



U.S. DEPARTMENT OF
ENERGY

Energy Conservation Standards Activities

Report to Congress

February 2013

United States Department of Energy
Washington, DC 20585

Message from the Assistant Secretary

I am pleased to provide you with the semi-annual Implementation Report on Energy Conservation Standards Activities of the U.S. Department of Energy (DOE). This report meets the requirements of Section 141 of the Energy Policy Act of 2005 (EPACT 2005) and Section 305 of the Energy Independence and Security Act of 2007 (EISA 2007). Because the reporting intervals and requirements are similar for the EPACT 2005 and EISA 2007 reports, DOE provides a consolidated report.

DOE is required by EPACT 2005 and EISA 2007 to provide semi-annual implementation reports pertaining to the DOE's deadlines for issuance of new or amended energy conservation standards. The implementation reports include a summary of DOE's progress relative to an initial report provided on January 31, 2006, which set an aggressive rulemaking schedule.

In total, action has been finalized for 22 of the original 22 backlogged products subject to a consent decree. Since the last report, DOE completed a total of 21 rulemaking actions, including 5 final rules. Four final rules amended test procedures for residential dishwashers, dehumidifiers, kitchen ranges and ovens; residential water heaters, direct heating equipment and pool heaters; residential furnaces and boilers; and residential microwave ovens. One final rule amended compliance dates for the certification of commercial and industrial heating, ventilating, and air-conditioning (HVAC) equipment, refrigeration equipment, and water-heating equipment. Furthermore, DOE has ongoing efforts to meet energy conservation standards obligations for 28 additional products.

The Consolidated Appropriations Act, 2012 (Public Law 112-74), in relevant part here, restricts the use of appropriated funds in connection with several aspects of DOE's incandescent lamps program. Specifically, section 315 states that none of the funds made available by the Act may be used to implement or enforce section 430.32(x) of title 10, Code of Federal Regulations; or any of the standards established by the tables contained in section 325(i)(1)(B) of the Energy Policy and Conservation Act (42 U.S.C. 6295(i)(1)(B)) with respect to blown parabolic aluminized reflector (BPAR) incandescent reflector lamps, bulge reflector (BR) incandescent reflector lamps, and elliptical reflector (ER) incandescent reflector lamps. These restrictions will prevent the Department from taking action to implement or enforce standards for general service incandescent lamps, the first set of which began to take effect on January 1, 2012, and section 315 is also expected to impact a number of ongoing DOE rulemakings during fiscal year 2013, as explained in further detail later in this report.

The recently-passed American Energy Manufacturing Technical Corrections Act (AEMTCA) (Public Law 112-210), amends the Energy Policy and Conservation Act (EPCA) under which the Appliance Standards Program operates. Among the amendments in AEMTCA, section 5 of the statute clarifies the review requirements for commercial equipment standards first put in place by EISA 2007. Additionally, for covered commercial equipment for which more than six years

has elapsed since the standard was last revised, DOE is required by December 31, 2013, to complete the review and publish either a NOPR with proposed standards or a notice of determination that standards for the product do not need to be amended. This change and others made by AEMTCA are summarized in this report.

Pursuant to statutory requirements, this report is being provided to the following Members of Congress:

- **The Honorable Joseph R. Biden Jr.**
President of the Senate
- **The Honorable John Boehner**
Speaker of the House of Representatives
- **The Honorable Ron Wyden**
Chairman, U.S. Senate Committee on Energy and Natural Resources
- **The Honorable Lisa Murkowski**
Ranking Member, U.S. Senate Committee on Energy and Natural Resources
- **The Honorable Fred Upton**
Chairman, U.S. House Committee on Energy and Commerce
- **The Honorable Henry A. Waxman**
Ranking Member, U.S. House Committee on Energy and Commerce

If you have further questions, please contact me at (202) 586-9220 or Mr. Jeff Lane, Assistant Secretary for Congressional and Intergovernmental Affairs, at (202) 586-5450.

Sincerely,



David T. Danielson
Assistant Secretary
Energy Efficiency and Renewable Energy

Executive Summary

This semi-annual implementation report covers past, present, and future DOE rulemaking activities within the Appliance Standards Program. As of this report, action has been finalized for all 22 backlogged products subject to a consent decree and identified in the original multi-year schedule from the January 2006 report to Congress. Since the last report, DOE completed a total of 21 rulemaking actions, including 5 final rules. Four final rules amended test procedures for residential dishwashers, dehumidifiers, kitchen ranges and ovens; residential water heaters, direct heating equipment and pool heaters; residential furnaces and boilers; and residential microwave ovens. One final rule amended compliance dates for the certification of commercial and industrial HVAC, refrigeration, and water-heating equipment. Included in this report are an updated multi-year schedule and a detailed progress report for each rulemaking team.

List of Acronyms

AC – Air Conditioner
ACT – Automatic Cycle Termination
AEDM – Alternative Efficiency Determination Methods
AEMTCA – American Energy Manufacturing Technical Corrections Act
AHAM – Association of Home Appliance Manufacturers
ANSI – American National Standards Institute
ARM – Alternative Rating Method
ASHRAE – American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASME – American Society of Mechanical Engineers
BPAR – Blown Parabolic Aluminized Reflector (lamps)
BR – Bulge Reflector (lamps)
CCE – Certification, Compliance, and Enforcement
CDV – Committee Draft for Vote
CFL – Compact Fluorescent Lamp
DOE – U.S. Department of Energy
EISA 2007 – Energy Independence and Security Act of 2007
EPACT 2005 – Energy Policy Act of 2005
EPCA – Energy Policy and Conservation Act
ER – Elliptical Reflector (lamps)
FTC – Federal Trade Commission
FY – Fiscal Year
GSFL – General Service Fluorescent Lamp
GSIL – General Service Incandescent Lamp
HID – High-Intensity Discharge (lamps)
HP – Heat Pump
HVAC – Heating, Ventilating, and Air-Conditioning
IEC – International Electrotechnical Commission
IESNA – Illuminating Engineering Society of North America
IRL – Incandescent Reflector Lamp
LED – Light-Emitting Diode
MV – Medium Voltage
NEMA – National Electrical Manufacturers Association
NODA – Notice of Data Availability
NOPD – Notice of Proposed Determination
NOPM – Notice of Public Meeting
NOPR – Notice of Proposed Rulemaking
OLED – Organic Light-Emitting Diode
OMB – Office of Management and Budget
PTAC – Packaged Terminal Air Conditioner
PTHP – Packaged Terminal Heat Pump
Q – Quarter
RFI – Request for Information
SNOPR – Supplemental Notice of Proposed Rulemaking

SPVAC – Single Package Vertical Air Conditioner

SPVHP – Single Package Vertical Heat Pump

SPVU – Single Package Vertical Unit (air conditioner and/or heat pump)

TBD – To Be Determined

TP – Test Procedure

UPS – Uninterruptible Power Supply

USC – United States Code

VRF – Variable Refrigerant Flow



ENERGY CONSERVATION STANDARDS ACTIVITIES

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I. Legislative Language

This report responds to legislative language set forth in section 141 of the Energy Policy Act of 2005 (EPACT 2005), Pub. L. 109-58, and section 305 of the Energy Independence and Security Act of 2007 (EISA 2007), Pub. L. 110-140, to provide semi-annual updates of the U.S. Department of Energy's (DOE) progress with respect to rulemaking actions regarding the implementation of energy conservation standards and test procedures.

Section 141 of EPACT 2005 requires both an initial report and semi-annual implementation reports, until such time as DOE has promulgated all of the overdue energy conservation standards. This document represents the thirteenth semi-annual implementation report.

Section 305 of EISA 2007 expands DOE's existing reporting requirements to include progress reports on all rulemaking activities required by EISA 2007. Because the topics and reporting intervals in section 141 of EPACT 2005 and section 305 of EISA 2007 are substantially similar, DOE began consolidating the reports starting with the first EISA 2007 implementation report in February 2008. This report constitutes the tenth semi-annual EISA 2007 implementation report.

II. Introduction

Since the last report, DOE completed a total of 21 rulemaking actions, including 5 final rules. These include:

- Five final rules for:
 - Test procedures for residential dishwashers, dehumidifiers, kitchen ranges and ovens
 - Test procedures for residential water heaters, direct heating equipment, and pool heaters
 - Test procedures for residential furnaces and boilers
 - Test procedures for residential microwave ovens
 - Certification of commercial and industrial HVAC, refrigeration, and water-heating equipment
- One supplemental notice of proposed rulemaking (SNOPR) for:
 - Test procedures for residential dishwashers, kitchen ranges and ovens
- Five notices of proposed rulemaking (NOPR) for:
 - Standards for spa lamps
 - Test procedures for residential clothes dryers
 - Test procedures for residential set-top boxes
 - Test procedures for residential cooking products with induction heating technology
 - Certification of commercial and industrial HVAC, refrigeration, and water-heating equipment

- Four framework documents for:
 - Standards for commercial clothes washers
 - Standards for residential dehumidifiers
 - Standards for commercial and industrial pumps
 - Standards for commercial and industrial fans and blowers
- Six other rulemakings notices including:
 - Notice of effective date and compliance dates for the direct final rule for residential dishwashers standards
 - Notice of effective date and compliance dates for the direct final rule for residential clothes washers standards
 - Notice of proposed determination for commercial compressors standards
 - Request for information for the residential furnaces and boilers test procedure
 - Request for information for residential and commercial water heaters test procedures
 - Request for information for commercial packaged air-conditioning and heating equipment

This report details the past, current, and future rulemaking actions of the DOE with respect to the implementation of energy conservation standards and test procedures.

III. Backlog and EPACK 2005

DOE began providing semi-annual reports to Congress regarding progress of the Appliance Standards Program with an initial report on January 31, 2006. In the initial report, DOE documented the history of the Appliance Standards Program, which is the program responsible for the development of test procedures and energy conservation standards for residential appliances and commercial equipment subject to regulation. The initial report provided a description of the rulemaking process and detailed the statutory requirements applicable to the Appliance Standards Program. The initial report also explained the historical reasons for DOE's past failure to meet identified statutory deadlines, and described current and planned productivity enhancements that DOE began to implement in order to expedite the standards rulemaking process. Finally, the initial report set an aggressive rulemaking schedule, designed to permit DOE to both address the backlog of rulemakings and to meet deadlines associated with the new requirements of EPACK 2005.

State of New York, et al. v. Bodman; and NRDC, Inc. et al. v. Bodman

This report also provides information regarding DOE's compliance with obligations that existed under a consolidated consent decree. DOE notes that the separate court proceedings (*State of New York, et al. v. Bodman* and *NRDC, Inc. et al. v. Bodman*) mentioned in the August 2006 report resulted in a consolidated consent decree between the plaintiffs and DOE (filed November 6, 2006). The consent decree largely adopted the schedule DOE published in its January 31, 2006, initial report to Congress under section 141 of EPACK 2005. However, the consent decree's rulemaking schedule added the following two additional items:

1. The consent decree required DOE to publish a small electric motors test procedure by June 30, 2009, and required an energy conservation standard final rule for the same product by February 28, 2010. These two actions were not included in the initial report to Congress because DOE was conducting the determination analysis for small electric motors at the time the initial report was written (*i.e.*, DOE had not yet determined whether rulemakings for an energy conservation standard and test procedure were necessary). Both of these actions are now complete.
2. The consent decree put into place a binding schedule for DOE action in response to future amendments of Standard 90.1 by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). Specifically, within six months of an ASHRAE amendment, DOE must publish an analysis of the energy savings potential of amended energy conservation standards. DOE must either adopt ASHRAE's amendment within 18 months of ASHRAE's adoption or establish a more stringent standard within 30 months.

It is noted that the court terminated the consolidated consent decree by order on May 10, 2012, because DOE had completed all of the required actions.

IV. Energy Independence and Security Act of 2007

On December 19, 2007, the President signed into law the Energy Independence and Security Act of 2007, Pub. L. 110-140. This statute, in part, amends the Energy Policy and Conservation Act of 1975 (EPCA), Pub. L. 94-163 (42 United States Code (U.S.C.) 6291 *et seq.*), and increases the number of rulemakings DOE must issue beyond the obligations set forth in EPCA 2005 and the backlogged products mentioned in previous implementation reports. The enactment of EISA 2007 has substantially elevated the level of activity within the Appliance Standards Program. The statute requires DOE to develop new test procedures and energy conservation standards, as discussed below. In addition, EISA 2007 prescribes new energy conservation standards and test procedures for certain products, which DOE must also implement.

