

**REGULATORY IMPACT ANALYSIS FOR SMALL
ELECTRIC MOTORS**

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REGULATORY IMPACT ANALYSIS FOR SMALL ELECTRIC MOTORS

RIA.1 INTRODUCTION

In view of Title 10 of the Code of Federal Regulations, Part 430, appendix A to subpart C, *Procedures, Interpretations and Policies for Consideration of New or Revised Energy Conservation Standards for Consumer Products*, the U.S. Department of Energy (DOE) is committed to fully consider effective non-regulatory approaches as alternatives to standards and support voluntary efforts by manufacturers, retailers, utilities and other to increase product efficiency.^a DOE will prepare a draft regulatory impact analysis pursuant to Executive Order 12866, "Regulatory Planning and Review," which will be subject to review under the Executive Order by the Office of Management and Budget's Office of Information and Regulatory Affairs. 58 FR 51735 (September 30, 1993). DOE has identified performance standards and six major alternatives to standards as representing feasible policy options to achieve customer product energy efficiency, in comparison to no new regulatory action. It will evaluate each alternative in terms of its ability to achieve significant energy savings at a reasonable cost, and will compare the effectiveness of each one to the effectiveness of the proposed standards rule.

The regulatory and non-regulatory means of achieving energy savings that DOE proposes to analyze are listed in Table RIA.1.1. The technical support document (TSD) in support of DOE's notice of proposed rulemaking will include a complete quantitative analysis of each alternative, the methodology for which is discussed briefly below.

Table RIA.1.1 Non-Regulatory Alternatives to Standards

No new regulatory action
Consumer tax credits
Manufacturer tax credits
Performance Standards
Rebates
Voluntary energy efficiency targets
Early replacement
Bulk government purchases

RIA.2 METHODOLOGY

DOE will use the national impact analysis (NIA) spreadsheet models to calculate the national energy savings and the net present value (NPV) corresponding to each alternative to the

^a Section 1.(e) of appendix A to subpart C of Title 10, Code of Federal Regulations, Part 430.

proposed energy conservation standards. The NIA spreadsheet model for each of the three appliance products is discussed in chapter 10 of the TSD. To compare each alternative quantitatively to the proposed energy conservation standards, DOE will need to quantify the effect of each alternative on the purchase and use of energy efficient small electric motors. Once it has quantified each alternative, DOE will make the appropriate revisions to the inputs in the NIA spreadsheet models. Key inputs that DOE may revise in these models are:

- energy prices and escalation factors;
- implicit market discount rates for trading off purchase price against operating expense when choosing equipment efficiency;
- consumer purchase price, operating cost, and income elasticities;
- consumer price-versus-efficiency relationships; and
- equipment stock data (purchase of new equipment or turnover rates for inventories).

The key measures of the impact of each alternative will be:

- Energy use (in exajoules, or 10^{18} joules): Cumulative energy use of the equipment from the effective date of the new standard to the year 2045. DOE will report electricity consumption as primary (source) energy.
- National energy savings: Cumulative national energy use from the base case projection minus the alternative policy case projection.
- Net present value: The value of future operating cost savings from equipment bought in the period from the effective date of the new standard (2015) to the year 2045. DOE will calculate the NPV as the difference between the present value of equipment and operating expenditures (including energy) in the base case, and the present value of expenditures in each alternative policy case. DOE will discount future operating and equipment expenditures to 2008 using a seven-percent and three-percent real discount rate. It will calculate operating expenses (including energy costs) for the life of the equipment.