



## Department of Energy

Washington, DC 20585

June 30, 1997

### FISCAL 1998 PRIORITY SETTING FOR THE APPLIANCE STANDARDS RULEMAKING PROCESS

The following data sheets are the proposed priorities for the fiscal year 1998, by the Department of Energy, Office of Codes and Standards. The Department requests comments on the data sheets, the proposed priorities, and the proposed schedules. These proposed priorities are based on the presumption that the Office of Codes and Standards will be funded at its requested level for fiscal 1998.

The priority levels will help DOE determine the allocation of resources during the coming year. For the high priority products, DOE plans to pursue actively (meetings and workshops) and publish notices (Determinations, Advance Notices of Proposed Rules, Notices of Proposed Rules and/or Final Rules) in the next year. For the medium priority products, DOE plans to initiate work in support of rulemakings in the next year. For example, conducting a screening workshop for a standards rulemakings. For the low priority products, DOE does not plan to actively pursue rulemakings in the next two years. Work would be limited to basic technology investigation.

Written comments should be submitted by August 4, 1997, to the U.S. Department of Energy, 1000 Independence Ave., SW, Washington, D.C. 20585-0121, Attn: Sandy Beall, EE-43. The Department will incorporate comments into the final priority setting document and forward it to the Federal Register for publication in the Regulatory Agenda. The Department will notify interested parties if there are any changes in the proposed priority of the products prior to publication of the Regulatory Agenda. After publication of the Regulatory Agenda, DOE will provide copies to interested parties. If you have any questions, please contact Anthony Balducci at (202) 586-8459, facsimile (202) 586-4617.

Sincerely,

Michael J. McCabe  
Director, Office of Codes and Standards  
Energy Efficiency and Renewable Energy

Enclosure: Draft Product Data Sheets



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# **1998 Priority Setting for Standards and Test Procedure Rulemakings**

**Draft**  
**June 27, 1997**

**FISCAL 1998 PRIORITY SETTING FOR THE  
APPLIANCE STANDARDS RULEMAKING PROCESS**

The following data sheets are the proposed priorities for the fiscal year 1998, by the Department of Energy, Office of Codes and Standards. The Office requests comments on the data sheets, the proposed priorities, and the proposed schedules. These proposed priorities are based on the presumption that the Lighting and Appliance Standards Program will be funded at its requested level for the fiscal year 1998. Final priorities will be based on the Department's consideration of comments received and funds available.

Written comments should be submitted by August 4, 1997, to the U.S. Department of Energy, 1000 Independence Ave., SW, Washington, D.C. 20585-0121, Attn: Sandy Beall, EE-43. If you have any questions, please contact Anthony Balducci at (202) 586-8459.

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<sup>1</sup> Drops to Low Priority upon completion

<sup>2</sup> Moves to High Priority if positive determination

## Summary of Priorities

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<sup>1</sup> Drops to Low Priority upon Completion

<sup>2</sup> Moves to High Priority if positive determination

## Standards

**Product:** Clothes Dryers - (Gas/Electric)

**Priority:** Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads)	The Department has not conducted any recent analysis regarding potential energy savings for this product.
Potential Economic Benefits/Burdens	Not available
Potential Environmental or Energy Security Benefits	Not available
Status of Required Changes to Test Procedures	Reduced annual cycles needs to be considered, definitions and creation of new product class for condensing dryers
Other Regulatory Actions	DOE regulation of clothes washers. DOE regulation of white goods for full line manufacturers.
Recommendations by Interested Parties	There appears to be a general consensus among stakeholders that updating clothes dryer standards should be given low priority.
Evidence of Market-Driven or Voluntary Efficiency Improvements	At least three U.S. manufacturers are marketing high efficient clothes washers which are likely to have improved moisture extraction.
Issues	Significant dryer savings potential will be considered in clothes washer rulemaking (greater moisture extraction). Mechanical extraction has been estimated to be 20 times more cost effective than thermal extraction.
FY 1997 Priority	Low

## Proposed Schedule and Rationale

Proposed Schedule	DOE does not plan to actively pursue rulemaking in the next two years. Work would be limited to basic technology investigation and monitoring of voluntary programs.
Rationale for Priority Level	Interested Parties believe this is a low priority product. Potential energy savings are low. Other DOE standards will impose cumulative burden on white good manufacturers.

## Test Procedure

**Product:** Clothes Dryers - (Gas/Electric)

**Priority:** Low

Factors for Priority Setting	Assessment
<b>Relationship to Changes in Standard</b>	Test Procedure needs to be changed for standard
<b>Priority of Standard</b>	Low
<b>International or Other Coordinating Activities</b>	CSA has conducted specialized dryer tests and has asked DOE to consider revisions to the test procedure.
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	A new product class needs to be defined for condenser dryers. Currently there is one waiver in effect. There are numerous changes that are required prior to a standards rulemaking for clothes dryers.

## Proposed Schedule and Rationale:

<b>Proposed Schedule</b>	
<b>Rationale for Priority Level</b>	Considered to be a low priority by stakeholders.

## Standards

**Product:** Clothes Washers  
**Priority:** High

Factors for Priority Setting		Assessment					
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2002-2030</b>		Total range considered: [ 0.6 - 11.5 ] <sup>1</sup>				Specific examples below:	
		Imprv. fill ctrl	Imprv. fill ctrl & 50% RMC	Max tech. vert. axis & 40% RMC	Horz. axis	Horz. axis recirc. & 50% RMC	Horz. axis recirc. & 40% RMC
		0.6	2.7	5.0	6.4	9.8	11.5
<b>Potential Economic Benefits/Burdens</b>		Potential benefits to consumers have not been quantified. High efficient clothes washers require a new platform design and significant investment.					
<b>Potential Environmental or Energy Security Benefits</b>		Specific estimates of emission reductions have not been developed however, estimated energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are minimal.					
<b>Status of Required Changes to Test Procedures</b>		Test procedures need to be changed for standard. Final rule for test procedures expected 7/97.					
<b>Other Regulatory Actions</b>		DOE regulation of clothes dryers. DOE regulation of white goods for full line manufacturers.					
<b>Recommendations by Interested Parties</b>							
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>		Consortium for Energy Efficiency program with utilities. Energy Star program. Federal Energy Management Program for procurement initiative. At least three U.S. manufacturers are marketing high efficient clothes washers.					
<b>Issues</b>							
<b>FY 1997 Priority</b>		High					

### Proposed Schedule and Rationale

<b>Proposed Schedule</b>	ANOPR - 1/97      NOPR - 01/99 Final Rule - 12/99
<b>Rationale for Priority Level</b>	Generally considered to be a high priority by stakeholders. Potential energy savings are large.