- New test procedures and energy conservation standards. EISA 2007 introduces new standby power requirements for residential products. All test procedures for covered residential products are required to be amended to include test procedures for standby mode and off mode energy consumption (section 310 of EISA 2007). EISA 2007 specifies deadlines for the incorporation of standby mode and off mode energy consumption into the test procedures of certain enumerated products, including battery chargers, external power supplies, clothes dryers, room air conditioners, fluorescent lamp ballasts, residential clothes washers, residential furnaces, residential boilers, residential water heaters, direct heating equipment, pool heaters, dishwashers, ranges and ovens, microwave ovens, and residential dehumidifiers. All energy conservation standards for covered products adopted after July 1, 2010, must also incorporate standby mode and off mode energy consumption. Several rulemakings to amend the

aforementioned test procedures have since been completed. Additional test procedure rulemakings that include standby mode and off mode energy consumption are underway. For each product, DOE is working with interested parties to apply the statutory definitions in EISA 2007 (*e.g.*, the definitions for “standby mode” and “off mode”) to the product. In doing so, DOE remains cognizant of industry norms, definitions set by other standards-making bodies, and the technical characteristics of the products. Moreover, the statute directs DOE to undertake other standards rulemakings for battery chargers, external power supplies, furnace fans, dishwashers, general service incandescent lamps (GSIL), residential clothes washers, walk-in coolers and freezers, and metal halide lamp fixtures.

- Prescribed energy conservation standards and test procedures. For some rulemakings in which products were bundled, EISA 2007 altered the rulemaking scope by setting standards for some products. Examples of this include the lamps rulemaking and the home appliances, Group 1, rulemaking. In these cases, DOE was able to move forward but was required to modify the scope of the rulemaking in light of the EISA 2007 enactments.

Also, pursuant to a statutory change in EISA 2007, all energy conservation standards and test procedures established by DOE will now be subject to regular periodic review. Not later than six years after issuance of a final rule establishing or amending a standard, DOE must either publish a notice of proposed rulemaking to amend the standard or a notice of determination that an amended standard is not warranted (42 U.S.C. 6295(m)(1) and 6313(a)(6)(C)(i)). DOE must review all test procedures at least once every seven years (42 U.S.C. 6293(b)(1)(A) and 6314(a)(1)).

DOE is also integrating into its existing schedule standards rulemaking mandates for three products (residential clothes washers, walk-in coolers and freezers, and metal halide lamp fixtures).

V. American Energy Manufacturing Technical Corrections Act of 2012

On December 18, 2012, the President signed into law the American Energy Manufacturing Technical Corrections Act (AEMTCA), Pub. L. 112-210. This statute further amends EPCA, Pub. L. 94-163 (42 U.S.C. 6291 *et seq.*), with the stated purpose to reduce the regulatory burdens for manufacturers of several products, including water heaters, walk-in freezers, deli counter-style refrigerators, and certain types of air conditioners and heat pumps. The statute also promotes energy efficiency and improves the processes of the Department of Energy for updating energy efficiency standards. In addition, it makes a number of technical corrections which are designed to protect jobs without making significant policy changes.

Amendments under the AEMTCA include the following:

Innovative Component Technologies (Section 2): Amends EPCA to allow component manufacturers an exemption from the design standard related to insulation for walk-in coolers and walk-in freezers, if they can demonstrate to DOE that their component reduces energy consumption at least as much as if the design standard were to apply.

Uniform Efficiency Descriptor for Covered Water Heaters (Section 3): Amends EPCA to direct DOE to establish a uniform efficiency descriptor and accompanying test methods for covered residential and commercial water heaters.

Service Over the Counter, Self-Contained, Medium Temperature Commercial Refrigerators (Section 4): Amends EPCA to define and establish a separate and less stringent standard for service over the counter, self-contained, medium temperature commercial refrigerators, with direction to DOE to consider amended standards within three years.

Small Duct High Velocity Systems and Administrative Changes (Section 5): Amends EPCA to define and establish a separate standard for small duct high velocity systems, which will be updated in subsequent rulemakings for other air conditioner and heat pump standards. Administrative changes include a clarification to the six-year review requirements for commercial equipment standards and deadlines related to petitions for amending existing standards. Additionally, for covered commercial equipment for which more than six years has elapsed since the standard was last revised, DOE is required by December 31, 2013, to complete the review and publish either a NOPR with proposed standards or a notice of determination that standards for the product do not need to be amended. (Accordingly, DOE is initiating several rulemakings to review standards for commercial equipment including commercial air-cooled air conditioners and commercial warm-air furnaces.)

Coordination of Research and Development of Energy Efficient Technologies for Industry (Section 6): Directs DOE to establish collaborative research and development partnerships between its Industrial Technologies Program and other programs including those in the Office of Energy Efficiency and Renewable Energy.

Reducing Barriers to the Deployment of Industrial Energy Efficiency (Section 7): Requires DOE to conduct a study of the legal, regulatory, and economic barriers to the deployment of industrial energy efficiency in all electricity markets and the estimated economic benefits to the national economy of providing the industrial sector with Federal energy efficiency matching grants of \$5 billion for 5 and 10 year periods. Also requires DOE to develop policy recommendations regarding the deployment of industrial energy efficiency.

Best Practices for Advanced Metering (Section 8): Amends the National Energy Conservation Policy Act to require Federal agencies to submit implementation plans that explain how they will designate personnel responsible for meeting metering requirements and that demonstrate when the use of advanced metering devices is not practicable. Also requires DOE to issue a report on best

practices for the use of advanced metering by Federal agencies and specifies minimum components of the report.

Federal Energy Management and Data Collection Standard (Section 9): Amends the National Energy Conservation Policy Act to require energy managers to use web-based tracking systems to certify compliance and to publish energy and water consumption data on an individual facility basis.

Technical Corrections (Section 10): Amends the Energy Independence and Security Act of 2007 and the Energy Policy Act of 2005 with technical corrections for appliance and lighting standards.

VI. Multi-Year Schedule and Implementation Update

This section provides a schedule of upcoming DOE rulemakings, along with a detailed description of activities and progress to date. In summary, additional increases in productivity will be required in 2013 to allow DOE to meet all its obligations.

In the first semi-annual implementation report (submitted in August 2006), DOE described the execution of the productivity enhancements (“bundling” and “valley-filling”¹) that were discussed in the initial report. DOE also provided an update on its improved document review and clearance process, identifying the newly established intra-agency Crosscutting Review Team as the cornerstone of this process. As a result of the productivity enhancements and improved document review and clearance process, DOE was able to report in its first semi-annual implementation report that it was meeting all obligations as scheduled in the initial report to Congress. DOE reached a similar conclusion in subsequent implementation reports.

With the addition of the EISA 2007 requirements since the initial report to Congress in 2006, the workload of the Appliance Standards Program substantially increased in 2009. During 2009, while DOE met all of its obligations with respect to energy conservation standards, DOE missed several energy efficiency test procedure deadlines codified in EISA 2007. Additional statutory deadlines for test procedures and energy conservation standards were missed between 2010 and 2013. As a result, DOE has further streamlined standard and test procedure reviews and approvals, and is building additional program capacity. DOE is also working closely with the Office of Management and Budget (OMB) to review key rulemaking documents such as notices of proposed rulemaking (NPRs) and final rules. Additional detail is provided below.

¹ “Bundling” refers to the combination of two or more products within a single rulemaking. “Valley-filling” is a management technique in which an analytical team can divert its resources from one rulemaking to another while waiting for documents to be reviewed.

DOE remains committed to complying with applicable deadlines. Given the aggressive schedule for the rulemaking requirements established in EISA 2007, DOE is working on a greater number of contemporaneous rulemaking proceedings than had been contemplated at the time of the initial report to Congress. As a result, in order to address its expanded rulemaking obligations, DOE has designed further enhancements to program productivity and capacity beyond what was foreseen in the initial report to Congress. In the second half of 2009, DOE implemented a streamlined internal process to accelerate regulatory approvals in the program. In addition, DOE is hiring additional staff and building organizational capacity to address the increased rulemaking workload.

Update on Backlogged Standards

When DOE developed the original multi-year schedule in the January 31, 2006, report to Congress, it identified 20 products with backlogged standards.² Of these products, seven had two rounds of backlogged standards, bringing the total number of backlogged standards to 27. In addition, DOE had two backlogged determinations (small electric motors and high-intensity discharge (HID) lamps). As discussed above, DOE completed the determination for small electric motors in July 2006, and based upon this positive determination, the consent decree added small electric motors to the list of backlogged standards DOE must issue. In addition, DOE completed a positive determination for HID lamps in 2010. This brought the number of backlogged products to 22, and the number of backlogged standards to 29.

Since the initial report, DOE has issued efficiency standard final rules for 18 of the 22 original backlogged products (residential furnaces; residential boilers; mobile home furnaces; small furnaces; distribution transformers (medium voltage (MV) dry-type and liquid-immersed); packaged terminal air-conditioners and heat pumps; ranges and ovens; microwave ovens; general service fluorescent lamps; incandescent reflector lamps; small electric motors; residential water heaters; direct heating equipment; pool heaters, clothes dryers, room air conditioners, residential central air conditioners, and fluorescent lamp ballasts). In addition, EISA 2007 prescribed standards for another three backlogged products (electric motors (1-200 hp); general service incandescent lamps; and dishwashers); DOE codified these standards in its regulations at Parts 430 and 431. Thus, standards have been completed for 21 of the 22 backlogged products as shown in Table 1.

The one remaining product, HID lamps, is the subject of an ongoing DOE rulemaking. For HID lamps, the obligations under the consent decree were met when DOE issued the final determination. Consequently, all the actions required by the consent decree have been completed. Because DOE issued a positive determination for HID lamps, DOE is pursuing an energy conservation standard rulemaking for that product.

² The original backlog consists of 20 products, counting residential boilers separately from residential furnaces, and microwaves separately from ranges and ovens.

Table 1. Status of Backlogged Rulemakings from the 2006 Report

Backlogged Product	Status of Backlogged Rule
1. Residential furnaces	DOE issued final rule
2. Residential boilers	DOE issued final rule
3. Mobile home furnaces	DOE issued final rule
4. Small furnaces	DOE issued final rule
5. Residential water heaters [Cycle 2 of 2]	DOE issued final rule
6. Direct heating equipment [Cycle 1 of 2]	DOE issued final rule
7. Pool heaters [Cycle 1 of 2]	DOE issued final rule
8. Distribution transformers (MV dry-type and liquid-immersed)	DOE issued final rule
9. Electric motors (1-200 hp) [Cycle 1 of 2]	Standards prescribed by EISA 2007
10. Incandescent reflector lamps [Cycle 1 of 2]	DOE issued final rule
11. Fluorescent lamps [Cycle 1 of 2]	DOE issued final rule
12. General service incandescent lamps ³	Standards prescribed by EISA 2007
13. Fluorescent lamp ballasts	DOE issued final rule
14. Residential dishwashers	Standards prescribed by EISA 2007
15. Ranges and ovens [Gas-powered Cycle 1 of 2] [Electric-powered Cycle 2 of 2]	DOE issued final rule
16. Microwave ovens	DOE issued final rule
17. Residential clothes dryers	DOE issued final rule
18. Room air conditioners	DOE issued final rule
19. Packaged terminal air conditioners and heat pumps	DOE issued final rule
20. Residential central air conditioners and heat pumps	DOE issued final rule
21. Small electric motors	DOE issued final rule
22. HID Lamps	DOE issued final determination; Ongoing energy conservation standards rulemaking

³ The rulemaking for general service incandescent lamps was previously listed as cycle 1 of 2 backlogged rulemakings. However, EISA 2007 prescribed new standards for general service incandescent lamps (42 U.S.C. 6295(i)(1)(A)) and also set a new deadline to complete a rulemaking for these lamps by January 1, 2017 (42 U.S.C. 6295(i)(6)). Therefore, general service incandescent lamps are no longer in the backlog.

