CHAPTER 17. REGULATORY IMPACT ANALYSIS FOR PROPOSED ENERGY CONSERVATION STANDARDS FOR ELECTRIC MOTORS

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17.1 INTRODUCTION

Under appendix A to subpart C of Title 10 of the Code of Federal Regulations, Part 430, *Procedures for Consideration of New or Revised Energy Conservation Standards for Consumer Products* (Process Rule) the U.S. Department of Energy (DOE) is committed to explore non-regulatory alternatives to energy conservation standards. Accordingly, DOE will prepare a draft regulatory impact analysis pursuant to Executive Order 12866, "Regulatory Planning and Review," which will be subject to review by the Office of Management and Budget's Office of Information and Regulatory Affairs. Pursuant to the Process Rule, DOE has identified seven major alternatives to standards that represent feasible policy options to reduce the energy consumption of electric motors. 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 alternative to the effectiveness of each trial standard.

Table 17.1.1 lists the non-regulatory means of achieving energy savings that DOE proposes to analyze. The technical support document (TSD) prepared in support of DOE's notice of proposed rulemaking will include a complete quantitative analysis of each alternative, the methodology for which is briefly addressed below.

Table 17.1.1 Non-regulatory Alternatives to Standards

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

17.2 METHODOLOGY

DOE will use the national impact analysis (NIA) spreadsheet model for electric motors to calculate the national energy savings and the net present value (NPV) corresponding to each alternative to proposed standards. The NIA model for electric motors 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 electric motor. After it has quantified each alternative, DOE will make the appropriate revisions to the inputs in the NIA models. Key inputs that DOE may revise in the models are:

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

The following are the key measures of the impact of each alternative.

- *Energy use*: Cumulative energy use of electric motors from the compliance date of the new standard to 2045. DOE will report electricity consumption as primary 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 the equipment bought during the period from the required compliance date of the new standard (2015) to 2044. 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 under each alternative-policy case. DOE will discount future operating and equipment expenditures to 2011 using a 7-percent and 3-percent real discount rate. It will calculate operating expenses (including energy costs) for the life of the equipment.