<sup>1</sup>

Based on rough estimates, complete analysis will be performed for the rulemaking.

## Test Procedure

**Product:** Clothes Washers

**Priority:** High - Drops to Low Priority upon completion

Factors for Priority Setting	Assessment
<b>Relationship to Changes in Standard</b>	Test Procedure not needed to be changed for standard
<b>Priority of Standard</b>	High
<b>International or Other Coordinating Activities</b>	The Department will work with CSA to help Canada implement a test procedure consistent with DOE's revised clothes washer test procedure.
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	Final Rule issued FY97

### Proposed Schedule and Rationale:

<b>Proposed Schedule</b>	Final Rule - 7/97
<b>Rationale for Priority Level</b>	This test procedure will remain a high priority until the final rule is published. Once the final rule is published, it will become a low priority.

## Standards

**Product:** Commercial Air Conditioners & Heat Pumps  
**Priority:** Low

Factors for Priority Setting	Assessment
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1995-2030</b>	7.3 <sup>2</sup>
<b>Potential Economic Benefits/Burdens</b>	Not available.
<b>Potential Environmental or Energy Security Benefits</b>	Specific estimates of emission reductions have not been developed however, estimated energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are minimal.
<b>Status of Required Changes to Test Procedures</b>	DOE needs to incorporate ARI and ASHRAE standard into Code of Federal Regulation.
<b>Other Regulatory Actions</b>	EPA phaseout of HCFC refrigerants.
<b>Recommendations by Interested Parties</b>	
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>	None known.
<b>Issues</b>	Dependent upon revision ASHRAE 90.1 standards.
<b>FY 1997 Priority</b>	Low

## Proposed Schedule and Rationale

<b>Proposed Schedule</b>	DOE does not plan to actively pursue rulemaking in the next two years. Work would be limited to basic technology investigation and monitoring of voluntary programs.
<b>Rationale for Priority Level</b>	Standards set by EPACT and will be amended upon revision of ASHRAE 90.1

## **Test Procedure**

**Product:** Commercial Air Conditioners & Heat Pumps

**Priority:** High

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Standards set by EPACT and will be amended upon revision of ASHRAE 90.1
<b>Priority of Standard</b>	Low
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	

### **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	
<b>Rationale for Priority Level</b>	DOE needs to incorporate ARI and ASHRAE standard into Code of Federal Regulation.

## Standards

**Product:** Commercial Furnaces and Boilers

**Priority:** Low

Factors for Priority Setting		Assessment
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1995-2030</b>		1 <sup>3</sup>
<b>Potential Economic Benefits/Burdens</b>		Not available.
<b>Potential Environmental or Energy Security Benefits</b>		Specific estimates of emission reductions have not been developed however, estimated energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are minimal.
<b>Status of Required Changes to Test Procedures</b>		DOE needs to incorporate ARI and ASHRAE standard into Code of Federal Regulation.
<b>Other Regulatory Actions</b>		Possible State and regional environmental regulation (e.g. air quality).
<b>Recommendations by Interested Parties</b>		
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>		None known.
<b>Issues</b>		Dependent upon revision ASHRAE 90.1 standards.
<b>FY 1997 Priority</b>		Low

## Proposed Schedule and Rationale

<b>Proposed Schedule</b>	DOE does not plan to actively pursue rulemaking in the next two years. Work would be limited to basic technology investigation and monitoring of voluntary programs.
<b>Rationale for Priority Level</b>	Standards set by EPACT and will be amended upon revision of ASHRAE 90.1

<sup>3</sup>

Based on PNNL rough estimate, May 1996.

## **Test Procedure**

**Product:** Commercial Furnaces and Boilers

**Priority:** High

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Standards set by EPACT and will be amended upon revision of ASHRAE 90.1
<b>Priority of Standard</b>	Low
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	

### **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	
<b>Rationale for Priority Level</b>	DOE needs to incorporate ARI and ASHRAE standard into Code of Federal Regulation.

## Standards

**Product:** Commercial Water Heating

**Priority:** Low

Factors for Priority Setting		Assessment
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1995-2030</b>		[0.21 - 1.2] <sup>4</sup>
<b>1. Potential Economic Benefits/Burdens</b>		Not available.
<b>Potential Environmental or Energy Security Benefits</b>		Specific estimates of emission reductions have not been developed however, estimated energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are minimal.
<b>Status of Required Changes to Test Procedures</b>		DOE needs to incorporate ARI and ASHRAE standard into Code of Federal Regulation.
<b>Other Regulatory Actions</b>		
<b>Recommendations by Interested Parties</b>		
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>		None known.
<b>Issues</b>		Dependent upon revision ASHRAE 90.1 standards.
<b>FY 1997 Priority</b>		Low

## Proposed Schedule and Rationale

<b>Proposed Schedule</b>	DOE does not plan to actively pursue rulemaking in the next two years. Work would be limited to basic technology investigation and monitoring of voluntary programs.
<b>Rationale for Priority Level</b>	Standards set by EPACT and will be amended upon revision of ASHRAE 90.1

<sup>4</sup>

Based on PNNL preliminary findings report, April 1996.

