

Appliance & Commercial Equipment Standards

U.S. DEPARTMENT OF **ENERGY** | Energy Efficiency & Renewable Energy



Appliance Standards Program
Buildings Technology Office

Hydraulic Institute
October 24, 2013

What Does the Program Cover?

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- Over 60 products are covered by DOE's appliance standards program. These are known as "covered products."
- Covered products are responsible for 90% of residential building energy consumption, 60% of commercial building energy consumption, and approximately 29% of industrial energy consumption.
 - In 2009, the Nation's 113 million households and 5.4 million commercial buildings consumed approximately 39.2 quadrillion Btu (quads) of energy annually, about 41 percent of the U.S. total.
 - Residential buildings use 22 percent of the U.S. total and commercial buildings use 19 percent. Industrial equipment and processes comprises 29 percent of the national total.
 - Energy use in buildings costs \$413.3 Billion (\$2009).

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What Does the Program Do?
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- Establishes test procedures for measuring the energy efficiency of covered products.
 - *Energy efficiency is often difficult to define, and requires different metrics for different products.*
 - *Test procedures must be carefully developed, so they can't be gamed.*

- Establishes the mandatory standard levels for the energy efficiency of covered products.
 - *The standard is defined in terms of the test procedures established by the Program.*
 - *Manufacturers must test their products using the DOE test procedure, and it must meet the standard level to be sold in the U.S.*

(c) Dishwashers. (1) The Estimated Annual Operating Cost (EAOC) for dishwashers must be rounded to the nearest dollar per year and is defined as follows:

(i) When cold water (50 °F) is used,
 (A) For dishwashers having a truncated normal cycle as defined in section 1.15 of appendix C to this subpart,
 EAOC = (D_s × S) + (D_s × N × (M - (E_h/2))).
 (B) For dishwashers not having a truncated normal cycle,
 EAOC = (D_s × S) + (D_s × N × M)
 Where,
 D_s = the representative average unit cost of electrical energy, in dollars per kilowatt-hour, as provided by the Secretary.

See the Federal Register, August 29, 2003.

Product class	Standard level
Residential water heaters*	
Gas-fired Storage	For tanks with a Rated Storage Volume at or below 55 gallons: EF = 0.875 - (0.0015 × Rated Storage Volume in gallons). For tanks with a Rated Storage Volume above 55 gallons: EF = 0.960 - (0.0003 × Rated Storage Volume in gallons).
Electric Storage	For tanks with a Rated Storage Volume at or below 55 gallons: EF = 0.960 - (0.0003 × Rated Storage Volume in gallons). For tanks with a Rated Storage Volume above 55 gallons: EF = 2.057 - (0.00113 × Rated Storage Volume in gallons).
Oil-fired Storage	EF = 0.68 - (0.0019 × Rated Storage Volume in gallons).
Gas-fired Instantaneous	EF = 0.82 - (0.0019 × Rated Storage Volume in gallons).

See the Federal Register, April 16, 2010.

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DOE Office of General Counsel Leads Enforcement with BTP Support
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- **Certifications to Date**
 - Close to 2 million products have been certified to DOE since January 1, 2010
 - 100-percent of certifications are reviewed by DOE

- **Enforcement Activity**
 - Approximately 250 open enforcement actions
 - Emphasis on testing and standards violations
 - Expanding to commercial equipment
 - Collected over \$5,400,000 in civil penalties for violations
 - Enforcement news: <http://energy.gov/gc/enforcement-news>

- **Online, Public, Searchable Certification Database**
 - Launched at end of 2011
 - Version 2.0 release upcoming

- **Guidance Database**
 - DOE released a guidance database in September 2011, which houses responses to questions DOE has received regarding scope of coverage, definitions, test procedures, standards applicability, certification, and enforcement.

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What Does the Program Do?

- Enforces the standards.
 - *DOE can order manufacturers to take corrective action if their products do not meet the standard levels.*
 - *This can include ordering them not to sell the products in the United States and the imposition of civil penalties.*

BEFORE THE
U.S. DEPARTMENT OF ENERGY
Washington, D.C. 20585

In the Matter of:)
Sears, Roebuck & Co.) Case Number: 2011-SB-1418
(Respondent))

Issued: June 26, 2012

NOTICE OF NONCOMPLIANCE DETERMINATION

Manufacturers and private labelers are prohibited from distributing covered products that do not comply with applicable federal energy conservation standards. 10 C.F.R. § 429.152; 42 U.S.C. § 6302.