Since the August 2008 implementation report, DOE has noted several missed statutory deadlines as follows:

- EISA 2007 set a deadline of December 31, 2008 for the battery chargers and external power supplies test procedure final rule (related to standby mode and off mode energy consumption). DOE subsequently issued the test procedure final rule on March 11, 2009, and it was published in the *Federal Register* on March 27, 2009 (74 Fed. Reg. 13318).
- EISA 2007 set a deadline of March 31, 2009, for the test procedure final rule for standby mode and off mode energy consumption for fluorescent lamp ballasts. DOE subsequently issued the test procedure final rule on September 17, 2009, which was published in the *Federal Register* on October 22, 2009 (74 Fed. Reg. 54445).
- EISA 2007 set a deadline of March 31, 2009 for the test procedure final rule for the standby mode and off mode energy consumption for clothes dryers and room air conditioners. DOE subsequently issued the test procedure final rule on December 15, 2010, which was published in the *Federal Register* on January 6, 2011 (76 Fed. Reg. 972).
- EISA 2007 set a deadline of June 30, 2009, for the test procedure final rule for the standby mode and off mode energy consumption for residential clothes washers. DOE subsequently issued the test procedure final rule on February 22, 2012, which was published in the *Federal Register* on March 7, 2012 (77 Fed. Reg. 13888).
- EISA 2007 required DOE to publish a test procedure final rule for residential furnaces and boilers (standby mode and off mode) by September 30, 2009. DOE subsequently issued the test procedure final rule on August 20, 2010, which was published in the *Federal Register* on October 20, 2010 (75 Fed. Reg. 64621).
- EISA 2007 required DOE to issue a determination whether to issue energy conservation standards for non-Class A external power supplies, by December 19, 2009. DOE subsequently issued a final determination on May 7, 2010, which was published in the *Federal Register* on May 14, 2010 (75 Fed. Reg. 27170).
- EISA 2007 required DOE to publish a test procedure final rule for walk-in coolers and walk-in freezers by January 1, 2010. DOE subsequently issued the final rule on March 30, 2011, which was published in the *Federal Register* on April 15, 2011 (76 Fed. Reg. 21580).
- EISA 2007 required DOE to publish a test procedure final rule for the standby mode and off mode energy consumption of residential heating products (residential water heaters, direct heating equipment, and pool heaters) by March 31, 2010. DOE issued a NOPR on August 20, 2010, which was published in the *Federal Register* on August 30, 2010 (75 Fed. Reg. 52892). An SNOPR, which proposed further amendments to the test procedures, was issued on August 30, 2011 and published in the *Federal Register* on September 13, 2011 (76 Fed. Reg. 56347). DOE

subsequently issued the test procedure final rule on November 16, 2012, which was published in the *Federal Register* on December 17, 2012 (77 Fed. Reg. 74559).

- EISA 2007 required DOE to review the most recently published ASHRAE/Illuminating Engineering Society of North America (IESNA) Standard 90.1 with respect to single package vertical air conditioners and heat pumps no later than December 19, 2010. DOE issued the final rule on April 27, 2012, which was published in the *Federal Register* on May 16, 2012 (77 Fed. Reg. 28928)
- EISA 2007 required DOE to publish an energy conservation standard final rule for refrigerators, refrigerator-freezers, and freezers by December 31, 2010. DOE issued the final rule on August 25, 2011, which was published in the *Federal Register* on September 15, 2011 (76 Fed. Reg. 57516).
- EISA 2007 required DOE to publish a test procedure final rule for the standby mode and off mode energy consumption of microwave ovens by March 31, 2011. DOE issued an interim final rule on February 23, 2011, which was published in the *Federal Register* on March 9, 2011 (76 Fed. Reg. 12825). On November 17, 2011, DOE issued an SNOPR for the microwave ovens test procedure, which was published in the *Federal Register* on November 23, 2011 (76 Fed. Reg. 72332) for microwave ovens which incorporates the latest edition of International Electrotechnical Commission (IEC) Standard 62301. DOE issued another SNOPR for the microwave ovens test procedure on May 9, 2012, which was published in the *Federal Register* on May 16, 2012 (77 Fed. Reg. 28805). DOE subsequently issued the test procedure final rule on January 11, 2013, which was published in the *Federal Register* on January 18, 2013 (78 Fed. Reg. 4015).
- EISA 2007 required DOE to publish a test procedure final rule for the standby mode and off mode energy consumption of residential dishwashers, ranges and ovens, and dehumidifiers by March 31, 2011. DOE issued a NOPR on November 18, 2010, which was published in the *Federal Register* on December 2, 2010 (75 Fed. Reg. 75290). DOE then issued an SNOPR on August 30, 2011, which was published in the *Federal Register* on September 20, 2011 (76 Fed. Reg. 58346). DOE issued a second SNOPR on April 25, 2012 which was published in the *Federal Register* on May 25, 2012 (77 Fed. Reg. 31444). DOE subsequently issued the test procedure final rule on September 14, 2012, which was published in the *Federal Register* on October 31, 2012 (77 Fed. Reg. 65942).
- EISA 2007 required DOE to issue a final rule prescribing amended energy conservation standards for battery chargers and external power supplies by July 1, 2011. The NOPR for this rulemaking was issued on March 8, 2012 and published in the *Federal Register* on March 27, 2012 (77 Fed. Reg. 18478).
- EISA 2007 required DOE to issue a final rule prescribing amended energy conservation standards for residential clothes washers by December 31, 2011. The direct final rule and accompanying NOPR for this rulemaking were issued on May 11, 2012 and published in the *Federal Register* on May 31, 2012 (77 Fed. Reg. 32308 and 77 Fed. Reg. 32381).

- EISA 2007 required DOE to issue a final rule prescribing amended energy conservation standards for walk-in coolers and walk-in freezers by January 1, 2012. The NOPR for this rulemaking was received by OMB on September 23, 2011 and is currently undergoing OMB review.
- EISA 2007 required DOE to issue a final rule prescribing energy conservation standards for metal halide lamp fixtures by January 1, 2012. DOE has prepared a draft NOPR for this rulemaking that was received by OMB on February 17, 2012 and is currently undergoing OMB review.

Since the last implementation report, DOE has missed five deadlines for energy conservation standards and test procedures. The status of these rulemakings is as follows:

- On September 28, 2007, DOE issued a final rule adopting energy conservation standards for electric distribution transformers, which was published in the *Federal Register* on October 12, 2007 (72 Fed. Reg. 58190). Petitioners brought a lawsuit which challenged the final rule and resulted in a settlement agreement, such that DOE would conduct a review of the standard and publish in the *Federal Register*, no later than October 1, 2012, a final rule including any amendments to the standards for liquid-immersed and medium-voltage dry-type distribution transformers. The final rule for this rulemaking was received by OMB on November 28, 2012 and is currently undergoing OMB review.
- EISA 2007 required DOE to issue a final rule prescribing amended energy conservation standards for electric motors by December 19, 2012. DOE is currently preparing the NOPR for this rulemaking.
- EPACT 1992 required DOE to complete a test procedure final rule for HID lamps by January 1, 2013 (within 30 months of the completion of the Secretary's determination that energy conservation standards would be technologically feasible and economically justified and would result in significant energy savings). DOE issued the test procedure NOPR on November 28, 2011, which was published in the *Federal Register* on December 15, 2011 (76 Fed. Reg. 77914). DOE is currently preparing an SNOPR for this rulemaking.
- EPACT 2005 required DOE to issue a final rule determining whether to amend standards for commercial refrigeration equipment by January 1, 2013. DOE has prepared a draft NOPR for this rulemaking that was received by OMB on February 17, 2012 and is currently undergoing OMB review.
- EISA 2007 required DOE to promulgate a rule to develop and implement an enforcement plan for the residential furnaces and central air conditioners subject to regional standards not later than January 24, 2013. DOE is currently preparing a NOPR for this rulemaking.

These actions are described in greater detail in the Progress Report section of this report. For those rulemakings yet to be completed, DOE is working towards completion of the final rules as expeditiously as possible and will prioritize them in the context of DOE's other rulemaking obligations.

Multi-Year Schedule

Table 2 presents DOE's revised multi-year schedule. It is based on the schedule to which DOE committed in its initial report to Congress, modified to also include the requirements of EISA 2007 and progress to date. Completed rulemakings and rulemakings involving products for which EISA 2007 prescribed standards were removed from the schedule.

The current schedule addresses the ongoing or upcoming cycle⁴ of standards that DOE must develop to comply with EPCA 2005 and EISA 2007. In addition, DOE is beginning the first of the periodic reviews of test procedures (at least once every seven years) and energy conservation standards (not later than six years after issuance of a final rule amending standards) as required under sections 302 and 305 of EISA 2007, respectively. These rulemakings are listed as part of the schedule presented in this report.

⁴ For some products, EPCA, as amended by EPCA 2005 and EISA 2007, requires DOE to develop multiple standards over time.

Table 2. Multi-Year Schedule

Table 2 presents DOE's currently scheduled rulemaking activities for energy conservation standards and test procedures. It is noted that the test procedure rulemakings listed below for residential products include revisions to all facets of the test procedure unless otherwise specified as a revision to the active mode or standby/off modes only.

Appliance Standards			
Product Categories	Driver	Approx. Rule Initiation Date	Final Action Date
Heating Products Rulemakings			
Furnace Fans Standard	EISA 2007	Fiscal Year (FY) 2010, Quarter (Q)2	Dec. 2013
Furnace Fans Test Procedure	Test Procedure (TP) for new covered product	FY 2010, Q2	Dec. 2013
Residential and Commercial Water Heaters Test Procedure	AEMTCA	FY 2013, Q2	Dec. 2013
Furnaces and Boilers Test Procedure	7-Year Review	FY 2013, Q1	Dec. 2014
Residential Direct Heating Equipment and Pool Heaters Test Procedure	7-Year Review	FY 2011, Q3	Dec. 2014*
Single-Package Vertical Air Conditioner (AC) and Heat Pump (HP) Standard	EISA 2007	FY 2012, Q1	Jan. 2015*
Commercial and Industrial Fans and Blowers Standard	Expanded coverage under EPCA	FY 2011, Q3	Sept. 2015*
Commercial Warm Air Furnaces Standard	6-Year Review	FY 2013, Q1	Dec. 2015
Residential Boilers Standard	Backlog / 6-Year Review	FY 2013, Q1	Jul. 2016
Commercial Packaged Boilers Standard	6-Year Review	FY 2013, Q2	Jul. 2017
Residential Water Heaters Standard	6-Year Review	FY 2013, Q2	Mar. 2018
Residential Direct Heating Equipment and Pool Heaters Standard	Backlog / 6-Year Review	FY 2014, Q1	Mar. 2018
Residential Furnaces Standard	6-Year Review	FY 2015, Q1	Jun. 2019
Transformers, Motors, and Pumps Rulemakings			
Distribution Transformers Standard	Settlement Agreement	FY 2010, Q1	Feb. 2013*
Electric Motors Test Procedure	EISA 2007	FY2013, Q1	Jul. 2013
Electric Motors Standard	EISA 2007	FY 2010, Q2	Mar. 2014*
Commercial and Industrial Pumps Standard	Expanded coverage under EPCA	FY 2011, Q2	Aug. 2015*
Lighting Rulemakings			
High-Intensity Discharge Lamps Test Procedure	Backlog	FY 2010, Q3	Jul. 2013*

Exemption for Spa Lamps	NEMA ⁵ Petition	FY 2011, Q3	Dec. 2013
General Service Fluorescent Lamps and Incandescent Reflector Lamps Standard	EPACT 1992	FY 2011, Q2	Jul. 2014 ⁶
Metal Halide Lamp Fixtures Standard	EISA 2007	FY 2009, Q2	Jul. 2014*
High-Intensity Discharge Lamps Standard	Backlog	FY 2010, Q3	Jul. 2014*
Illuminated Exit Signs Test Procedure	7-Year Review	FY 2012, Q3	Dec. 2014*
Light-Emitting Diodes (LED) Test Procedure	7-Year Review	FY 2012, Q1	Dec. 2014*
Medium-Base Compact Fluorescent Lamps (CFL) Test Procedure	7-Year Review	FY 2012, Q3	Dec. 2014*
Ceiling Fans and Ceiling Fan Light Kits Test Procedure	7-Year Review	FY 2012, Q3	Dec. 2014*
Traffic Signal and Pedestrian Modules Test Procedure	7-Year Review	FY 2012, Q2	Dec. 2014
General Service Incandescent Lamps, Compact Fluorescent Lamps, General Service LEDs, and General Service Organic Light-Emitting Diodes (OLEDs) Standard	EISA 2007	FY 2014, Q2	Jan. 2017
Ceiling Fans and Ceiling Fan Light Kits Standard	6-Year Review	FY2012, Q4	Mar. 2017*
Elliptical Reflector (ER), Bulge Reflector (BR), and Small-Diameter Incandescent Reflector Lamps Standard	EPACT 1992	FY 2010, Q1	TBD ⁷
Candelabra-Base Incandescent Lamps and Intermediate-Base Incandescent Lamps Test Procedure	7-Year Review	FY 2012, Q3	TBD ⁸
Home Appliances Rulemakings			
Microwave Ovens Standard	6-Year Review	FY 2009, Q3	Jul. 2013*
Induction Cooking Products Test Procedure	Expanded coverage under EPCA	FY2012, Q1	Nov. 2013*
Clothes Dryers (Sensors) Test Procedure	Stakeholder Petition	FY2011, Q3	Dec. 2013
Wine Chillers and Miscellaneous Refrigeration Products Test Procedure	Expanded coverage under EPCA	FY2012, Q2	Jun. 2014*
Microwave Ovens Test Procedure (Active Mode)	7-Year Review	FY 2012, Q2	Dec. 2014*
Commercial Clothes Washers Standard	EPACT 2005	FY 2012, Q2	Jan. 2015
Wine Chillers and Miscellaneous Refrigeration Products Standard	Expanded coverage under EPCA	FY2011, Q3	Jan. 2016*
Kitchen Ranges and Ovens Standard	Backlog / 6-Year Review	FY 2014, Q1	Mar. 2017

* Final action dates followed by an asterisk represent a change from the last semi-annual implementation report. For further detail, consult the Progress Reports of Appliance Product Teams in the Implementation Update section of the report to Congress.