## **Test Procedure**

**Product:** Commercial Water Heating

**Priority:** High

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Standards set by EPACT and will be amended upon revision of ASHRAE 90.1
<b>Priority of Standard</b>	Low
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	

### **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	
<b>Rationale for Priority Level</b>	DOE needs to incorporate ARI and ASHRAE standard into Code of Federal Regulation.

## Standards

**Product:** Cooking Products - Ovens, Cook Tops, Microwave Ovens

**Priority:** High - Drops to Low Priority upon completion

Factors for Priority Setting	Assessment		
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2000-2030</b>	Total ranges considered: <sup>5</sup>  Ovens [ 0.1 - 2.1 ]      Cook Tops [ 0 - 0.5 ]      Microwave Ovens [ 0 - 0.3 ]		
<b>Potential Economic Benefits/Burdens</b>	[ (9.3) - 0.1 ]      [ (4.0) - 0.1 ]      [ 0 - (4.7) ] NPV, billions of 1990\$ @ 7% Microwave design option is highly speculative.		
<b>Potential Environmental or Energy Security Benefits</b>	SO <sub>2</sub> [ 9 - 247 ]      SO <sub>2</sub> [ 0 - 67 ]      SO <sub>2</sub> [ 0 - 53 ] NOx [ 11 - 239 ]      NOx [ 0 - 65 ]      NOx [ 0 - 48 ] CO <sub>2</sub> [ 6 - 133 ]      CO <sub>2</sub> [ 0 - 36 ]      CO <sub>2</sub> [ 0 - 25 ] Emission reductions in (kt) for SO <sub>2</sub> and NOx, and (Mt) for CO <sub>2</sub> .		
<b>Status of Required Changes to Test Procedures</b>	Reduction of annual energy consumption and incorporation of IEC 705 test procedure. Final rule for test procedures expected 7/97.		
<b>Other Regulatory Actions</b>	DOE regulation of white goods for full line manufacturers.		
<b>Recommendations by Interested Parties</b>			
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>	None known.		
<b>Issues</b>	Use of ranges is declining in the U.S.. Pilotless designs may require additional wiring for installation.		
<b>FY 1997 Priority</b>	High		

## Proposed Schedule and Rationale

<b>Proposed Schedule</b>	Final Rule - 9/97
<b>Rationale for Priority Level</b>	2. Interested Parties recommended high priority. Potential energy savings are low to moderate. Limited DOE resources needed to complete rulemaking. This rulemaking will remain high priority until the final rule is published. Once the final rule is published, it will become a low priority.

5

Based on DOE report, April 1996.

## **Test Procedure**

**Product:** Cooking Products - Ovens, Cook Tops, Microwave Ovens

**Priority:** High - Drops to Low Priority upon completion

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Test Procedure needed to be changed for standard.
<b>Priority of Standard</b>	High
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	Incorporate the International Electrotechnical Commission standard 705 and amendment 2 for microwave oven testing.
<b>Statutory Deadline</b>	
<b>Issues</b>	Changes made to lower annual energy consumption were incorporated in the revised test procedure to correspond to the standard.

### **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	Final Rule - 7/97
<b>Rationale for Priority Level</b>	This test procedure will remain a high priority until the final rule is published. Once the final rule is published, it will become a low priority.

## Standards

**Product:** Direct Heating Equipment (Gas)

**Priority:** Low

Factors for Priority Setting		Assessment			
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1998-2030</b>		Total range considered: [ 0 - 0.1 ] <sup>6</sup> Specific examples below. <sup>7</sup>			
		Piezo ignit. (64.8% AFUE)	Piezo ignit. & Derate 20% (66.9% AFUE)	Previous & Induced Draft (78.0% AFUE)	Previous, Condens. & Modulat. Oper. (87.0% AFUE)
		0.1	0	(0.3)	(1.0)
<b>Potential Economic Benefits/Burdens</b>		[ (1.4) - 0.1 ]	NPV, Billions of 1990\$ @ 7%		
		0	0.1	(0.6)	(1.4)
<b>Potential Environmental or Energy Security Benefits</b>		SO <sub>2</sub> NOx CO <sub>2</sub>	0 (7) (6) (3)	(140) (132) (72)	(320) (301) (165)
Emission reductions in (kt) for SO <sub>2</sub> and NOx, and (Mt) for CO <sub>2</sub> .					
<b>Status of Required Changes to Test Procedures</b>		Final rule published 5/12/97.			
<b>Other Regulatory Actions</b>		None known that will impact product.			
<b>Recommendations by Interested Parties</b>					
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>		None known.			
<b>Issues</b>		Venting safety issue. Fuel switching. Rural communities use for backup heating during power outages. Utility concern with electronic ignition.			
<b>FY 1997 Priority</b>		Low			

## Proposed Schedule and Rationale

<b>Proposed Schedule</b>	DOE does not plan to actively pursue rulemaking in the next two years. Work would be limited to basic technology investigation and monitoring of voluntary programs.
<b>Rationale for Priority Level</b>	Interested Parties believe this is a low priority product. Potential energy savings are low.

<sup>6</sup> Based on DOE preliminary analysis, June 1995.

<sup>7</sup> Examples shown for design options and AFUE are for gravity wall heaters (27 - 46 kBtu/hr).