On September 22, 2011, DOE completed testing of one compact chest freezer, Kenmore-brand model number 25.1970210 ("19702"), privately labeled and distributed in commerce in the U.S. by Sears, Roebuck & Co. ("Sears") and manufactured in China. In December 2011 and January 2012, DOE completed testing of three additional units of 19702. DOE's testing was conducted in accordance with the relevant DOE test procedure (10 C.F.R. Part 430, Subpart B, Appendix B1).

DOE's testing demonstrated that Kenmore-brand chest freezer model number 19702 is not in compliance with federal law. Given the tested unit's measured volume, their respective maximum permissible rates of energy consumption were 261, 262, 263, and 262 kilowatt-hours per year (kWh/yr).¹ Based on their performance during testing, the four units that DOE tested consumed energy at the rates of 374, 413, 388, and 449 kWh/yr, an average of more than 50 percent over the federal limit.

(November 28, 2012)




Midea Agrees to Pay \$4.5M for Four Models that Fail to Meet Federal Energy Standards
Midea America Corp., Hefei Hualing Co., Ltd., and China Refrigeration Industry Co., Ltd. ("Midea")—all subsidiaries or affiliates of GD Midea Holding Co., Ltd.—agreed to pay \$4,562,838 after admitting in a compromise agreement that one refrigerator-freezer basic model and three freezer basic models fail to meet the relevant federal energy conservation standards. Specifically, Midea admitted that the DOE-tested units of the offending basic models consumed energy at approximately the following rates:
UL-WD195-D: 55% over the standard UL-WD145-D: 28% over the standard
HS-390C: 8% over the standard HD-146F: 8% over the standard

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What Does the Program Do?

- Working with EPA, leads test procedure development, testing/verification, and MOST EFFICIENT for ENERGY STAR.
 - *DOE generally uses the same test procedure for appliance standards and ENERGY STAR.*
 - *DOE conducts testing in support of the ENERGY STAR program to verify the required efficiency levels.*
 - *DOE has tested over 400 products since 2010 to ensure that products bearing the ENERGY STAR logo deliver the energy savings consumers expect.*
 - *ENERGY STAR MOST EFFICIENT targets ~top 5% of market for several home appliances.*

Department of Energy
Washington, DC 20585

December 9, 2010

Ms. Leslie Jones
ENERGY STAR Program
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Room 62023
Washington, DC 20460

Dear Ms. Jones:

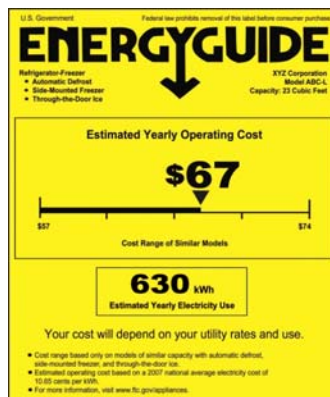
On October 20, 2010, the United States Department of Energy (DOE) notified Electrolux Major Appliance (Electrolux) that DOE had tested the Frigidaire brand chest freezer model FFN09M5HW* manufactured by Electrolux as part of the ENERGY STAR Testing Pilot Program, and that, according to Stage I testing, this model exceeded allowable ENERGY STAR energy-efficiency requirements by 20 percent. DOE gave Electrolux until November 1, 2010, to request additional testing or have this matter referred to the United States Environmental Protection Agency (EPA) for disqualification from the ENERGY STAR program.

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What Does the Program Do?

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- Working with FTC, DOE creates a methodology to calculate energy-usage values for Energy Guide labels on appliances.
 - Generally the results on the FTC label are based on calculations resulting from DOE test procedures.
 - Manufacturers must file data reports with FTC and must contain the ratings for the appliances. FTC is allowing manufacturers to submit reports to DOE via CCMS.



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What Are the Program Benefits?

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The Program is highly effective, achieving high bang-for-the-buck in energy savings.