⁵ National Electrical Manufacturers Association

⁶ Pursuant to section 315 of Public Law 112-74, DOE has revised the scope of this rulemaking activity.

⁷ To Be Determined. Pursuant to section 315 of Public Law 112-74, DOE has ceased work on this rulemaking activity.

⁸ Pursuant to section 315 of Public Law 112-74, DOE has ceased work on this rulemaking activity.

Dehumidifiers Standard	6-Year Review	FY 2013, Q1	Mar. 2017
Space Cooling Rulemakings			
Residential Central Air Conditioners and Heat Pumps Test Procedure	7-Year Review	FY 2009, Q3	Sep. 2013*
Packaged Terminal Air Conditioners and Heat Pumps Test Procedure	7-Year Review	FY 2013, Q2	Dec. 2014
Commercial Packaged Air Conditioning and Heating Equipment Standard	6-Year Review	FY 2013, Q1	Dec. 2015
Packaged Terminal Air Conditioners and Heat Pumps Standard	6-Year Review	FY 2013, Q2	Sept. 2016
Commercial Refrigeration Rulemakings			
Walk-In Coolers and Walk-In Freezers Standard	EISA 2007	FY 2009, Q1	Dec. 2013*
Commercial Refrigeration Equipment Standard	EPACT 2005	FY 2010, Q2	Feb. 2014*
Refrigerated Beverage Vending Machines Test Procedure	7-Year Review	FY 2013, Q2	Dec. 2014
Commercial Automatic Ice Makers Standard	EPACT 2005	FY 2011, Q3	Jan. 2015
Refrigerated Beverage Vending Machines Standard	6-Year Review	FY 2013, Q2	Aug. 2017
Electronics Rulemakings			
Battery Chargers and External Power Supplies Standard	EISA 2007	FY 2008, Q2	Jun. 2013*
Set Top Boxes Test Procedure	Expanded coverage under EPCA	FY2012, Q4	Jun. 2013*
Television Sets Test Procedure	7-Year Review	FY 2011, Q1	July 2013*
Plumbing Products Rulemakings			
Faucets, Showerheads, Urinals, Water Closets, and Commercial Pre-rinse Spray Valves Test Procedure	7-Year Review	FY2012, Q1	Dec. 2014*
Enforcement Rulemakings			
Alternative Efficiency Determination Methods and Alternate Rating Methods	Certification Compliance and Enforcement (CCE) Final Rule ⁹	FY 2011, Q3	Jun. 2013*
Enforcement of Regional Standards for Furnaces and Central Air Conditioners	EISA 2007	FY 2012, Q1	Dec. 2013*

⁹ DOE published a final rule in the *Federal Register* for Certification, Compliance, and Enforcement for Consumer Products and Commercial and Industrial Equipment on March 7, 2011 (76 Fed. Reg. 12422).

VII. Implementation Update

Since the last implementation report, DOE has continued to explore process efficiency improvements afforded it by EISA 2007. To this point, DOE posted additional changes to its regulatory process on its website on November 16, 2010. Specifically, DOE plans to: (1) gather preliminary data informally and begin the rulemaking process with a NOPR in appropriate cases; (2) move additional analytical information from the energy conservation standards document published in the *Federal Register* to the technical support document for the rulemaking where appropriate; and (3) consider the use of negotiated rulemaking where appropriate. These changes represent another step in DOE’s effort to save energy for American consumers and businesses by completing all outstanding energy conservation standard rulemakings and ensuring that future statutory deadlines are met. DOE expects that these process improvements will make DOE’s rulemaking process more efficient, while ensuring robust public participation. For further information, see:

http://www1.eere.energy.gov/buildings/appliance_standards/pdfs/changes_standards_process.pdf.

Since the last semi-annual implementation report, DOE has, among others, published five final rules. More specifically, DOE published test procedure final rules for residential dishwashers, dehumidifiers, kitchen ranges and ovens; residential water heaters, direct heating equipment and pool heaters; residential furnaces and boilers; and residential microwave ovens, as well as a final rule for the certification of commercial and industrial HVAC, refrigeration, and water-heating equipment. Publications since the last implementation report are listed in greater detail below.

Published Rulemaking Documents Since the Last Implementation Report

Since publication of the last implementation report, DOE has completed the following rulemaking notices as set forth below in chronological order by date of publication.

Product	Type	Event	Issuance Date	Publish Date	Citation
Commercial Clothes Washers	Energy Conservation Standard	Framework	7/31/2012	8/13/2012	77 FR 48108
Residential Dishwashers, Kitchen Ranges and Ovens	Test Procedure	SNOPR	7/24/2012	8/15/2012	77 FR 49064
Residential Dehumidifiers	Energy Conservation Standard	Framework	7/31/2012	8/17/2012	77 FR 49739
Residential Dishwashers	Energy Conservation Standard	Notice of Effective Date and Compliance Dates for Direct Final Rule	9/25/2012	10/1/2012	77 FR 59712

Residential Clothes Washers	Energy Conservation Standard	Notice of Effective Date and Compliance Dates for Direct Final Rule	9/25/2012	10/1/2012	77 FR 59719
Residential Dishwashers, Dehumidifiers, Kitchen Ranges and Ovens	Test Procedure	Final Rule	9/14/2012	10/31/2012	77 FR 65942
Certification of Commercial and Industrial HVAC, Refrigeration, and Water-Heating Equipment	Certification, Compliance, and Enforcement	NOPR	11/28/2012	12/6/2012	77 FR 72763
Residential Water Heaters, Direct Heating Equipment, and Pool Heaters (Standby Mode and Off Mode)	Test Procedure	Final Rule	11/16/2012	12/17/2012	77 FR 74559
Residential Furnaces and Boilers (Standby Mode and Off Mode)	Test Procedure	Final Rule	11/16/2012	12/31/2012	77 FR 76831
Spa Lamps	Energy Conservation Standard	NOPR	12/21/2012	12/31/2012	77 FR 76959
Commercial Compressors	Energy Conservation Standard	Proposed Determination	12/21/2012	12/31/2012	77 FR 76972
Certification of Commercial and Industrial HVAC, Refrigeration, and Water-Heating Equipment	Certification, Compliance, and Enforcement	Final Rule	12/26/2012	12/31/2012	77 FR 76825
Residential Clothes Dryers	Test Procedure	NOPR	12/14/2012	1/2/2013	78 FR 152
Residential Furnaces and Boilers	Test Procedure	Request for Information	12/28/2012	1/4/2013	78 FR 675
Residential and Commercial Water Heaters	Test Procedure	Request for Information	1/7/2013	1/11/2013	78 FR 2340
Residential Microwave Ovens	Test Procedure	Final Rule	1/11/2013	1/18/2013	78 FR 4015

Residential Set-Top Boxes	Test Procedure	NOPR	1/11/2013	1/23/2013	78 FR 5076
Residential Conventional Cooking Products with Induction Heating	Test Procedure	NOPR	1/18/2013	1/30/2013	78 FR 6232
Commercial and Industrial Pumps	Energy Conservation Standard	Framework	1/25/2013	2/1/2013	78 FR 7304
Commercial and Industrial Fans and Blowers	Energy Conservation Standard	Framework	1/28/2013	2/1/2013	78 FR 7306
Commercial Packaged Air Conditioning and Heating Equipment	Energy Conservation Standard	Request for Information	1/25/2013	2/1/2013	78 FR 7296

Progress Reports of Appliance Product Teams

Heating Team

Heating Products. EISA 2007 requires DOE to develop a standby mode and off mode test procedure for residential water heaters, direct heating equipment, and pool heaters (heating products) by March 31, 2010. DOE was unable to complete the test procedure final rule for measurement of standby mode and off mode energy consumption by the date specified in EISA 2007. DOE issued a NOPR on August 20, 2010, which was published in the *Federal Register* on August 30, 2010 (75 Fed. Reg. 52892). A public meeting to discuss the NOPR was held on September 24, 2010 at DOE headquarters in Washington, DC. An SNOPR that updated the test procedure based on IEC Standard 62301 (Second Edition) was issued on August 30, 2011 and published in the *Federal Register* on September 13, 2011 (76 Fed. Reg. 56347). On November 16, 2012, DOE issued the final rule, which was published in the *Federal Register* on December 17, 2012 (77 Fed. Reg. 74559).

Additionally, DOE is evaluating the test procedure for residential water heaters, pool heaters, and direct heating equipment in light of the requirement to review all test procedures no later than every 7 years. Since DOE only recently completed a standby mode and off mode test procedure rulemaking for these products, it is expected that the focus here will be on operation in active mode, although DOE will consider comments on any aspect of these test procedures. On September 29, 2011, DOE issued a Request for Information (RFI) to solicit comment on issues regarding any aspect of the test procedure that may warrant modification. The RFI was published in the *Federal Register* on October 12, 2011 (76 Fed. Reg. 63211).

Pursuant to the amendments to EPCA brought about by the American Energy Manufacturing Technical Corrections Act, DOE is developing a uniform efficiency descriptor for both residential commercial water heaters. Therefore, the test procedure for residential water heaters has now been separated from the test procedure for residential pool heaters and direct heating equipment. DOE issued an RFI on January 7, 2013 to initiate the rulemaking and data collection process for developing a uniform efficiency descriptor and accompanying test method for residential and commercial water heaters. This RFI was published in the *Federal Register* on January 11, 2013 (78 Fed. Reg. 2340). DOE is currently preparing a NOPR for the pool heater and direct heating equipment test procedure and reviewing comments received on the RFI for residential and commercial water heaters.

DOE is also initiating a rulemaking to review the standards for residential water heaters in accordance with the requirements of EISA 2007 to review standards no later than six years from the issuance of a final rule establishing or amending standards for a covered product. On June 6, 2012, DOE issued an RFI regarding the impact of its recently amended energy conservation standards for residential electric water heaters on utility programs that use high-storage-volume (above 55 gallons) electric storage water heaters to reduce peak electricity demand. The RFI was published in the *Federal Register* on June 13, 2012 (77 Fed. Reg. 35299). DOE is preparing the framework document for this rulemaking.

Furnaces and Boilers. EISA 2007 requires that DOE prescribe an amended test procedure for residential furnaces and boilers not later than September 2009 to address standby mode and off mode energy consumption for these products. DOE issued the test procedure final rule on August 20, 2010, which was published in the *Federal Register* on October 20, 2010 (75 Fed. Reg. 64621).

Since issuing the final rule, DOE began a new test procedure rulemaking for furnaces and boilers. DOE issued a test procedure NOPR on August 30, 2011 that was published in the *Federal Register* on September 13, 2011 (76 Fed. Reg. 56339). The NOPR proposed to further update the DOE test procedure through incorporation by reference of the latest edition of the relevant industry standard, specifically IEC Standard 62301 (Second Edition), “Household electrical appliances – Measurement of standby power.” On November 16, 2012, DOE issued the test procedure final rule, which was published in the *Federal Register* on December 31, 2012 (77 Fed. Reg. 76831).