## **Test Procedure**

**Product:** Direct Heating Equipment (Gas)

**Priority:** Low

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Test Procedure not needed to be changed for standard
<b>Priority of Standard</b>	Low
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	

## **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	Final Rule issued 5/12/97
<b>Rationale for Priority Level</b>	

## **Standards**

**Product:** Dishwashers

**Priority:** Low

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads)</b>	The Department has not conducted any recent analysis regarding potential energy savings for this product.
<b>Potential Economic Benefits/Burdens</b>	Not available.
<b>Potential Environmental or Energy Security Benefits</b>	Specific estimates of emission reductions have not been developed however, estimated energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are minimal.
<b>Status of Required Changes to Test Procedures</b>	Test procedures may require revision to properly reflect energy consumption for new technologies (e.g. adaptive controls) and reduced annual cycles needs to be considered.
<b>Other Regulatory Actions</b>	DOE regulation of white goods for full line manufacturers.
<b>Recommendations by Interested Parties</b>	Some manufacturers believe that updating the dishwasher standard should be given a low priority.
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>	Energy Savers program. Federal Energy Management Program for procurement initiative. At least two U.S. manufacturers are marketing adaptive control dishwashers.
<b>Issues</b>	Increased efficiency may impact product utility (e.g. may require pre-rinsing of dishes or cleaning of filters) or the availability of affordable models (contract housing).
<b>FY 1997 Priority</b>	Low

### **Proposed Schedule and Rationale**

<b>Proposed Schedule</b>	DOE does not plan to actively pursue rulemaking in the next two years. Work would be limited to basic technology investigation and monitoring of voluntary programs.
<b>Rationale for Priority Level</b>	Interested Parties believe this is a low priority product. Potential energy savings are low. Other DOE standards will impose cumulative burden on white good manufacturers.

## **Test Procedure**

**Product:** Dishwashers

**Priority:** Medium

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Test Procedure needed to be changed for standard
<b>Priority of Standard</b>	Low
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	New technology in product, i.e. smart controls, fuzzy logic.

### **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	TBD
<b>Rationale for Priority Level</b>	New technology in product, i.e. smart controls, fuzzy logic.

## Standards Determination

**Product:** Distribution Transformers

**Priority:** High

Factors for Priority Setting	Assessment
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1995-2030</b>	[4.2-13.7] <sup>8</sup>
<b>Potential Economic Benefits/Burdens</b>	Not available.
<b>Potential Environmental or Energy Security Benefits</b>	Specific estimates of emission reductions have not been developed however, estimated energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are minimal.
<b>Status of Required Changes to Test Procedures</b>	Need to develop a test procedure before rule.
<b>Other Regulatory Actions</b>	None known.
<b>Recommendations by Interested Parties</b>	
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>	EPA Energy Star program for liquid immersion transformers. NEMA's TP-1 and the National Business Awareness Campaign to promote energy efficient electrical products.
<b>Issues</b>	Most efficient designs include proprietary technology. NEMA recommends adoption of voluntary standards as specified in TP-1. Energy savings questioned by NEMA.
<b>FY 1997 Priority</b>	High

### Proposed Schedule and Rationale

<b>Proposed Schedule</b>	Notice of Determination - 7/97
<b>Rationale for Priority Level</b>	Potential energy savings are large, although industry believes it may be overstated. Determination required by EPACT. If positive determination is made, product will become a high priority for standards.

<sup>8</sup>

Based on ORNL determination analysis, April 1996.

## **Test Procedure**

**Product:** Distribution Transformers

**Priority:** Low - Moves to High Priority if positive determination

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Test Procedure need to be changed for standard.
<b>Priority of Standard</b>	High
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	Dependant on determination

## **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	Dependant on determination
<b>Rationale for Priority Level</b>	The test procedure will become a high priority if a positive determination is made.

## Standards

**Product:** Electric Motors, 1 - 200 HP

**Priority:** Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads)	Not Available.
Potential Economic Benefits/Burdens	Not Available.
Potential Environmental or Energy Security Benefits	Not Available.
Status of Required Changes to Test Procedures	NEMA MG-1987 was amended 12/7/93. DOE proposing to adopt 1993 version. Final rule for test procedures expected Fall 1997.
Other Regulatory Actions	None known that will impact product.
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	ASHRAE 90.1. "Consortium for Energy Efficiency" program with utilities. Motor Challenge. Motor Master+
Issues	Some system efficiencies are regulated by DOE (e.g. HVAC) where motors are components of such systems.
FY 1997 Priority	Low

## Proposed Schedule and Rationale

Proposed Schedule	DOE does not plan to actively pursue rulemaking in the next two years. Work would be limited to basic technology investigation and monitoring of voluntary programs.
Rationale for Priority Level	Interested Parties believe this is a low priority product. Potential energy savings are unknown at this time. Statutory deadline is 1999 (2000).

## **Test Procedure**

**Product:** Electric Motors, 1 - 200 HP

**Priority:** High - Drops to Low Priority upon completion

<b>Factors for Priority Setting</b>		<b>Assessment</b>
<b>Relationship to Changes in Standard</b>		Test Procedure needed to be changed for standard
<b>Priority of Standard</b>		Low
<b>International or Other Coordinating Activities</b>		
<b>Recommendation by Interested Parties</b>		
<b>Statutory Deadline</b>		
<b>Issues</b>		

### **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	Proposed Rule Issued - 11/27/97 Final Rule - Fall 1997
<b>Rationale for Priority Level</b>	Considered to be a high priority by stakeholders. This test procedure will remain a high priority until the final rule is published. Once the final rule is published, it will become a low priority.

## Standards

**Product:** Fluorescent Lamp Ballasts

**Priority:** High

<b>Factors for Priority Setting</b>		<b>Assessment</b>			
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2000-2030</b>		Total range considered: [ 0.4 - 5.3 ] <sup>9</sup> Specific examples below:			
		Cathode Cutout	Cathode Cutout / Electronic Rapid Start	Electronic Rapid Start / Instant Start	Electronic Rapid Start / Instant Start
		0.4-2.7	1.4-5.1	1.5-5.3	1.7-5.5
<b>Potential Economic Benefits/Burdens</b>		[ 0.3 - 5.8 ] NPV, billions of 1994\$ @ 7% 0.3 - 1.6      2.2 - 5.6      2.5 - 5.7      2.5 - 5.8			
<b>Potential Environmental or Energy Security Benefits</b>					
<b>Status of Required Changes to Test Procedures</b>		Testing of electronic ballast may require revision to test procedure.			
<b>Other Regulatory Actions</b>		None.			
<b>Recommendations by Interested Parties</b>					
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>		EPA Green Lights and Energy Star buildings, ASHRAE 90.1, DOE's Federal Relighting Initiative (FEMP), NEMA's Energy Efficient Procurement Collaborative, and some utility DSM programs.			
<b>Issues</b>		Standards, for electronic ballasts, could adversely affect remaining U.S. manufacturers more than those overseas. NEMA believes that DOE should remove itself from promulgating standards for products that are components of larger systems.			
<b>FY 1997 Priority</b>		High			

### Proposed Schedule and Rationale

<b>Proposed Schedule</b>	Impact Workshop - NOPR - Final Rule -
<b>Rationale for Priority Level</b>	Potential energy savings are moderate. Engineering analysis completed with strong endorsement from industry.