- The national energy efficiency standards promulgated to date are expected to save 69 quads of energy by 2020 and 120 quads by 2030.
- The cumulative utility bill savings to consumers of these standards are estimated to be over \$900 billion by 2020 and over \$1.6 trillion through 2030.
- Annual carbon dioxide savings will reach nearly 260 million tons by 2020 and the cumulative savings by 2030 is estimated to be 6.5 billion tons.

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What Are the Manufacturer Benefits?

Federal energy efficiency standards benefit manufacturers as well.

- They reduce the regulatory burden on appliance and equipment manufacturers by pre-empting a potential patchwork of state standards with a single Federal standard.
- Regulatory streamlining enhances industry competitiveness, profitability and its ability to protect and create jobs.
- Efficiency standards can help lower the costs of innovative energy efficient technology by facilitating their entry into the market and providing economies of scale.
- Test procedures that underlay standards enhance the ability to test the performance of newer technologies. The result is higher efficiency products that are more widely available and more affordable to own.

Compliance Dates for Standards Promulgated to Date

Product	Compliance Date for Original Standard and Updates	Authorizing Legislation
RESIDENTIAL PRODUCTS		
Clothes Washers (Water and Energy)	1988, 1994, 2004/2007, 2015/2018	NAECA 1987
Clothes Dryers	1988, 1994, 2014	NAECA 1987
Dishwashers (Water and Energy)	1988, 1994, 2010, 2013	NAECA 1987
Refrigerators and Refrigerator-Freezers	1990, 1993, 2001, 2014	NAECA 1987
Freezers	1990, 1993, 2001, 2014	NAECA 1987
Room Air Conditioners	1990, 2000, 2014	NAECA 1987
Central Air Conditioners and Heat Pumps	1992/1993, 2006, 2015	NAECA 1987
Water Heaters	1990, 2004, 2015	NAECA 1987
Furnaces	1992, 2013	NAECA 1987

Compliance Dates for Standards Promulgated to Date (2)

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Product	Compliance Date for Original Standard and Updates	Authorizing Legislation
RESIDENTIAL PRODUCTS		
Boilers	1992, 2012	NAECA 1987
Direct Heating Equipment	1990, 2013	NAECA 1987
Cooking Products	1990, 2012	NAECA 1987
Pool Heaters	1990, 2013	NAECA 1987
Ceiling Fans and Ceiling Fan Light Kits	2007	EPACT 2005
Torchieres	2006	EPACT 2005
Dehumidifiers	2007, 2012	EPACT 2005
External Power Supplies	2008	EISA 2007
Microwave Oven Stand-by Power	2016	EISA 2007

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Compliance Dates for Standards Promulgated to Date (3)

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Product	Compliance Date for Original Standard and Updates	Authorizing Legislation
COMMERCIAL & INDUSTRIAL PRODUCTS		
Electric Motors	1997, 2010	EPACT 1992
Warm Air Furnaces	1994	EPACT 1992
Packaged Boilers	1994	EPACT 1992
Air Conditioners and Heat Pumps	1994/1995, 2003/2004, 2010, 2012, 2012-2014	EPACT 1992
Water Heaters, Hot Water Supply Boilers and Unfired Hot Water Storage Tanks	1994, 2004	EPACT 1992
Distribution Transformers	2007, 2010, 2016	EPACT 1992, EPACT 2005

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Compliance Dates for Standards Promulgated to Date (4)

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Product	Compliance Date for Original Standard and Updates	Authorizing Legislation
COMMERCIAL & INDUSTRIAL PRODUCTS		
Refrigerators, Refrigerator-Freezers and Freezers	2010, 2012	EPACT 2005
Automatic Ice Makers	2010	EPACT 2005
Clothes Washers*	2007	EPACT 2005
Unit Heaters	2008	EPACT 2005
Refrigerated Beverage Vending Machines	2012	EPACT 2005
Walk-in Coolers and Walk-in Freezers	2009	EISA 2007

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Compliance Dates for Standards Promulgated to Date (5)

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Product	Compliance Date for Original Standard and Updates	Authorizing Legislation
LIGHTING PRODUCTS		
Fluorescent Lamp Ballasts	1990, 2005/2010, 2014	NAECA 1988
General Service Fluorescent Lamps and Incandescent Reflector Lamps	1995, 2008, 2012	EPACT 1992, EISA 2007
Medium Base Compact Fluorescent Lamps	2006	EPACT 2005
Illuminated Exit Signs	2006	EPACT 2005
Traffic Signal Modules and Pedestrian Modules	2006	EPACT 2005
Mercury Vapor Lamp Ballasts	2008	EPACT 2005
Metal Halide Lamp Ballasts and Fixtures	2009	EISA 2007
General Service Incandescent Lamps, Intermediate Base Incandescent Lamps and Candelabra Base Incandescent Lamps	2012/2014 & 2020	EISA 2007