DOE also issued a request for information on December 28, 2012 to consider amendments to DOE’s active mode test procedure for residential furnaces and boilers. The RFI was published in the *Federal Register* on January 4, 2013 (78 Fed. Reg. 675). This rulemaking is intended to fulfill DOE’s statutory obligation to review its test procedures for covered products at least once every seven years. DOE is currently reviewing comments received on the RFI.

DOE is also initiating a rulemaking to review the energy conservation standards for residential boilers in accordance with the requirements of EISA 2007 to review test procedures for covered

products at least once every seven years. DOE is preparing the framework document for this rulemaking.

Furnace Fans. EISA 2007 requires DOE to issue an energy conservation standard for furnace fans by December 31, 2013. DOE issued an announcement of the availability of the energy conservation standard framework document for furnace fans on May 27, 2010, which was published in the *Federal Register* on June 3, 2010 (75 Fed. Reg. 31323). A public meeting to discuss the data and methodology was held on June 18, 2010 at DOE headquarters in Washington, DC. DOE issued a notice of public meeting and data availability of the preliminary technical support document on June 28, 2012, which was published in the *Federal Register* on July 10, 2012 (77 Fed. Reg. 40530). DOE held a public meeting to discuss the preliminary analysis on July 27, 2012 at DOE headquarters in Washington, DC. DOE is currently working on the NOPR for the furnace fans standards.

DOE is also currently developing a test procedure for furnace fans. DOE issued a test procedure NOPR for furnace fans on May 1, 2012, which was published in the *Federal Register* on May 15, 2012 (77 Fed. Reg. 28674). A public meeting to discuss the test procedure was held on June 15, 2012 at DOE headquarters in Washington, DC. DOE is currently reviewing the comments submitted on the NOPR.

Single-Package Vertical Air Conditioners and Heat Pumps.

EISA 2007 requires DOE to review the most recently published ASHRAE/IES Standard 90.1 with respect to single-package vertical air conditioners (SPVACs) and single-package vertical heat pumps (SPVHPs) (collectively referred to as single-package vertical units (SPVUs)) no later than December 19, 2010. DOE began this review and issued a NODA on April 27, 2011, which was published in the *Federal Register* on May 5, 2011 (76 Fed. Reg. 25622). DOE is currently preparing the NOPR for this rulemaking.

Commercial Warm Air Furnaces. EPCA, as amended by AEMTCA, requires DOE to review the standards for each class of covered ASHRAE equipment every six years and either publish a notice of determination that standards for the product do not need to be amended or a notice of proposed rulemaking with new proposed standards. For any covered equipment as to which more than six years has elapsed since the issuance of the most recent final rule establishing or amending a standard for the product, the notice must be published by December 31, 2013. Because the most recent final rule amending energy conservation standards for commercial warm-air furnaces was published more than six years ago, DOE is initiating a rulemaking to review standards for this product. DOE is conducting preparatory work for this rulemaking.

Commercial Packaged Boilers. DOE most recently issued a final rule for commercial packaged boilers on July 8, 2009, which was published in the *Federal Register* on July 22, 2009 (74 Fed.

Reg. 36312). DOE is initiating a rulemaking to review the standards for commercial packaged boilers in accordance with the requirements of EPCA to review DOE standards for all covered ASHRAE equipment every six years. DOE is currently preparing the framework document for this rulemaking.

Commercial and Industrial Fans and Blowers. On June 21, 2011, DOE issued a Notice of Proposed Determination (NOPD) that proposed to determine that commercial and industrial fans and blowers are covered equipment under EPCA. The notice was published in the *Federal Register* on June 28, 2011 (76 Fed. Reg. 37678). On January 28, 2013, DOE issued a framework document in further consideration of that determination and any associated energy conservation standards, which was published in the *Federal Register* on February 1, 2013 (78 Fed. Reg. 7306).

Transformers, Motors, and Pumps Team

Electric Motors (1-500 hp). EPCA requires that DOE publish a final rule no later than 24 months after the effective date of the previous final rule to determine whether to amend the motors standards currently in effect (42 U.S.C. 6313(b)(4)(B)). EISA 2007 prescribed standards for electric motors that become effective three years after the date of EISA 2007's enactment (*i.e.*, December 19, 2010). All the prescribed standards were codified in a final rule technical amendment that was issued on March 11, 2009 and published in the *Federal Register* on March 23, 2009 (74 Fed. Reg. 12058). (For a more complete history of this rulemaking, see the August 2009 implementation report.) Thus, DOE is moving forward with a rulemaking to consider amending the standards for all the motor types included in 42 U.S.C. 6313.

DOE issued the framework document for this rulemaking on September 16, 2010, which was published in the *Federal Register* on September 28, 2010 (75 Fed. Reg. 59657). A public meeting to discuss the framework document was held at DOE's Washington, DC headquarters on October 18, 2010. After considering comments received at the framework stage, DOE issued a notice of public meeting (NOPM) and notice of document availability for the preliminary analyses on July 10, 2012, which was published in the *Federal Register* on July 23, 2012 (77 Fed. Reg. 43015). DOE held a public meeting on August 21, 2012 to discuss the preliminary analysis results. DOE is currently preparing the NOPR for this rulemaking.

EISA 2007 also requires that all test procedures be reviewed at least once every seven years, and as such, DOE is developing an amended test procedure for electric motors. DOE initially bundled the test procedure for electric motors (1-500 hp) with the test procedure for small electric motors. The test procedure NOPR was issued on December 11, 2008 and was published in the *Federal Register* on December 22, 2008 (73 Fed. Reg. 78220). In light of comments received at the public meeting and submitted to DOE during the comment period, DOE reevaluated its course for the 1-500 hp electric motor test procedure final rule. Because the small electric motors test procedure was bound by an upcoming consent decree deadline, DOE split the test procedure rulemaking for 1-500 hp electric motors from the small electric motors test procedure and proceeded to a final rule on the small motors aspect of the rulemaking,

which was issued on June 29, 2009, and was published in the *Federal Register* on July 7, 2009 (74 Fed. Reg. 32059).

DOE issued a test procedure SNOPR for electric motors on December 15, 2010, which was published in the *Federal Register* on January 5, 2011 (76 Fed. Reg. 648). DOE issued a test procedure final rule for electric motors on April 25, 2012, which was published in the *Federal Register* on May 4, 2012 (77 Fed. Reg. 26608). The May 4, 2012 test procedure final rule focused on 1-500 hp electric motors, but also clarified certain definitions and procedures related to small electric motors.

DOE is also currently preparing another electric motor test procedure NOPR in light of its plan to expand the scope of electric motor types subject to energy conservation standards. This new test procedure NOPR will propose new definitions of specific motor types, as well as any test procedure changes necessary for testing the newly-regulated motor types.

Distribution Transformers. On September 28, 2007, DOE issued a final rule adopting energy efficiency standards for electric distribution transformers, which was published in the *Federal Register* on October 12, 2007 (72 Fed. Reg. 58190). Petitioners brought a lawsuit which challenged the final rule on several grounds. On July 10, 2009, DOE and the petitioners settled these challenges, agreeing that DOE shall conduct a review of the standards for liquid-immersed and medium-voltage dry-type distribution transformers and publish in the *Federal Register*, no later than October 1, 2011, either: (1) a determination pursuant to EPCA, that standards for these products do not need to be amended, or (2) a notice of proposed rulemaking including any new proposed standards for these products. If DOE determines after the review that amendment of the standards is warranted, DOE will publish in the *Federal Register*, no later than October 1, 2012, a final rule including any amendments to the standards for liquid-immersed and medium-voltage dry-type distribution transformers. Pursuant to the settlement agreement, petitioners dismissed their claims.

DOE has initiated work on the distribution transformers rulemaking on an accelerated timeframe. DOE issued a notice of public meeting and document availability on February 23, 2011 to describe the planned analytical methodology and preliminary results, which was published in the *Federal Register* on March 2, 2011 (76 Fed. Reg. 11396). The public meeting was held on April 5, 2011. On July 26, 2011, DOE issued a notice of intent to undertake a negotiated rulemaking for distribution transformers, which was published in the *Federal Register* on July 29, 2011 (76 Fed. Reg. 45471). On August 9, 2011, DOE issued a notice of intent to establish a subcommittee and negotiate a proposed rule, which was published in the *Federal Register* on August 12, 2011 (76 Fed. Reg. 50148).

Although DOE was originally required to complete a proposed rule by October 1, 2011, DOE and other parties in the settlement agreement for the 2007 rulemaking agreed to request additional time from the court. As a result, the new deadline for the NOPR became February 1, 2012, and the final rule was scheduled to be published no later than October 1, 2012. DOE issued the

NOPR for this rulemaking on February 1, 2012, which was published in the *Federal Register* on February 10, 2012 (77 Fed. Reg. 7282). DOE also issued a Notice of Public Meeting and Availability of Documentation on May 29, 2012, which was published in the *Federal Register* on June 4, 2012 (77 Fed. Reg. 32916). On June 20, 2012, DOE held a public meeting to discuss additional information about the liquid-immersed distribution transformer equipment classes that were analyzed in the NOPR.

Although DOE was unable to complete the final rule by October 1, 2012 as scheduled, DOE prepared a final rule for this rulemaking that was received by OMB on November 28, 2012. The rule is currently undergoing OMB review.

Commercial and Industrial Pumps. On June 7, 2011, DOE issued an RFI regarding product markets, energy use, test procedures, and energy efficient product designs for commercial and industrial pumps, which are considered covered equipment under EPCA. The RFI was published in the *Federal Register* on June 13, 2011 (76 Fed. Reg. 34192). On January 25, 2013, DOE issued a framework document to consider new energy conservation standards for commercial and industrial pumps, which was published in the *Federal Register* on February 1, 2013 (78 Fed. Reg. 7304).

Lighting Team

High-Intensity Discharge Lamps. DOE was directed by the consent decree to make a determination by June 30, 2010 whether energy conservation standards for HID lamps are technologically feasible and economically justified. DOE issued the final determination for HID lamps on June 16, 2010, thereby meeting the deadline set forth in the consent decree. The final determination was published in the *Federal Register* on July 1, 2010 (75 Fed. Reg. 37975). Because DOE made a positive determination that energy conservation standards for HID lamps are warranted, DOE initiated a test procedure rulemaking. DOE issued the test procedure NOPR on November 28, 2011, which was published in the *Federal Register* on December 15, 2011 (76 Fed. Reg. 77914). DOE held a public meeting to discuss the test procedure on January 19, 2012 at DOE headquarters in Washington, DC. DOE is currently preparing an SNOPR for the HID lamps test procedure.

DOE has also initiated a standards rulemaking for HID lamps. DOE issued a framework document for HID lamps on February 21, 2012 which was published in the *Federal Register* on February 28, 2012 (77 Fed. Reg. 11785). DOE held a public meeting to discuss the standards rulemaking at its headquarters in Washington, DC on March 29, 2012. DOE is preparing the preliminary analyses for this rulemaking.

ER/BR and Small-Diameter Incandescent Reflector Lamps. As discussed in the August 2010 implementation report, DOE has determined that it has the authority to conduct an energy conservation standards rulemaking on elliptical reflector (ER), bulge reflector (BR), and small-

diameter incandescent reflector lamps (IRL) and began work on an accelerated timeframe. On April 23, 2010, DOE issued a notice of public meeting and availability of the framework document, which outlines the analytical approach to this rulemaking. The notice was published in the *Federal Register* on May 3, 2010 (75 Fed. Reg. 23191). A public meeting to discuss the framework document was held on May 26, 2010 at DOE headquarters in Washington, DC. DOE has prepared a draft NOPR for this rulemaking that must be reviewed by the Office of Management and Budget. However, this standards rulemaking is impacted by the Consolidated Appropriations Act, 2012, so pursuant to section 315 of Public Law 112-74, DOE has ceased work on this rulemaking activity.

General Service Fluorescent Lamps and Incandescent Reflector Lamps. DOE issued an energy conservation standard final rule for general service fluorescent lamps (GSFL) and IRL on June 26, 2009, which was published in the *Federal Register* on July 14, 2009 (74 Fed. Reg. 34080). The 2009 final rule satisfied the first round of backlogged standards for these products. The second round of backlogged standards is due five years after publication of the previous final rule (42 USC 6295(i)(4)). On September 6, 2011, DOE issued a notice of public meeting and availability of the framework document, which outlines the analytical approach to this rulemaking. The notice was published in the *Federal Register* on September 14, 2011 (76 Fed. Reg. 56678). The public meeting was held at DOE headquarters in Washington, DC on October 4, 2011.