## **Test Procedure**

**Product:** Fluorescent Lamp Ballasts

**Priority:** Low

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Test Procedure not needed to be changed for standard
<b>Priority of Standard</b>	High
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	

## **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	
<b>Rationale for Priority Level</b>	

## Standards Determination

**Product:** High Intensity Discharge (HID) Lamp

**Priority:** Low

Factors for Priority Setting		Assessment
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1995-2030</b>	[0.11-0.22] <sup>10</sup>	
<b>Potential Economic Benefits/Burdens</b>	Not Available.	
<b>Potential Environmental or Energy Security Benefits</b>	Specific estimates of emission reductions have not been developed however, estimated energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are minimal.	
<b>Status of Required Changes to Test Procedures</b>	IES and ANSI procedures are in place. Issues with definitions, covered products and sampling.	
<b>Other Regulatory Actions</b>	EPA mercury disposal requirements may apply.	
<b>Recommendations by Interested Parties</b>		
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>	Mercury vapor lamps being replaced by metal halide and high pressure sodium lamps.	
<b>Issues</b>	Concern about non-equitable impact of possible elimination of mercury vapor lamps (e.g. significant regional and municipal variation exists). High first cost impact (elimination of mercury vapor lamps will require fixture replacement).	
<b>FY 1997 Priority</b>	Low	

### Proposed Schedule and Rationale

<b>Proposed Schedule</b>	Determination -
<b>Rationale for Priority Level</b>	Determination required by EPACT.

<sup>10</sup>

Based on DOE rough estimate, May 1996.

## Test Procedure

**Product:** High Intensity Discharge (HID) Lamp

**Priority:** Low

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Test Procedure need to be changed for standard
<b>Priority of Standard</b>	Low
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	

## Proposed Schedule and Rationale:

<b>Proposed Schedule</b>	Dependant on determination
<b>Rationale for Priority Level</b>	

## Standards

**Product:** Lamps, Fluorescent and Incandescent

**Priority:** Low

Factors for Priority Setting	Assessment
Potential Energy Savings from Regulatory Action; Cumulative (Quads)	Not Available.
Potential Economic Benefits/Burdens	Not Available.
Potential Environmental or Energy Security Benefits	Not Available.
Status of Required Changes to Test Procedures	IES and ANSI procedures are in place, DOE test procedure Final Rule issued 5/29/97
Other Regulatory Actions	Existing EPA mercury disposal requirements apply, but EPA is considering responses to a NOPR regarding a "conditional" exclusion from the hazardous waste designation or an inclusion of lamps into the Universal Waste Rule.
Recommendations by Interested Parties	
Evidence of Market-Driven or Voluntary Efficiency Improvements	EPA Green lights, Energy Star Buildings, ASHRAE 90.1, and some utility DSM programs, FEMP.
Issues	Because lamps are components of systems, establishment of standards is more difficult.
FY 1997 Priority	Low

## **Proposed Schedule and Rationale**

<b>Proposed Schedule</b>	DOE does not plan to actively pursue rulemaking in the next two years. Work would be limited to basic technology investigation and monitoring of voluntary programs.
<b>Rationale for Priority Level</b>	Interested Parties believe this is a low priority product. Potential energy savings are unknown at this time. Statutory deadline is 1997 (2002) for amending current lamp standards and 1999 for adding additional general service fluorescent and incandescent lamps.

## **Test Procedure**

**Product:** Lamps, Fluorescent and Incandescent

**Priority:** Low

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Test Procedure not needed to be changed for standard
<b>Priority of Standard</b>	Low
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	

## **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	Final Rule issued 5/29/97
<b>Rationale for Priority Level</b>	

## Standards

**Product:** Mobile Home Furnaces

**Priority:** Low

Factors for Priority Setting	Assessment			
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1998-2030</b>	Total range considered: [ 0.1 - 0.6 ] <sup>11</sup>			Specific examples below:
	Gas	Imprv. fan motor (76.6% AFUE)	Imprv. fan motor & burner box damper (79.6 AFUE)	Condensing (91.7 AFUE)
	Oil	Imprv. fan motor (82.1% AFUE)	Imprv. fan motor (82.1% AFUE)	Imprv. fan motor, ht. exchgr., condens. & full modulation (93.7% AFUE)
		0.1	0.1	0.5
<b>Potential Economic Benefits/Burdens</b>	[ (0.8) - 0.1 ] NPV, Billions of 1990\$ @ 7% 0.1                    0.1                    (0.2)			
<b>Potential Environmental or Energy Security Benefits</b>	SO <sub>2</sub>	16	17	4
	NOx	15	16	4
	CO <sub>2</sub>	9	9	2
	Emission reductions in (kt) for SO <sub>2</sub> and NOx, and (Mt) for CO <sub>2</sub> .			
<b>Status of Required Changes to Test Procedures</b>	Final rule issued 5/12/97.			
<b>Other Regulatory Actions</b>	None known that will impact product.			
<b>Recommendations by Interested Parties</b>				
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>	None known.			
<b>Issues</b>	Venting safety issue. Fuel switching. Limited space for installation.			
<b>FY 1997 Priority</b>	Low			

### Proposed Schedule and Rationale

<b>Proposed Schedule</b>	DOE does not plan to actively pursue rulemaking in the next two years. Work would be limited to basic technology investigation and monitoring of voluntary programs.
<b>Rationale for Priority Level</b>	Potential energy savings are low to moderate. Manufacturers recommend packaging mobile home furnaces with residential furnaces. Higher standards levels requiring technologies, such as condensing furnaces would impact utility to consumers. Other standard levels may cause safety concerns due to venting issues.