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Compliance Dates for Standards Promulgated to Date (6)		
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Product	Compliance Date for Original Standard and Updates	Authorizing Legislation
PLUMBING PRODUCTS (Water Only)		
Faucets	1994	EPACT 1992
Showerheads	1994	EPACT 1992
Water Closets	1994/1997	EPACT 1992
Urinals	1994/1997	EPACT 1992
Pre-rinse Spray Valves	2007	EPACT 2005

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Standards Under Development	
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Standards	Stage
Computers	Framework
Computer Servers	Framework
Portable Air Conditioners	Framework
Commercial Packaged Boilers	Framework
Refrigerated Beverage Vending Machines	Framework
Commercial Compressors	Framework
Residential Boilers	Preliminary Analysis
Packaged Terminal Air Conditioners and Heat Pumps	Preliminary Analysis
Ceiling Fans and Ceiling Fan Light Kits	Preliminary Analysis
Commercial and Industrial Pumps	Preliminary Analysis
Commercial and Industrial Fans and Blowers	Preliminary Analysis
Miscellaneous Residential Refrigeration	Preliminary Analysis
Dehumidifiers	Preliminary Analysis

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Standards Under Development - Continued

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Standards	Stage
GSFL and Incandescent Reflector Lamps	NOPR
High Intensity Discharge Lamps	NOPR
Furnace Fans	NOPR
Electric Motors	NOPR
Set Top Boxes	NOPR
Automatic Commercial Ice Makers	NOPR
Commercial Clothes Washers	NOPR
Single Package Vertical Air Conditioners and Heat Pumps	NOPR
Residential Water Heaters	NOPR
Commercial Packaged Air Conditioners and Heat Pumps	NOPR
Commercial Warm-Air Furnaces	NOPR
Commercial Water Heaters	NOPR
Battery Chargers and External Power Supplies	Final Rule
Metal Halide Lamp Fixtures	Final Rule
Commercial Refrigeration Equipment	Final Rule
Walk-in Coolers and Freezers	Final Rule

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Test Procedures Under Development

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Test Procedures	Stage	Test Procedures	Stage
Alternative Efficiency Determination Methods	SNOPR	Compact Fluorescent Lamps	NOPR
Set Top Boxes	NOPR	Direct Heating Equipment and Pool Heaters (Active Mode)	NOPR
Electric Motors	NOPR	Illuminated Exit Signs	NOPR
High-Intensity Discharge Lamps	SNOPR	Light Emitting Diodes	SNOPR
Television Sets	SNOPR	Microwave Ovens (Active Mode)	NOPR
Central Air Conditioners and Heat Pumps	SNOPR	Packaged Terminal Air Conditioners and Heat Pumps	NOPR
Induction Cooking Products (Active-Mode)	NOPR	Plumbing Products	SNOPR
Clothes Dryers (Automatic Termination Sensors)	NOPR	Residential Furnaces & Boilers (Active Mode)	NOPR
Furnace Fans	SNOPR	Traffic Signal Modules and Pedestrian Modules	NOPR
Residential and Commercial Water Heaters	NOPR	Commercial Clothes Washers	NOPR
Miscellaneous Residential Refrigeration	NOPR	Residential Refrigerators - Ice Making	NOPR
Commercial and Industrial Pumps	NOPR	Dehumidifiers (Active)	NOPR
Commercial and Industrial Fans and Blowers	NOPR	Luminaires Lighting Systems	RFI
Beverage Vending Machines	NOPR		
Ceiling Fans and Ceiling Fan Light Kits	NOPR		

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EPCA Criteria for Setting Standards

DOE must follow specific statutory criteria for prescribing new and amended standards for covered equipment.