Based on feedback on the framework document, DOE decided to revise its schedule for the standards rulemaking in order to allow the lamp market to adjust to the standards in the 2009 final rule. The standards in the 2009 final rule require compliance on July 14, 2012. By adjusting its internal analytical timeline for the current rule, DOE will be better able to base its analysis on a market that has already adjusted to the July 2012 standards. This will result in more accurate assessments of product classes, efficacy levels, prices, and energy use. The rule is currently scheduled for completion in July 2014. However, this rule has been impacted by the Consolidated Appropriations Act, 2012, so pursuant to section 315 of Public Law 112-74, DOE has revised the scope of this rulemaking activity. DOE is currently preparing the preliminary analysis for this rulemaking.

Medium-Base Compact Fluorescent Lamps. Because EISA 2007 requires DOE to review test procedures for all products every 7 years and amend them if amendments are warranted (42 USC 6293(b)(1)), DOE has initiated a test procedure rulemaking for medium-base compact fluorescent lamps. DOE is currently reviewing existing test procedures and planning for the test procedure update.

Illuminated Exit Signs. Illuminated exit signs are a covered product under EPCA with standards and test procedures prescribed by EPACT 2005 (42 USC 6295(w) and 42 USC 6293(b)(9)). DOE has initiated a rulemaking to review the test procedure for illuminated exit signs in accordance

with the provisions for regular test procedure reviews every 7 years. DOE is currently preparing the test procedure NOPR for illuminated exit signs.

Five Exempted Lamp Types. DOE published a NODA announcing the completion of DOE's model of future lamp sales for five exempted lamp types as required by section 321 of EISA 2007 (42 U.S.C. 6295(l)(4)). The notice of data availability was issued on December 18, 2008 and was published in the *Federal Register* on December 24, 2008 (73 Fed. Reg. 79072). The notice announced the availability of historical shipment data for each lamp type and a model forecasting future unit sales. Beginning in calendar year 2010, DOE has begun to track actual United States unit sales data for each of the five lamp types and compare it to this model, not later than 90 days after the end of each calendar year. (42 U.S.C. 6295(l)(4)(C)(i)) When the annual sales rate for any of the five lamp types exceeds the modeled levels by at least 100 percent, DOE will initiate an accelerated rulemaking to establish an energy conservation standard for that lamp type.

DOE acquired the actual unit sales data for calendar year 2010 and, since the actual sales did not exceed the forecasted estimate by 100 percent for any lamp type, DOE determined that no regulatory action was necessary at that time. DOE issued the results of its comparison on March 30, 2011, in accordance with the deadlines in EPCA, and the notice of data availability was published in the *Federal Register* on April 4, 2011 (76 Fed. Reg. 18425). DOE reviewed actual unit sales for calendar year 2011 and reached the same conclusion that regulatory action is not necessary at this time. The notice of data availability was issued on March 6, 2012 and published in the *Federal Register* on March 20, 2012 (77 Fed. Reg. 16183).

DOE is currently reviewing unit sales data for calendar year 2012.

Metal Halide Lamp Fixtures. Section 324 of EISA 2007 (42 U.S.C. 6295(hh)(2)) requires DOE to amend energy conservation standards for metal halide lamp fixtures by January 1, 2012. DOE issued a notice of public meeting and availability of the framework document on December 23, 2009, which was published in the *Federal Register* on December 30, 2009 (74 Fed. Reg. 69036). A public meeting to discuss the framework document was held on January 26, 2010 at DOE headquarters in Washington, DC. DOE issued the notice of public meeting and document availability for the preliminary analyses on March 24, 2011, which was published in the *Federal Register* on April 1, 2011 (76 Fed. Reg. 18127). A public meeting to discuss the preliminary analyses was held on April 18, 2011 at DOE headquarters in Washington, DC. DOE has prepared a draft NOPR for this rulemaking that was received by OMB on February 17, 2012 and is currently undergoing OMB review. Although DOE was unable to complete the rule by the date specified in EISA 2007, DOE is working to finish it as quickly as possible.

LED Lamps.

DOE initiated a test procedure rulemaking to review the test procedures for general service light-emitting diodes (LED) and organic light-emitting diodes (OLED), in order to ensure that the Federal Trade Commission (FTC) has the required DOE test procedure necessary for its applicable labeling program. DOE issued a test procedure NOPR for LED lamps on April 3, 2012, which was published in the *Federal Register* on April 9, 2012 (77 Fed. Reg. 21038). DOE held a public meeting to discuss the NOPR at DOE headquarters in Washington, DC on May 3, 2012. DOE is now reviewing the comments submitted on the NOPR.

Candelabra Base and Intermediate Base Incandescent Lamps.

Because EISA 2007 requires DOE to review test procedures for all products every 7 years and amend them if amendments are warranted (42 USC 6293(b)(1)), DOE planned to initiate a test procedure rulemaking for candelabra base and intermediate base incandescent lamps in 2012. Pursuant to section 315 of Public Law 112-74, DOE has ceased work on this rulemaking activity.

Ceiling Fans and Ceiling Fan Light Kits.

DOE has initiated a rulemaking to review the test procedures for ceiling fans and ceiling fan light kits in accordance with the provisions for regular test procedure reviews every 7 years (42 U.S.C. 6293(b)(1)). DOE also anticipates conducting a rulemaking to consider amended standards for ceiling fans and ceiling fan light kits. DOE is currently preparing a framework document for the test procedure and energy conservation standards rulemakings.

Traffic Signal Modules and Pedestrian Modules. Because EISA 2007 requires DOE to review test procedures for all products every 7 years and amend them if amendments are warranted (42 USC 6293(b)(1)), DOE has initiated a test procedure rulemaking for traffic signal modules and pedestrian modules. DOE is currently preparing the NOPR for this rulemaking.

Spa Lamps. EPCA prescribes energy conservation standards for incandescent reflector lamps (IRLs). However, DOE received a petition from the National Electrical Manufacturers Association (NEMA) requesting the initiation of a rulemaking to exclude from coverage under EPCA standards 100-watt R20 short IRLs marketed for use in pool and spa applications. From its evaluation of the petition and careful consideration of the public comments, DOE decided to grant the petition for rulemaking. DOE issued a request for information on August 30, 2011, which was published in the *Federal Register* on September 8, 2011. (76 Fed. Reg. 55609) On December 21, 2012, DOE issued a NOPR proposing to exclude R20 short lamps from coverage under the EPCA energy conservation standards. The NOPR was published in the *Federal Register* on December 31, 2012. (77 Fed. Reg. 76959). DOE is currently reviewing comments received on the NOPR.

Home Appliance Team

The August 2010 implementation report contains a detailed history of the rulemaking activity for microwave ovens, dishwashers, dehumidifiers, kitchen ranges and ovens, and commercial clothes washers. These products were previously referred to as “Home Appliances – Group 1” but are listed separately in this report for clarity.

Microwave Ovens. DOE issued a final rule for energy conservation standards for microwave ovens on March 31, 2009. The final rule was published in the *Federal Register* on April 8, 2009 (74 Fed. Reg. 16040). DOE had initially hoped to include standby mode and off energy consumption for microwaves in this final rule but was unable to do so because a DOE test procedure was not adopted before the consent decree deadline for the standards rulemaking. Accordingly, DOE issued final standards for microwaves operating in the active mode, but continued the proposal for further rulemaking regarding microwaves operating in standby mode and off mode. As discussed below, DOE completed an interim microwave oven test procedure to address standby mode and off mode energy consumption, as required by EISA 2007.

EISA 2007 requires that a revised test procedure for microwave ovens that includes standby mode and off mode energy consumption shall be completed no later than March 2011. DOE issued the NOPR for the microwave oven test procedure regarding standby mode and off mode energy consumption on October 1, 2008, which was published in the *Federal Register* on October 17, 2008 (73 Fed. Reg. 62134). A public meeting was held at DOE headquarters in Washington, DC to discuss the proposed test procedure on November 14, 2008.

At the public meeting, commenters urged DOE to consider an upcoming version of the industry consensus test procedure for measuring microwave oven standby mode and off mode energy consumption developed by the International Electrotechnical Commission (IEC Standard 62301, “Household electrical appliances – Measurement of standby power” (First Edition 2005-2006)). Commenters indicated that this later version (Second Edition) contains significant modifications and improvements as compared to the current version, which many commenters believed to be inadequate. DOE agreed that it would be preferable to consider the updated international standard. The IEC ultimately adopted IEC Standard 62301 (Edition 2.0 2011-01), with a final publication date of January 27, 2011.

DOE issued an SNO PR for microwave oven test procedures on July 9, 2010, which was published in the *Federal Register* on July 22, 2010 (75 Fed. Reg. 42612). In the SNO PR, DOE considered proposed amendments to its definitions for operating modes based on an advanced draft of the latest version of IEC Standard 62301 (*i.e.*, Second Edition, Committee Draft for Vote (CDV)). A public meeting to discuss the SNO PR was held on September 16, 2010. Finally, on February 23, 2011, DOE issued an interim final rule that amended the test procedures for microwave ovens to incorporate provisions from IEC Standard 62301; the rule was largely based upon the First Edition, but it left open the possibility of further consideration of the Second Edition, based upon public comments. It was published in the *Federal Register* on March 9, 2011 (76 Fed. Reg. 12825).

Based on comments received in response to the interim final rule, DOE issued another SNOPR on November 17, 2011 that proposed to incorporate the Second Edition of IEC Standard 62301. The SNOPR was published in the *Federal Register* on November 23, 2011 (76 Fed. Reg. 72332). DOE issued a third SNOPR for microwave ovens on May 9, 2012. This SNOPR proposed additional provisions for measuring the standby mode and off mode energy use of products that combine a microwave oven with other appliance functionality, as well as minor technical clarifications. It was published in the *Federal Register* on May 16, 2012 (77 Fed. Reg. 28805). DOE issued the final rule for the residential microwave oven test procedure for standby mode and off mode on January 11, 2013, which was published in the *Federal Register* on January 18, 2013 (78 Fed. Reg. 4015).

In addition to the microwave test procedure rulemaking for standby mode and off mode, DOE is also pursuing a test procedure rulemaking for microwave ovens in active mode. DOE issued a notice of data availability (NODA) and request for comment on May 29, 2012 to request comment on data relevant to active mode microwave test procedures. The NODA was published in the *Federal Register* on June 5, 2012 (77 Fed. Reg. 33106). DOE is currently preparing the NOPR.

In conjunction with the test procedure rulemakings, DOE is simultaneously conducting a review to consider amendment of the energy conservation standards for microwave ovens to address standby mode and off mode energy consumption. DOE has prepared an SNOPR for the microwave energy conservation standard. The SNOPR was issued on January 31, 2012 and was published in the *Federal Register* on February 14, 2012 (77 Fed. Reg. 8526). DOE held a public meeting to discuss the SNOPR on March 14, 2012 in Washington, DC. DOE is currently preparing the final rule.

Commercial Clothes Washers. For commercial clothes washers, EPCACT 2005 requires that DOE publish a final rule by January 1, 2015 to determine whether the standards previously established should be amended (42 USC 6313(e)(2)(B)). DOE issued a framework document for this rulemaking on July 31, 2012, which was published in the *Federal Register* on August 13, 2012 (77 Fed. Reg. 48108). DOE held a public meeting to discuss the framework document on September 24, 2012. DOE is reviewing the comments on the framework document and conducting the preliminary analyses for this rulemaking.

Dishwashers, Ranges and Ovens, and Dehumidifiers. DOE initiated a test procedure rulemaking regarding standby mode and off mode for dishwashers, dehumidifiers, and ranges and ovens (electric and gas). The final rule was scheduled for completion by March 31, 2011, the statutory deadline set by EISA 2007. DOE issued a NOPR for these products on November 18, 2010, which was published in the *Federal Register* on December 2, 2010 (75 Fed. Reg. 75290). DOE held a public meeting to discuss the test procedure on December 17, 2010. On August 30, 2011, DOE issued an SNOPR for this test procedure to consider incorporation of IEC

Standard 62301 (Second Edition). The SNOPR was published in the *Federal Register* on September 20, 2011 (76 Fed. Reg. 58346). On April 25, 2012, DOE issued a second SNOPR that narrowly focuses on fan operation in cycle finished mode and dishwasher water softeners. The SNOPR was published in the *Federal Register* on May 25, 2012 (77 Fed. Reg. 31444).