## **Test Procedure**

**Product:** Mobile Home Furnaces

**Priority:** Low

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Test Procedure not needed to be changed for standard
<b>Priority of Standard</b>	Low
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	

## **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	Final rule issued 5/12/97.
<b>Rationale for Priority Level</b>	

## **Standards**

**Product:** Plumbing Fixtures/Fittings

**Priority:** Low

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads)</b>	The Department has not conducted any recent analysis regarding potential energy savings for this product.
<b>Potential Economic Benefits/Burdens</b>	Not available.
<b>Potential Environmental or Energy Security Benefits</b>	Not available.
<b>Status of Required Changes to Test Procedures</b>	
<b>Other Regulatory Actions</b>	None.
<b>Recommendations by Interested Parties</b>	
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>	None known.
<b>Issues</b>	As flow rates and water consumption decline the effects on utility need to be carefully considered.
<b>FY 1997 Priority</b>	Low

## **Proposed Schedule and Rationale**

<b>Proposed Schedule</b>	DOE does not plan to actively pursue rulemaking in the next two years. Work would be limited to basic technology investigation and monitoring of voluntary programs.
<b>Rationale for Priority Level</b>	Dependent upon revision by ASME and approval by ANSI to ASME/ANSI A112.18.1 and ASME/ANSI A112.19.6.

## Test Procedure

**Product:** Plumbing Fixtures/Fittings

**Priority:** High - Drops to Low Priority upon completion

Factors for Priority Setting	Assessment
<b>Relationship to Changes in Standard</b>	
<b>Priority of Standard</b>	Low
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	

### **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	Proposed Rule issued - Final Rule - Fall 1997
<b>Rationale for Priority Level</b>	This test procedure will remain a high priority until the final rule is published. Once the final rule is published, it will become a low priority.

## Standards

**Product:** Pool Heaters (Gas)

**Priority:** Low

Factors for Priority Setting	Assessment														
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2000-2030</b>	Total range considered: [ 0.2 - 0.9 ] <sup>12</sup>	Specific examples below:													
	IID, (78% E <sub>T</sub> ) 0.2	Non-cond. Limit, (82.2% E <sub>T</sub> ) 0.4	Condensing, (90.8% E <sub>T</sub> ) 0.7												
<b>Potential Economic Benefits/Burdens</b>	[ (1.4) - 0.2 ] NPV, Billions of 1990\$ @ 7% 0.2	0.2	(0.6)												
<b>Potential Environmental or Energy Security Benefits</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">SO<sub>2</sub></td> <td style="width: 25%;">0</td> <td style="width: 25%;">0</td> <td style="width: 25%;">0</td> </tr> <tr> <td>NOx</td> <td>42</td> <td>42</td> <td>42</td> </tr> <tr> <td>CO<sub>2</sub></td> <td>11</td> <td>18</td> <td>35</td> </tr> </table>		SO <sub>2</sub>	0	0	0	NOx	42	42	42	CO <sub>2</sub>	11	18	35	Emission reductions in (kt) for SO <sub>2</sub> and NOx, and (Mt) for CO <sub>2</sub> .
SO <sub>2</sub>	0	0	0												
NOx	42	42	42												
CO <sub>2</sub>	11	18	35												
<b>Status of Required Changes to Test Procedures</b>	Final rule issued 5/12/97.														
<b>Other Regulatory Actions</b>	None known that will impact product.														
<b>Recommendations by Interested Parties</b>															
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>	None known.														
<b>Issues</b>															
<b>FY 1997 Priority</b>	Low														

## Proposed Schedule and Rationale

<b>Proposed Schedule</b>	DOE does not plan to actively pursue rulemaking in the next two years. Work would be limited to basic technology investigation and monitoring of voluntary programs.
<b>Rationale for Priority Level</b>	Interested Parties believe this is a low priority product. Potential energy savings are low.

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Based on DOE preliminary analysis, June 1995.

## **Test Procedure**

**Product:** Pool Heaters (Gas)

**Priority:** Low

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Test Procedure not needed to be changed for standard.
<b>Priority of Standard</b>	Low
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	

## **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	Final rule issued 5/12/97.
<b>Rationale for Priority Level</b>	

## Standards

**Product:** Refrigerators, Refrigerator/Freezers, & Freezers  
**Priority:** Low

Factors for Priority Setting	Assessment											
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1998-2030</b>	Total range considered: [ 5.0 - 12.6 ] <sup>13</sup> Specific examples below: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; width: 33.33%;"><u>2003 Alternative</u></th> <th style="text-align: center; width: 33.33%;"><u>Joint Comments</u></th> <th style="text-align: center; width: 33.33%;"><u>Highest Level</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Refrigerators 5.0</td> <td style="text-align: center;">7.0</td> <td style="text-align: center;">10.6</td> </tr> <tr> <td style="text-align: center;">Freezers included above</td> <td style="text-align: center;">0.5</td> <td style="text-align: center;">2.0</td> </tr> </tbody> </table>			<u>2003 Alternative</u>	<u>Joint Comments</u>	<u>Highest Level</u>	Refrigerators 5.0	7.0	10.6	Freezers included above	0.5	2.0
<u>2003 Alternative</u>	<u>Joint Comments</u>	<u>Highest Level</u>										
Refrigerators 5.0	7.0	10.6										
Freezers included above	0.5	2.0										
<b>Potential Economic Benefits/Burdens</b>	[ TBD - 9.1 ]	NPV, billions of 1990\$ @ 7%.										
	Refrigerators not available	7.7	7.8									
	Freezers not available	0.5	1.3									
	Significant investment by manufacturers and questionable pass-through costs to consumers.											
<b>Potential Environmental or Energy Security Benefits</b>	SO <sub>2</sub> not available	1017	1720									
	NOx not available	1065	1635									
	CO <sub>2</sub> not available	540	914									
	Emission reductions in (kt) for SO <sub>2</sub> and NOx, and (Mt) for CO <sub>2</sub> .											
<b>Status of Required Changes to Test Procedures</b>	No changes required for standards.											
<b>Other Regulatory Actions</b>	EPA phaseout of insulation HCFCs in 2003. DOE regulation of white goods for full line manufacturers.											
<b>Recommendations by Interested Parties</b>												
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>	Super Efficient Refrigerator Program (Golden Carrot). New York Housing Authority mass procurement. Energy Savers program. Significant quantity of new high efficiency models are being marketed.											
<b>Issues</b>	Final Rule Issued - April 28, 1997											
<b>FY 1997 Priority</b>	High											