- 42 USC 6295(o)(2)(A) requires that any new or amended energy conservation standard prescribed by the Secretary for any type (or class) of covered product shall be designed to achieve the maximum improvement in energy or water efficiency, which the Secretary determines is technologically feasible and economically justified.
 - In deciding whether a proposed standard is economically justified, DOE must determine whether the benefits of the standard exceed its burdens.
 - DOE must make this determination after receiving comments on the proposed standard.
- DOE may not adopt any standard that would not result in the significant conservation of energy.
- DOE may not prescribe a standard if no test procedure has been established for the product.

Factors to Determine Economic Justification

42 U.S.C. 6295(o)(2)(B)(i) directs DOE to consider seven factors when determining whether a standard is economically justified:

EPCA Factors	DOE Analysis
1. Economic impact on consumers and manufacturers	Life-Cycle Cost Analysis Manufacturer Impact Analysis
2. Lifetime operating cost savings compared to increased cost for the product	Life-Cycle Cost Analysis
3. Total projected energy savings	National Impact Analysis
4. Impact on utility or performance	Engineering Analysis Screening Analysis
5. Impact of any lessening of competition	Manufacturer Impact Analysis
6. Need for national energy conservation	National Impact Analysis
7. Other factors the Secretary considers relevant	Environmental Assessment Utility Impact Analysis Employment Impact Analysis

Other EPCA Provisions

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- “Anti-backsliding” Provision
 - EPCA prohibits new or amended standards that either increase the maximum allowable energy use or decrease the minimum required energy efficiency of a covered product. (42 U.S.C. 6295(o)(1) and 6316(a))
- Product Availability
 - The Secretary may not prescribe a standard if interested persons have established that it is likely to result in the unavailability of any covered product type of performance characteristics (including reliability), features, sizes, capacities, and volumes that are substantially the same as those generally available in the United States. (42 U.S.C. 6295(o)(4) and 6316(a))
- State Preemption
 - Federal energy conservation requirements generally supersede State laws or regulations concerning energy conservation testing, labeling, and standards. (42 U.S.C. 6297(a)–(c) and 6316(a))
 - DOE may, however, grant waivers of Federal preemption for particular State laws or regulations, in accordance with the procedures and other provisions set forth under 42 U.S.C. 6297(d)).

