202.429.2248 www.aceee.org

Statement on Proposed Electric Motor Rulemaking

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Presented by

R. Neal Elliott, Ph.D., P.E.

Associate Director for Research

Thank you for the opportunity to speak at on the Department of Energy's (DOE) proposed Electric Motor Rulemaking on behalf of the American Council for an Energy-Efficient Economy (ACEEE) and a coalition jointly lead by the National Electrical Manufacturers' Association (NEMA) and the Appliance Standards Awareness Project (ASAP). We applaud the efforts of DOE toward increasing standards for electric motor efficiency.

The Department of Energy is currently seeking to increase Minimum Efficiency Performance Standards (MEPS) for a narrow subset of electric motors which DOE has deemed "covered" by the rulemakings that implemented the provisions in the *Energy Policy Act of 1992* and the *Energy Independence and Security Act of 2007* (EISA). The current definition of covered motors leaves out a significant portion of the integral horsepower, poly-phase motor population in the United States. (The issue of determining that percentage will be discussed later.)

In my capacity as Associate Director for Research at the American Council for an Energy-Efficient Economy and beyond, I have been studying motor systems and following federal motor standards for over 20 years, and concur that significant opportunities for energy efficiency savings exist from increasing efficiency levels and expanding the scope of covered products. I have been involved with all the motor standard proceedings undertaken by the Department, and was also involved with the consensus decisions that lead to the agreement in EISA. The parties involved with those discussions have again come together under the joint auspices of NEMA and ASAP to explore a consensus agreement in this area that would make significant progress to realizing these savings.

While there are many advanced motor types that aren't covered, including motors using permanent magnet technology, electronically commutated motor technology, or switched reluctance motor technology, there are also many motors defined by NEMA as "definite purpose" or "special purpose" within the integral poly-phase category that could be covered with the current "general purpose" motors with efficiency levels as specified by NEMA Standard MG 1, Table 12-12. Previous rules have already increased standards for these covered motors to upwards of 95%. Analysis by NEMA shows that increasing the MEPS for covered, general-purpose motors would increase their efficiency by 0.7%[1] on average. Expanding the definition of "covered product" to include many "definite purpose" or "special purpose" could increase the efficiency of these motors by 2.2% to 5.3%.

In addition to resulting in greater energy savings, expanding coverage would dramatically simplify enforcement of standards by narrowing the scope of products not currently covered by MEPS. The current ambiguity in definition of covered products, combined with the large number of parameters that are used to determine whether a motor is covered by MEPS, has made the enforcement of the standards more difficult than it needs to be. We feel it is important to improve enforcement both because of the energy savings that are lost, but also out of a sense of fairness for the 14 NEMA manufacturers who make good-faith effort to comply and are undercut by manufacturers and importers who circumvent the standards. We thus encourage the Department to seek to simplify definitions of covered products in this coming rulemaking to make the standards more easily enforced.

We encourage DOE to approach the direction of this rulemaking carefully. Currently, most domestic manufacturers could produce the motors that would be covered by a proposed expansion in scope designing models at the MG 1, Table 12-12 level. Thus, while there would still be costs to manufacturers, it would not be an undue burden and standards could go into effect as soon as 18 months after the Department issues its rule. This period would be far shorter than would be undertaken with an approach that increased efficiency levels, and would result in significant addition savings from the earlier implementation date, since motors typically have an operating life of approximately 25 years.

[1] Boteler, Rob. "Motor Efficiency EISA Regulations Impact: Utility Programs need to Prioritize Efficiency Options for Results," presentation to ACEEE. July 14th, 2010.

On the other hand, raising the efficiency levels above MG 1, Table 12-12 at this point could result in unintended market impacts that might actually result in increased energy consumption. The motor marketplace differs significantly from many other types of equipment covered by DOE standards. It is thus important for the Department to consider the market impacts of this rule, as well as the technical aspects of this rule.

This need for study raises a related critical issue, which is the need for additional market data on electric motors. The last comprehensive survey of motor energy use and sales in the United States was prepared for the Department in 1998. In addition, the Census Bureau discontinued collection of data on motor shipment and imports in 2003. Without accurate, up-to-date information on the marketplace and installed base of electric motors, the Department and others such as ACEEE and energy efficiency programs cannot accurately determine the best course of action when raising standards. ACEEE and other organizations have advocated in the past for increased funding for critical data collection such as this, and we reiterate it here. Pending federal legislation has called for the motor market study to be updated, and an on-going process be initiated to maintain the currency of this information.

As I mentioned at the beginning of my remarks, NEMA, ASAP, and their associate organizations including ACEEE are exploring a consensus agreement on this standard. In general, we are in agreement on the following principles for the further expansion of standards (MEPS) beyond those required by the *Energy Independence and Security Act of 2007* (EISA):

1. The vast majority of poly-phase, integral horsepower induction motors between 1 and 500 horsepower (and their metric equivalents) should be covered by MEPS at the MG 1, Table 12-12 efficiency level;
2. That the scope of products not covered by MEPS should be limited to specifically defined exceptions;
3. That expanding the scope of products covered by MEPS will simplify the enforcement of MEPS for electric motors by Federal agencies and the marketplace;
4. That the expansion of coverage and the move to MG 1, Table 12-12 efficiency levels is in the best interest of consumers, domestic manufacturers, and the economy; and
5. That the MG 1, Table 12-12 efficiency levels and expanded scope of coverage should go into effect as soon as is feasible.

Whether these discussions produce an agreement, we believe that expanding the scope within the scope of these principles is the best path forward toward attaining the most energy savings as soon as possible with reasonable costs to manufacturers and minimal disruption in the marketplace.

Regards,

R. Neal Elliott, Ph.D., P.E.
Associate Director for Research