### Proposed Schedule and Rationale

<b>Proposed Schedule</b>	Final Rule - 4/28/97
<b>Rationale for Priority Level</b>	Rule issued.

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Based on July 1995, TSD and April 1996 additional scenarios.

## **Test Procedure**

**Product:** Refrigerators, Refrigerator/Freezers, & Freezers

**Priority:** Low

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Test Procedure not needed to be changed for standard, except for vented refrigerator.
<b>Priority of Standard</b>	Low
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	

### **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	Final rule for vented refrigerator - 8/97
<b>Rationale for Priority Level</b>	

## Standards

**Product:** Residential Central Air Conditioners & Heat Pumps

**Priority:** Medium

Factors for Priority Setting	Assessment					
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1995-2030</b>	Total range considered: [ 2.0 - 13.1 ] <sup>14</sup>		Specific examples below: <b>11 SEER    12 SEER    14 SEER    16 SEER</b> <sup>15</sup>			
	2.0                  4.0                  8.2                  13.1					
<b>Potential Economic Benefits/Burdens</b>	[ (19.8) - 8.1 ] NPV, Billions of 1990\$ @ 7% not avail.    not avail.    8.1                  (19.8)					
<b>Potential Environmental or Energy Security Benefits</b>	Specific estimates of emission reductions have not been developed however, estimated energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are minimal.					
<b>Status of Required Changes to Test Procedures</b>	Changes required for standards.					
<b>Other Regulatory Actions</b>	EPA phaseout of HCFC-22 refrigerant. DOE regulation of furnaces.					
<b>Recommendations by Interested Parties</b>						
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>	Energy Star program recommending a 12 SEER.					
<b>Issues</b>	ARI rejected the engineering analysis methodology. Regional variation.					
<b>FY 1997 Priority</b>	Medium					

## Proposed Schedule and Rationale

<b>Proposed Schedule</b>	DOE plans to initiate work in support of rulemaking. For example, conducting a screening workshop for a standards rulemaking
<b>Rationale for Priority Level</b>	Potential energy savings are large, but EPA regulation of HCFCs warrants caution on rulemaking, although in FY 97 preliminary work can be performed.

<sup>14</sup> Based on DOE analysis, January 5, 1995.

<sup>15</sup> Represented SEER levels are approximate weighted average for various configurations of central a/c equipment. Potential energy savings for 11 and 12 SEER models were extrapolated from REM analysis for 14 and 16 SEER levels.

## **Test Procedure**

**Product:** Residential Central Air Conditioners & Heat Pumps

**Priority:** High

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Test Procedure needs to be changed for standard
<b>Priority of Standard</b>	Medium
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	Many changes to accommodate new technology.

### **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	Workshop - 8/97 NOPR - 10/97
<b>Rationale for Priority Level</b>	Work is almost complete for draft of new test procedure.

## Standards

**Product:** Residential Furnaces & Boilers

**Priority:** Low

<b>Factors for Priority Setting</b>		<b>Assessment</b>			
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2000-2030</b>		Total range considered: [ 0.6 - 10.2 ] <sup>16</sup>			
		Gas Furnaces	Insul., IID, improv. fan motor, & two stage oper. (81.8% AFUE)	Previous & condensing (92% AFUE)	Gas absorption heat pump
		Gas Boilers	IID (81.8% AFUE)	IID & pulse condensing (90.4% AFUE)	Gas absorption heat pump
			0.6	3.7	10.2
<b>Potential Economic Benefits/Burdens</b>		Not available.			
<b>Potential Environmental or Energy Security Benefits</b>		Specific estimates of emission reductions have not been developed however, estimated energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are more significant than other products.			
<b>Status of Required Changes to Test Procedures</b>		Final rule issued 5/12/97			
<b>Other Regulatory Actions</b>		Possible State and regional environmental regulation (e.g. air quality). DOE regulation of central air conditioning products. Consumer Product Safety Commission - possible regulation			
<b>Recommendations by Interested Parties</b>					
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>		Energy Star program. Wisconsin state condensing furnace/boiler program. ACEEE indicated that trend for higher efficiency products stopped in 1994.			
<b>Issues</b>		Venting safety issue. Regional analysis. Industry opposes Gas absorption heat pump as a design option, suggest new product class			
<b>FY 1997 Priority</b>		Low			

### Proposed Schedule and Rationale

<b>Proposed Schedule</b>	DOE does not plan to actively pursue rulemaking in the next two years. Any work would be limited to basic technology investigation and monitoring of voluntary programs.
<b>Rationale for Priority Level</b>	Potential energy savings are low to moderate. Higher standards levels requiring technologies, such as condensing furnaces would impact utility to consumers. High standard levels may cause safety concerns due to venting issues.