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Product Classes

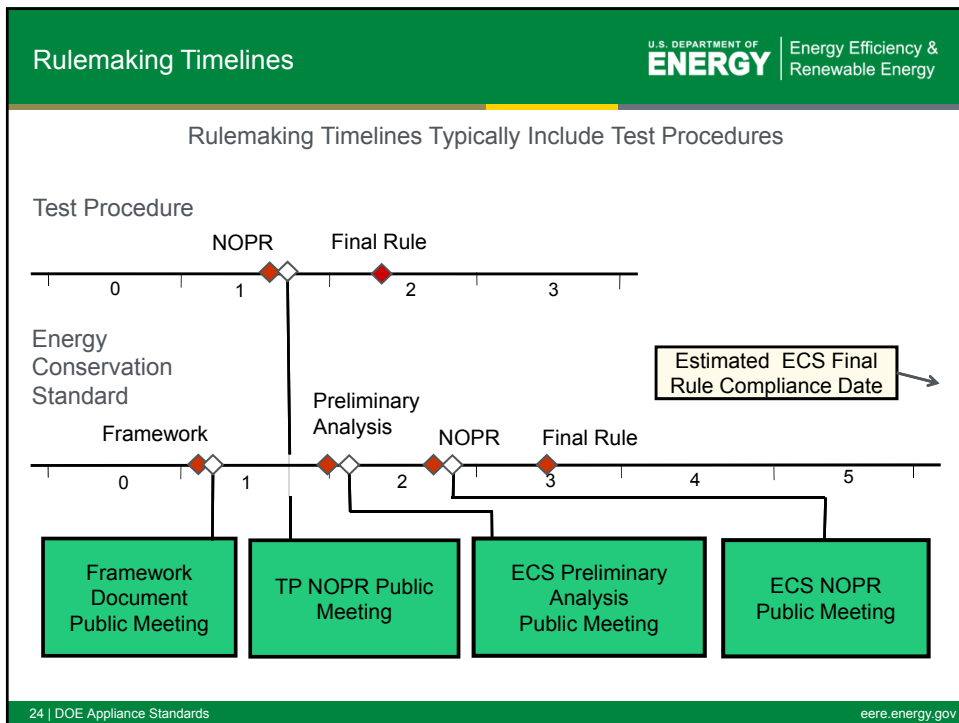
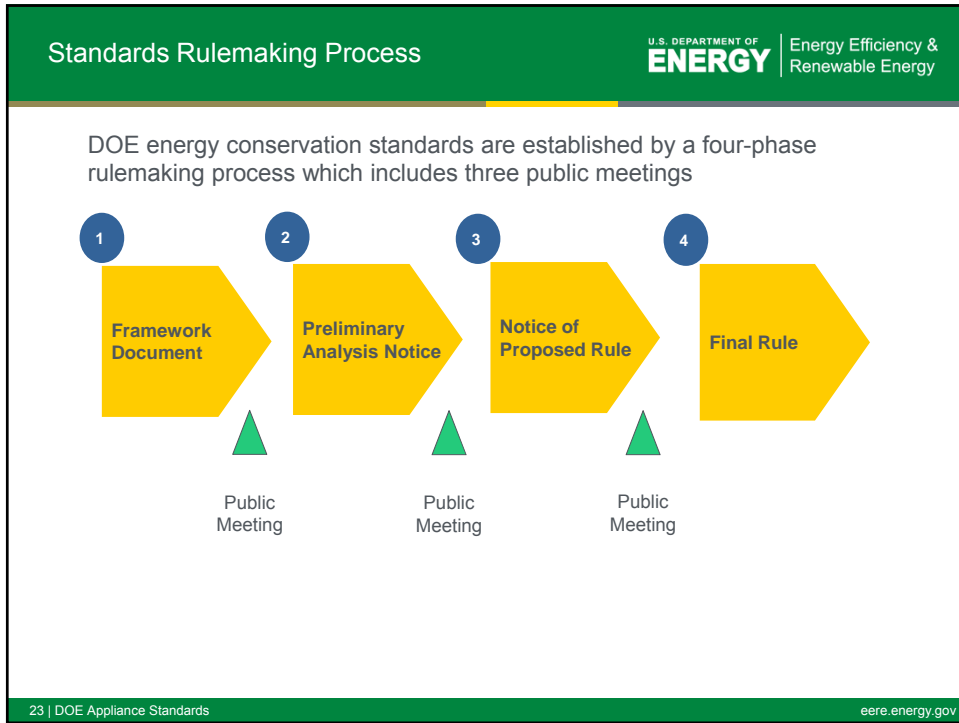
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EPCA specifies requirements when DOE promulgates a standard for a type or class of covered product that has two or more subcategories.

- When evaluating and establishing energy conservation standards, DOE divides covered equipment into equipment classes by:
 - the type of energy used; or by
 - capacity or other performance-related features that would justify a different standard.
- In making a determination whether a performance-related feature would justify a different standard, DOE must consider factors such as:
 - the utility to the consumer of the feature; and
 - other factors that DOE determines are appropriate.
- (42 U.S.C. 6295(q) and 6316(a))

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Framework Document and Meeting

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    graph LR
      A[Framework Document] --> B[Preliminary Analysis]
      B --> C[NOPR]
      C --> D[Final Rule]
    
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- The Framework Document describes the procedural and analytical approaches the Department anticipates using to evaluate energy conservation standards
- A public meeting is held and parties are encouraged to submit data, information, and written comments

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Preliminary Analysis

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    graph TD
      subgraph MainFlow [Main Process Flow]
        direction LR
        A[Framework Document] --> B[Preliminary Analysis]
        B --> C[NOPR]
        C --> D[Final Rule]
      end

      subgraph SubSteps [Sub-Steps of Preliminary Analysis]
        direction LR
        S1[Market & Technology Screening Analysis] --> S2[Engineering Analysis]
        S2 --> S3[Markups for Equipment Price Determination]
        S3 --> S4[Life-Cycle Cost and Payback Period Analysis]
        S4 --> S5[National Impact Analysis]
        
        S2 --> S6[Preliminary Manufacturer Impact Analysis]
        S3 --> S7[Energy Use & End Use Load Characterization]
        S7 --> S4
        S4 --> S8[Shipments Analysis]
        S8 --> S5
      end
    