On July 24, 2012, DOE issued a third SNOPR that updated certain obsolete dishware, flatware and food items, amended the definition of the normal cycle, updated ambient temperature and preconditioning requirements, and proposed to add specifications to the dishwasher test procedure and amend the test procedures for both dishwashers and conventional cooking products for the measurement of energy use in fan-only mode. The SNOPR was published in the *Federal Register* on August 15, 2012 (77 Fed. Reg. 49064). On September 14, 2012, DOE issued the final rule, which was published in the *Federal Register* on October 31, 2012 (77 Fed. Reg. 65942).

Induction Cooking Products. Induction cooking products were not considered in the initial final rule to establish the cooking products test procedures in 1978 because of their relatively small market share. Although induction cooking products started as a niche product with a very small market share, given the increased availability of induction cooking products, DOE believes they now warrant inclusion in the test procedure. Therefore, DOE initiated a rulemaking for test procedures for induction cooking products. DOE issued a NOPR for this rulemaking on January 18, 2013, which was published in the *Federal Register* on January 30, 2013 (78 Fed. Reg. 6232).

Dehumidifiers

DOE is conducting a rulemaking for dehumidifier energy conservation standards in accordance with the provisions in EISA 2007 that require DOE to publish, no later than 6 years after the issuance of a final rule establishing or amending a standard, a NOPR proposing new standards or a notice of determination that existing standards do not need to be amended. On July 31, 2012, DOE issued a framework document for dehumidifiers, which was published in the *Federal Register* on August 17, 2012 (77 Fed. Reg. 49739). The framework public meeting was held in Washington, DC on September 24, 2012. DOE is currently preparing the preliminary analysis for this rulemaking.

Ranges and Ovens. DOE is initiating a rulemaking to review the standards for electric and gas kitchen ranges and ovens in accordance with the six-year review requirements of EISA 2007. DOE last published a final rule amending standards for these products on April 8, 2009 (74 Fed. Reg. 16040). DOE is currently preparing the framework document for this rule.

Residential Clothes Washers. DOE is undertaking two rulemakings to address the requirements pertaining to residential clothes washers in EISA 2007. Specifically, EISA 2007 requires both an energy conservation standard rulemaking (scheduled for completion in

December 2011), as well as a test procedure rulemaking to address standby mode and off mode energy consumption (originally scheduled for completion in June 2009).

For the energy conservation standard, DOE issued a notice of public meeting and availability of the framework document on August 21, 2009, which was published in the *Federal Register* on August 28, 2009 (74 Fed. Reg. 44306). A public meeting to discuss the framework document was held on September 21, 2009 at DOE headquarters in Washington, DC. On July 30, 2010, stakeholders submitted to DOE a consensus agreement containing proposed efficiency levels for residential clothes washers. The stakeholder consensus agreement can be downloaded at: <http://www.aham.org/ht/a/GetDocumentAction/i/49956>. DOE reviewed this agreement, and as a result, prepared a direct final rule and accompanying NOPR which were issued on May 11, 2012 and published in the *Federal Register* on May 31, 2012 (77 Fed. Reg. 32308 and 77 Fed. Reg. 32381). DOE completed a notice of effective date and compliance date for the direct final rule on September 14, 2012, which was published in the *Federal Register* on October 31, 2012 (77 Fed. Reg. 65942).

For the test procedure, DOE anticipated an international test procedure standard (IEC Standard 62301) revision that would have included procedures for measuring standby mode and off mode energy consumption in residential clothes washers. DOE determined it necessary to consider the updated, international consensus test procedure, which was expected to be finalized by July 31, 2009. Due to the delays in the IEC Standard 62301 revision (which was ultimately adopted on January 27, 2011), the schedule for completing the standby mode and off mode test procedures has followed a similar timeline as the active mode test procedure for residential clothes washers. In order to improve program efficiency, DOE decided to combine the test procedure rulemakings for active mode, standby mode, and off mode.

In order to complete the test procedure in a timely manner, DOE moved forward and issued a test procedure NOPR on August 27, 2010 for active mode, standby mode, and off mode energy consumption, which was published in the *Federal Register* on September 21, 2010 (75 Fed. Reg. 57556). A public meeting to discuss the test procedure was held on October 28, 2010 at DOE headquarters in Washington, DC. DOE subsequently issued an SNOPR on July 26, 2011 to consider incorporation of IEC Standard 62301 (Second Edition), which was published in the *Federal Register* on August 9, 2011 (76 Fed. Reg. 49238). On October 27, 2011, DOE issued a second SNOPR that narrowly focused on the “energy test cycle” definition. The SNOPR was published in the *Federal Register* on November 9, 2011 (76 Fed. Reg. 69870). DOE issued the final rule for the clothes washer test procedure on February 22, 2012, which was published in the *Federal Register* on March 7, 2012 (77 Fed. Reg. 13888). Both the standard and test procedure rulemakings are now complete.

Residential Refrigerators. As described in the February 2012 implementation report, DOE completed a final rule for residential refrigerator energy conservation standards which was issued on August 25, 2011 and published in the *Federal Register* on September 15, 2011 (76 Fed. Reg. 57516). In addition to the energy conservation standard, DOE also issued a test

procedure final rule on January 9, 2012, which was published in the *Federal Register* on January 25, 2012 (77 Fed. Reg. 3559).

Wine Chillers. During DOE's efforts to amend standards for residential refrigerators, refrigerator-freezers, and freezers, interested parties urged DOE to also establish standards for wine chillers. However, because wine chillers have applications and performance characteristics that are markedly different from those of products covered in the residential refrigerators standards rulemaking, DOE decided that standards for wine chillers, as well as any other residential refrigeration products not covered under existing standards, should be addressed in a separate rulemaking. Therefore, DOE prepared a framework document for wine chillers and miscellaneous refrigeration products. DOE issued the framework document on February 6, 2012, and it was published in the *Federal Register* on February 13, 2012 (77 Fed. Reg. 7547). DOE held a framework public meeting on February 22, 2012 at its headquarters in Washington, DC. DOE is now preparing the preliminary analyses for this rulemaking.

Dishwashers. EISA 2007 requires that DOE complete a final rule for energy conservation standards of dishwashers no later than January 1, 2015. While DOE was conducting an earlier rulemaking for Home Appliances, Group 1, stakeholders to that rule submitted to DOE on August 1, 2010 a consensus agreement containing proposed efficiency levels for dishwashers. The stakeholder consensus agreement can be downloaded at: <http://www.aham.org/ht/a/GetDocumentAction/i/49956>. DOE issued a direct final rule (adopting the standard levels recommended in the consensus agreement) and an accompanying NOPR for dishwasher energy conservation standards on May 11, 2012. The direct final rule and NOPR were both published in the *Federal Register* on May 30, 2012 (77 Fed. Reg. 31918 and 77 Fed. Reg. 31964). On September 25, 2012, DOE issued a notice of effective date and compliance dates to confirm adoption of the standards established in the direct final rule. The notice was published in the *Federal Register* on October 1, 2012 (77 Fed. Reg. 59712).

Clothes Dryers. DOE issued a test procedure final rule for clothes dryers on December 15, 2010, which was published in the *Federal Register* on January 6, 2011 (76 Fed. Reg. 972). The amended test procedure revised certain active mode provisions as well as added measures of standby and off mode power. DOE considered but did not adopt provisions for measuring the energy impacts of automatic cycle termination (ACT). Instead, DOE maintained the approach contained in the previous version of the test procedure, which provides a fixed credit in energy use for clothes dryers equipped with any type of ACT.

On August 9, 2011, DOE issued a request for information notice to publicly announce that it has initiated a test procedure rulemaking for residential dryers and to request information and data on test methodologies for more accurately measuring the effects of clothes dryer automatic cycle termination. The RFI was published in the *Federal Register* on August 12, 2011 (76 Fed.

Reg. 50145). In response, on September 8, 2011, the Department of Energy received a joint petition submitted by the Association of Home Appliance Manufacturers (AHAM) and the Appliance Standards Awareness Project, on behalf of a number of named parties requesting that the clothes dryer test procedure be amended to address the effectiveness of automatic termination controls such as moisture and temperature sensor controls. The notice of petition was issued on October 4, 2011 and published in the *Federal Register* on October 11, 2011 (76 Fed. Reg. 62644). DOE issued a NOPR for the test procedure on December 14, 2011, which was published in the *Federal Register* on January 2, 2013 (78 Fed. Reg. 152). A public meeting was held in Washington, DC on February 6, 2013. DOE is currently reviewing comments received on the NOPR.

Space Cooling Team

Residential Central Air Conditioners and Heat Pumps. As discussed in the February 2012 implementation report, DOE completed a rulemaking amending energy conservation standards for residential central air conditioners and heat pumps on time, and DOE met the deadline set forth in the consent decree. DOE issued a direct final rule on June 6, 2011, which was accompanied by a NOPR. The direct final rule and NOPR were published in the *Federal Register* on June 27, 2011 (76 Fed. Reg. 37408; 76 Fed. Reg. 37549). DOE issued a notice of effective date and compliance dates on October 24, 2011, which confirmed the standard levels in the direct final rule. The notice was published in the *Federal Register* on October 31, 2011 (76 Fed. Reg. 67037).

DOE also initiated a test procedure rulemaking for residential central air conditioners and heat pumps in support of the energy conservation standard rulemaking. The test procedure will address standby mode and off mode energy consumption in order to meet the requirements of section 310 of EISA 2007. DOE issued a test procedure NOPR on February 12, 2010, which was published in the *Federal Register* on June 2, 2010 (75 Fed. Reg. 31224). A public meeting was held at DOE headquarters in Washington, DC on June 11, 2010 to discuss the proposal. DOE issued a test procedure SNOPR for these products on March 24, 2011, which was published in the *Federal Register* on April 1, 2011 (76 Fed. Reg. 18105). A second SNOPR, which proposed changes to the off mode laboratory test steps and to the calculation algorithm used to determine off mode power consumption, was issued on September 29, 2011 and published in the *Federal Register* on October 24, 2011 (76 Fed. Reg. 65616). On February 7, 2012, DOE issued a notice of public meeting to discuss methodologies and gather comments on testing residential central air conditioners and heat pumps designed to use hydrochlorofluorocarbon-22 (R-22) refrigerant. The NOPM was published on February 14, 2012 (77 Fed. Reg. 8178), and the meeting was held the same day at DOE headquarters in Washington, DC. DOE is considering the comments received at the public meeting to determine its next step for this rulemaking.

DOE is also undertaking a rulemaking that proposes to determine that residential central air conditioner split-system condensing units and residential heat pump split-system outdoor units qualify as covered products under Part A of Title III of the Energy Policy and Conservation Act,

as amended. DOE issued a notice of proposed determination (NOPD) on December 23, 2011, which was published in the *Federal Register* on January 11, 2012 (77 Fed. Reg. 1649). DOE is considering the comments it received in response to the proposed coverage determination in order to determine next steps.

Packaged Terminal Air Conditioners and Heat Pumps. DOE is initiating rulemakings to review the energy conservation standards and test procedures for packaged terminal air conditioners (PTACs) and packaged terminal heat pumps (PTACs) in accordance with the requirements of EISA 2007 to review standards every 6 years and test procedures every 7 years. DOE is currently preparing the framework document for this rulemaking.

Commercial Packaged Air-Conditioning and Heating Equipment. EPCA, as amended by AEMTCA, requires DOE to review the standards for each class of covered commercial equipment every six years and either publish a notice of determination that standards for the product do not need to be amended or a notice of proposed rulemaking with new proposed standards. For any covered equipment as to which more than six years has elapsed since the issuance of the most recent final rule establishing or amending a standard for the product, the notice must be published by December 31, 2013. Because the most recent final rule amending standards for commercial air-cooled air conditioners and heat pumps, also known as commercial unitary air conditioners and heat pumps, was published more than six years ago, DOE is initiating a rulemaking to review standards for this product. DOE issued an RFI on commercial packaged air conditioners and heat pumps on January 25, 2013, which was published in the *Federal Register* on February 1, 2013 (78 Fed. Reg. 7296).