```

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Engineering Analysis

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Purpose

- To evaluate design options that improve efficiency.
- To characterize manufacturer selling price (MSP) versus efficiency for higher-efficiency electric motors.

Manufacturer Selling Price – Efficiency Relationship

➔

Downstream Analyses

- Life-Cycle Cost and Payback Period Analysis
- National Impact Analysis
- Manufacturer Impact Analysis

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Trial Standard Levels

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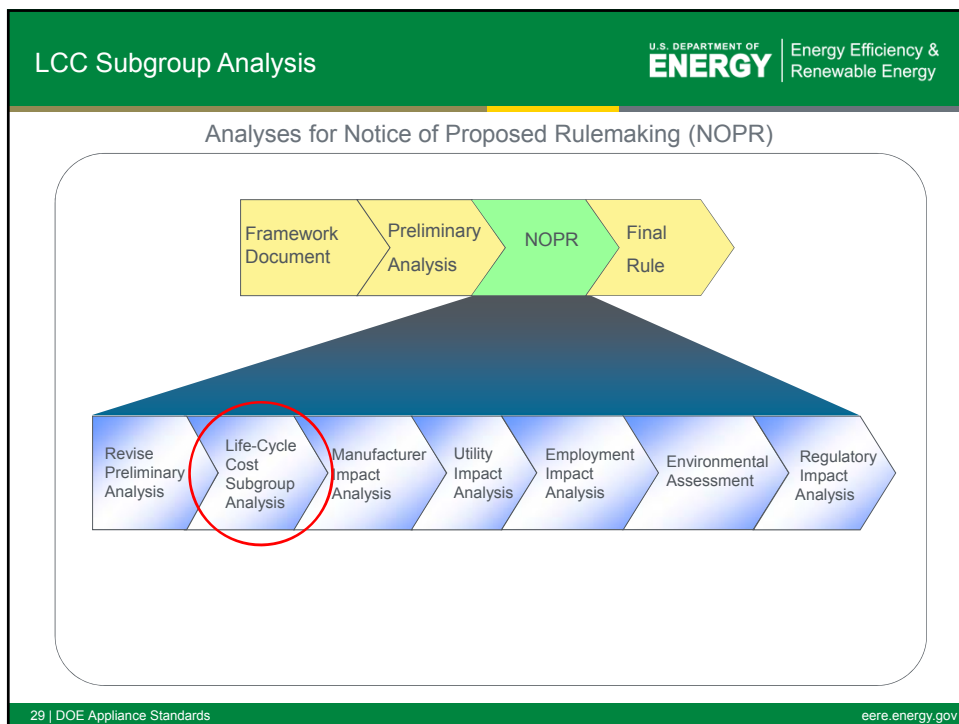
■ Purpose

- To develop a list of standard levels from which impacts are weighed and a proposed standard level is selected
 - Each trial standard level consists of a set of candidate standard levels covering all equipment classes, and may vary between equipment classes
 - NOPR analyses assess impacts for each of the trial standard levels

■ Method

- Trial standard levels are assembled from the equipment classes and candidate standards identified in the Preliminary Analysis
 - Candidate standard levels cover a range of efficiencies and can include:
 - Most energy efficient level (max tech)
 - Efficiency level with the greatest national energy savings that provide consumer savings
 - Efficiency level with greatest life-cycle cost savings
 - Efficiency levels with noteworthy technologies
 - Efficiency levels that fill in large gaps between candidate standard levels
 - Each trial standard level consists of the candidate standard level from each equipment class that meets one of the above criteria

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Life-Cycle Cost and Payback Period Analysis

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Purpose

- Assess the LCC impacts and PBP for the consumers of electric motors under the considered efficiency levels.

Method

- LCC equals total installed costs plus the sum of annual operating costs discounted to a particular base year.
- Analysis will model the uncertainty and variability of inputs using Monte Carlo approach and probability distributions.
- Analysis will be implemented in MS Excel® spreadsheet combined with Crystal Ball®.

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Shipments Analysis
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Purpose

- To estimate electric motor shipments in the base case and standards cases.

Method

- The shipments model relies on two main sources:
 - Current and historical shipments data (Market research report, inputs from interested parties, U.S. Census, NEMA).
 - Fixed investment data (Bureau of Economic Analysis).
 - Gross Domestic Product projections (AEO 2011).
- Assuming shipments are driven by economic growth and fixed investments in equipment including motors.

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National Impact Analysis
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Purpose

- For equipment shipped from 2015 to 2044:
 - To estimate the National Energy Savings (NES) from new and amended energy conservation standards at different efficiency levels.
 - To estimate the national economic impact electric motor users (or the Net Present Value (NPV)) from energy conservation standards at different efficiency levels.

Method

- DOE calculates national energy savings by multiplying unit lifetime energy savings by projected shipments and accumulating this projected value over the 30 years.
- DOE calculates the NPV by accumulating the difference each year between energy bill savings and increased equipment expenditures for all motors shipped over the 30 year period.

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Proposed Standard Level

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- **Purpose**
 - To select the appropriate trial standard level from the list of TSLs which will offer the maximum improvement in efficiency that is technologically feasible and economically justified
- **Method**
 - Starting with the most stringent TSL (max tech), assess the benefits and burdens of adopting the TSL by evaluating the following:
 - National energy savings and emission reductions (e.g., CO₂ and NO_x)
 - National consumer economic impact (i.e., Net Present Value) and Monetized value of emission reductions
 - Consumer life-cycle cost savings, payback period, and percent of consumers benefiting/burdening from standards
 - Industry/Manufacturer impacts
 - Other factors (e.g., technological uncertainty)
 - If benefits outweigh the burdens, then select the TSL
 - If benefits do not outweigh the burdens, then evaluate the next TSL to determine if technological feasibility and economic justification are met

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Other Analyses

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Review Utility Impact Analysis, Environmental Assessment, Employment Impact Analysis, and Regulatory Impact Analysis

- DOE must perform a variety of “other” analyses to fulfill its regulatory requirements and ensure that all potential impacts of proposed standards have been considered
- These “other”analyses include:
 - **Utility Impact Analysis:** Analyze impacts on the electric and gas utility industries (e.g., peak impacts, new capacity requirements)
 - **Environmental Assessment:** Consider environmental effects of proposed standards; EPCA directs DOE to consider the need for national energy conservation which includes environmental benefits
 - **Employment Impact Analysis:** Analyze national employment impacts of proposed standards; DOE’s Process Rule (61 FR 36974) directs DOE to consider employment impacts
 - **Regulatory Impact Analysis:** Analyze national impacts of alternatives to mandatory energy efficiency standards: Under Executive Order 12866, DOE is required to perform a regulatory analysis; DOE’s Process Rule commits DOE to explore non-regulatory alternatives to standards

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Process Improvements – Negotiated Rulemaking

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- Negotiated rulemaking is a process by which an agency and interested parties attempt to develop a consensus proposal for a regulation.
- The process operates through a working group comprised of the agency and a balanced mix of representatives of interests, facilitated by a neutral party.
- DOE believes this process, when done correctly, yields both better and faster decisions.
- The Department now uses negotiated rulemakings as a means to engage the public, gather data and information, and, attempt to reach consensus among interested parties in order to advance the rulemaking process.

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Appliance Standards and Rulemaking Federal Advisory Committee (ASRAC)

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- Allows the Program to further improve the rulemaking process by providing advice and recommendations on:
 - Development of minimum efficiency standards for residential appliances and commercial equipment (negotiated rulemakings);
 - Development of product test procedures;
 - Certification and enforcement of standards;
 - Labeling for various residential products and commercial equipment; and
 - Specific issues of concern to DOE, as requested by the Secretary of Energy, the Assistant Secretary for Energy Efficiency and Renewable Energy, and the Buildings Technologies Program Manager.
- At meeting held June 27, 2013:
 - Chartered working group to negotiate standards for pumps.

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Timeline for Pumps Negotiation

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- ASRAC to Decide Membership on October 22, 2013
- Membership Announced in Federal Register November 2013
- First Meeting of Working Group January 2014
- NOPR Issuance for Energy Conservation Standard December 2014

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Further Information

U.S. DEPARTMENT OF **ENERGY** | Energy Efficiency & Renewable Energy

- http://www1.eere.energy.gov/buildings/appliance_standards/product.aspx/productid/44 (Product Webpage for Pumps)
- http://www1.eere.energy.gov/buildings/appliance_standards/rulemaking.aspx/ruleid/14 (Rulemaking Webpage for Pumps)
- http://www1.eere.energy.gov/buildings/appliance_standards/asrac.html (ASRAC Webpage)

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