Commercial Refrigeration Team

Walk-In Coolers and Freezers. EISA 2007 requires DOE to develop an energy conservation standard for walk-in coolers and freezers (42 U.S.C. 6313(f)(4)) which was scheduled for completion no later than January 2012. DOE issued a notice of availability of the framework document on December 24, 2008, which was published in the *Federal Register* on January 6, 2009 (74 Fed. Reg. 411). DOE held the framework document public meeting at DOE headquarters in Washington, DC, on February 4, 2009. DOE issued a notice of public meeting and availability of the preliminary technical support document on March 29, 2010, which was published in the *Federal Register* on April 5, 2010 (75 Fed. Reg. 17080). DOE held a public meeting to discuss these analyses at its headquarters in Washington, DC on May 14, 2010. The NOPR for this rulemaking was received by OMB on September 23, 2011 and is currently undergoing OMB review.

Commercial Refrigeration Equipment. EPCA 2005 requires DOE to consider amending the existing energy conservation standards for commercial refrigeration equipment by January 1, 2013 (42 U.S.C 6313(c)(5)(A)). This rulemaking will consider amending standards directly

prescribed by EPACK 2005 (for self-contained commercial refrigerators and freezers with doors) and standards included in the commercial refrigeration equipment final rule issued on December 31, 2008 (for self-contained equipment without doors, remote-condensing systems, and ice cream freezers), which was published in the *Federal Register* on January 9, 2009 (74 Fed. Reg. 1092). DOE issued a notice of public meeting and availability of the framework document on April 30, 2010, which was published in the *Federal Register* on May 6, 2010 (75 Fed. Reg. 24824). A public meeting to discuss the rulemaking approach was held at DOE headquarters in Washington, DC on May 18, 2010. On March 24, 2011, DOE issued a notice of public meeting and document availability for the preliminary analyses, which was published in the *Federal Register* on March 30, 2011 (76 Fed. Reg. 17573). The public meeting to discuss the preliminary analyses was held at DOE headquarters in Washington, DC on April 19, 2011. DOE has prepared a draft NOPR for this rulemaking that was received by OMB on February 17, 2012 and is currently undergoing OMB review.

Additionally, DOE conducted a test procedure rulemaking for commercial refrigeration equipment in support of the energy conservation standard rulemaking. DOE issued the test procedure NOPR on November 10, 2010, which was published in the *Federal Register* on November 24, 2010 (75 Fed. Reg. 71596). A public meeting to discuss the proposed test procedure was held at DOE's headquarters in Washington, DC on January 6, 2011. DOE issued the test procedure final rule on January 31, 2012, which was published in the *Federal Register* on February 21, 2012 (77 Fed. Reg. 10292).

Commercial Automatic Ice Makers. EPACK 2005 established energy conservation standards for commercial automatic ice makers and requires DOE to consider revised standards by January 1, 2015 (42 U.S.C 6313(d)(3)(A)). DOE issued the framework document for this rulemaking on November 4, 2010. The notice of public meeting and availability of the framework document was published in the *Federal Register* on November 19, 2010 (75 Fed. Reg. 70852). A public meeting to discuss the rulemaking was held at DOE's Washington, DC headquarters on December 16, 2010. DOE issued the preliminary analysis for this rulemaking on January 17, 2012. The notice of public meeting and availability of the preliminary technical support document was published in the *Federal Register* on January 24, 2012 (77 Fed. Reg. 3404) and the public meeting was held on February 16, 2012. DOE is currently preparing the NOPR for this rulemaking.

Electronics Team

Television Sets. DOE is taking the steps necessary to establish a test procedure that is suitable for modern television sets. On December 20, 2011, DOE issued a test procedure NOPR. The NOPR was published in the *Federal Register* on January 19, 2012 (77 Fed. Reg. 2830) and a public meeting was held at DOE headquarters on March 22, 2012. DOE is reviewing the comments on the NOPR to determine its next step for this rulemaking.

Set-Top Boxes. On December 12, 2011, DOE issued an RFI requesting information relevant to energy conservation standards and test procedures for set-top boxes. The RFI was published in the *Federal Register* on December 16, 2011 (76 Fed. Reg. 78174). DOE held a public meeting to discuss set-top boxes on January 26, 2012 at DOE headquarters in Washington, DC. DOE is moving forward with a test procedure rulemaking for set-top boxes and is preparing a test procedure NOPR. DOE is undertaking analysis that could also lead to the initiation of a rulemaking for set-top box energy conservation standards.

DOE amended its rulemaking schedule for set-top boxes to suspend a decision on issuance of a proposed rule for a regulatory test procedure or energy conservation standard until after October 1, 2012. This suspension allowed industry representatives and energy efficiency advocates time to negotiate a non-regulatory agreement to improve the energy efficiency of set-top boxes. However, stakeholders were unable to reach a consensus agreement, and DOE is now continuing its test procedure and energy conservation standards process. DOE issued a test procedure NOPR for set-top boxes on January 11, 2013, which was published in the *Federal Register* on January 23, 2013 (78 Fed. Reg. 5076).

Battery Chargers and External Power Supplies. Pursuant to EISA 2007, DOE is bundling the two requirements to amend standards for Class A external power supplies (42 U.S.C. 6295(u)(3)(D)) and to prescribe energy conservation standards for battery chargers (42 U.S.C. 6295(u)(1)(E)(i)(III)) into a single rulemaking. Because DOE made a positive determination on May 7, 2010 that energy conservation standards are warranted for non-Class A external power supplies (75 Fed. Reg. 27170 (May 14, 2010)), this product is now also bundled in this rulemaking. The EISA 2007 deadline for this rulemaking was July 1, 2011. Although this date was not met, DOE is taking steps to complete the final rule as expeditiously as possible.

DOE issued a notice of availability of the framework document for the energy conservation standard on May 26, 2009, which was published in the *Federal Register* on June 4, 2009 (74 Fed. Reg. 26816). A public meeting to discuss the framework document was held on July 16, 2009 at DOE headquarters in Washington, DC. DOE issued a notice of public meeting and availability of the preliminary analysis on August 27, 2010, which was published in the *Federal Register* on September 15, 2010 (75 Fed. Reg. 56021). A public meeting to discuss it was held at DOE headquarters in Washington, DC on October 13, 2010. The NOPR for this rulemaking was received by OMB for review on July 19, 2011, and review was concluded on March 5, 2012. DOE issued the NOPR on March 8, 2012, which was published in the *Federal Register* on March 27, 2012 (77 Fed. Reg. 18478). DOE held a public meeting to discuss the NOPR at DOE headquarters in Washington, DC on May 2, 2012. DOE is currently preparing the final rule.

Miscellaneous Electrical Equipment. DOE has evaluated the energy use and energy efficiency potential of miscellaneous residential and commercial electrical equipment, including: audio-video equipment, computer systems, household cleaning equipment, imaging equipment, network equipment, personal space heating equipment, thermal household equipment,

thermal kitchen equipment, uninterruptible power supplies (UPS), and vertical transport equipment. DOE issued an RFI to solicit feedback on these products on January 4, 2012, which was published in the *Federal Register* on January 24, 2012 (77 Fed. Reg. 3461). DOE sought data on the energy use, product markets, test procedures, and energy efficient product designs of miscellaneous residential and consumer electrical equipment. Upon reviewing this data, DOE determined that there may be potential for improvement in the energy efficiency of these products and that several of these products are likely to meet the criteria to become covered products under EPCA. At this time, DOE is analyzing its course of action. In the future, DOE will report on these products if and when a decision is made to initiate rulemaking(s).

Plumbing Products Team

Residential Plumbing Products. National standards for water-using products, including faucets, showerheads, water closets, and urinals, are based on the American Society of Mechanical Engineers (ASME)/American National Standards Institute (ANSI) standards A112.18.1M, for showerheads and faucets, and A112.19.6, for water closets and urinals. (42 U.S.C. 6295(j), (k)) EPCA requires that if ASME/ANSI has not amended these faucet, showerhead, water closet, or urinal standards in order to improve water efficiency after a five-consecutive-year period, DOE must publish a final rule waiving Federal preemption under 42 U.S.C. 6297(c) with respect to any State regulation concerning the water use or water efficiency of a particular type or class of showerhead, faucet, water closet, or urinal that is both more stringent than the relevant Federal regulation and is applicable to any sale or installation of all products in that particular type or class. (42 U.S.C. 6295(j)(3)(C) and 6295(k)(3)(C)) ASME/ANSI last made a substantive amendment to its standards regarding the water efficiency requirements for showerheads and faucets on May 29, 1996 (ASME/ANSI A112.18.1M–1996), and for water closets and urinals on April 19, 1996 (ASME/ANSI A112.19.6–1995). Both of these standards were incorporated by reference into the Code of Federal Regulations in a final rule issued by DOE on March 13, 1998, which was published in the *Federal Register* on March 18, 1998 (63 Fed. Reg. 13308). Because more than five years have passed since ASME/ANSI last amended the water efficiency requirements in either of these standards, DOE complied with the above-described provisions of 42 U.S.C. 6297(c) waiving Federal preemption. The waiver final rule was issued on December 15, 2010 and published in the *Federal Register* on December 22, 2010 (75 Fed. Reg. 80289).

On August 16, 2011, DOE issued a request for information (RFI) on State activity undertaken as a result of the 2010 final rule and on any recent actions taken by ASME/ANSI toward amending its water efficiency standards for these products. The RFI was published in the *Federal Register* on August 23, 2011 (76 Fed. Reg. 52644).

DOE has also initiated a test procedure rulemaking for water products including faucets, showerheads, urinals, water closets, and commercial pre-rinse spray valves. The test procedure rulemaking is being conducted to satisfy the 7-year review requirements in EISA 2007. (42 U.S.C. 6293(b)(1)) DOE issued the NOPR for this rule on May 17, 2012, which was published in the *Federal Register* on May 30, 2012 (77 Fed. Reg. 31742). DOE held a public meeting to

discuss the NOPR at DOE headquarters in Washington, DC on July 24, 2012. DOE has reviewed all comments received and is in the process of developing its next regulatory action.

Enforcement Team

Alternative Efficiency Determination Methods and Alternate Rating Methods. DOE has certification, compliance, and enforcement regulations for certain consumer products and commercial and industrial equipment covered under EPCA. DOE is proposing to revise and expand its existing regulations governing the use of particular methods as alternatives to testing for the purposes of certifying compliance with the applicable energy conservation standards and the reporting of related ratings for certain consumer products and commercial and industrial equipment covered by energy conservation standards. On May 24, 2012, DOE issued a NOPR for Alternative Efficiency Determination Methods (AEDMs) and Alternative Rating Methods (ARMs). The NOPR was published in the *Federal Register* on May 31, 2012 (77 Fed. Reg. 32038), and a notice of public meeting and document availability was issued on May 24, 2012 and published in the *Federal Register* on May 30, 2012 (77 Fed. Reg. 31756). The public meeting was held at DOE headquarters on June 5, 2012 to provide interested parties an opportunity to comment on DOE's proposed modifications to the regulations authorizing the use of alternative methods of determining energy efficiency or energy consumption of various consumer products and commercial equipment. DOE is currently reviewing the comments submitted on the NOPR.

Regional Enforcement of Furnaces and Central Air Conditioners. As discussed above, on June 27, 2011, a direct final rule amending the energy conservation standards for residential furnaces, central air conditioners, and heat pumps was published in the *Federal Register* (76 Fed. Reg. 37408). On October 24, 2011, DOE issued a notice of effective date and compliance dates that confirmed the standard levels in the direct final rule. The notice was published in the *Federal Register* on October 31, 2011 (76 Fed. Reg. 67037). In addition to the national standard level, this rulemaking also amended the standards for furnaces and central air conditioners by implementing regional standard levels, where the applicable efficiency level is dependent upon the geographic region in which the product is sold. EPCA requires that DOE promulgate a final rule covering the enforcement of regional standards not later than 15 months after the date of issuance of a final rule that establishes regional standards. (42 U.S.C. 6295(o)(6)(G)(ii)(III)) Accordingly, DOE initiated a rulemaking to explore the enforcement of the regional standards for furnaces and central air conditioners. On November 29, 2011, DOE issued a notice of data availability (NODA) that announced possible approaches to the enforcement of regional standards for these products. The NODA was published in the *Federal Register* on December 7, 2011 (76 Fed. Reg. 76328). A public meeting to discuss the approaches was held at DOE's Washington, DC headquarters on December 16, 2011. The comment period closed on February 6, 2012. DOE is currently preparing a NOPR for this rulemaking.