## **Test Procedure**

**Product:** Residential Furnaces & Boilers

**Priority:** Low

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Test Procedure not needed to be changed for standard
<b>Priority of Standard</b>	Low
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	

## **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	Final rule issued 5/12/97
<b>Rationale for Priority Level</b>	

## Standards

**Product:** Residential Water Heaters - Gas, Oil & Electric

**Priority:** High

Factors for Priority Setting		Assessment					
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1996-2030 (Electric) 1999-2030 (Gas/Oil)</b>		Total ranges considered: Gas & Oil: [ 0.4 - 16.5 ] <sup>5</sup> Specific examples below:				Electric: [ 0.1 - 41.1 ] <sup>17</sup>	
		R16 Insul. & Heat Traps	R25 Insul., flue baffle & IID w/ flue damp.	Condens- sing	Rd. Ht. Leak, Ht. Traps & Insul. (imprv. resist.)	Electric imprv. resist. & Add-on Heat Pump	imprv. resist. & Integral Heat Pump
		Gas	Oil	1" Foam Insul. & Heat Traps	2" Foam Insul. & Heat Traps	Previous & Mult. Flue	
				1.7	5.9	16.5	0.6 28.2 41.1
<b>Potential Economic Benefits/Burdens</b>		[ 0.7 - 26.0 ] NPV, billions of 1990\$ @ 7%					
				1.7	(1.6)	(12.1)	0.8 39.6 38.0
<b>Potential Environmental or Energy Security Benefits</b>		SO <sub>2</sub>	(14)	(327)	(2406)	132	4897 7093
		NOx	(12)	(596)	(2261)	107	4450 6365
		CO <sub>2</sub>	(6)	(634)	(1238)	54	2372 3332
Emission reductions in (kt) for SO <sub>2</sub> and NOx, and (Mt) for CO <sub>2</sub> . Electric based on 1993 analysis, and includes oil, gas and electric.							
<b>Status of Required Changes to Test Procedures</b>		Changes required for standards. Final rule for test procedures expected Summer 1997.					
<b>Other Regulatory Actions</b>		EPA phaseout of HCFCs for insulation (2003). Possible State and regional environmental regulation (e.g. air quality). Consumer Product Safety Commission requirement for vapor ignition issue.					
<b>Recommendations by Interested Parties</b>							
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>							
<b>Issues</b>		Fuel switching. Venting safety issues. Lack of infrastructure for HP water heater. Diverse range of hot water usage among households.					
<b>FY 1997 Priority</b>		High					

### Proposed Schedule and Rationale

<b>Proposed Schedule</b>	NOPR - 06/98 Final Rule - 12/98
<b>Rationale for Priority Level</b>	

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Based on DOE analysis June 29, 1995, for gas/oil water heaters and 1993 TSD for Eight Product NOPR for electric water heaters. Low energy savings for improved resistance electric water heaters result from an aggressive market induced efficiency assumption.

## **Test Procedure**

**Product:** Residential Water Heaters - Gas, Oil & Electric

**Priority:** High - Drops to Low Priority upon completion

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Test Procedure needs to be changed for standard
<b>Priority of Standard</b>	High
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	

### **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	Final Rule - Summer 1997
<b>Rationale for Priority Level</b>	This test procedure will remain a high priority until the final rule is published. Once the final rule is published, it will become a low priority.

## Standards

**Product:** Room Air Conditioners

**Priority:** High - Drops to Low Priority upon completion

Factors for Priority Setting		Assessment					
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 2000 -2030</b>		Total range considered: [ 0.4 - 1.0 ] <sup>18</sup>					
		Level	1 0.4	2 0.5	3 0.7	4 1.0	5 0.7
							New Lvl <sup>19</sup> 0.5
<b>Potential Economic Benefits/Burdens</b>		[ (10.9) - 0.6 ] NPV, Billions of 1990\$ @ 7% 0.4      0.5      0.6      (0.3)      (10.9)      0.5					
		Certain standard levels could require costly chassis changes and eliminate niche products.					
<b>Potential Environmental or Energy Security Benefits</b>		SO <sub>2</sub>	59	86	111	149	33      79
		NOx	55	80	104	141	51      74
		CO <sub>2</sub>	30	44	57	79	51      41
		Emission reductions in (kt) for SO <sub>2</sub> and NOx, and (Mt) for CO <sub>2</sub> .					
<b>Status of Required Changes to Test Procedures</b>		Not required for standards.					
<b>Other Regulatory Actions</b>		EPA phaseout of HCFC-22 refrigerant.					
<b>Recommendations by Interested Parties</b>							
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>		DSM programs. Labeling program very effective.					
<b>Issues</b>							
<b>FY 1997 Priority</b>		High					

## Proposed Schedule and Rationale

<b>Proposed Schedule</b>	Final Rule - 10/97
<b>Rationale for Priority Level</b>	Interested Parties recommended high priority. Potential energy savings are moderate and based on incremental technology. Limited DOE resources needed to complete rulemaking. This rulemaking will remain high priority until the final rule is published. Once the final rule is published, it will become a low priority.

<sup>18</sup> Based on DOE report, April 1996.

<sup>19</sup> The EER's corresponding to the "New Lvl" are the same as those published in the Federal Register Notice - FR Jan 29, 1997 "Limited Reopening of the record and opportunity for public comment"

## **Test Procedure**

**Product:** Room Air Conditioners

**Priority:** Low

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	Test Procedure not needed to be changed for standard
<b>Priority of Standard</b>	High
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	

### **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	
<b>Rationale for Priority Level</b>	

## **Standards Determination**

**Product:** Small Electric Motors

**Priority:** Low

Factors for Priority Setting	Assessment
<b>Potential Energy Savings from Regulatory Action; Cumulative (Quads) 1998-2030</b>	[0.8-4.5] <sup>20</sup>
<b>Potential Economic Benefits/Burdens</b>	Not available.
<b>Potential Environmental or Energy Security Benefits</b>	Specific estimates of emission reductions have not been developed however, estimated energy savings indicated above are indicative of the comparative emission benefits that are likely to be possible. Expected oil savings are minimal.
<b>Status of Required Changes to Test Procedures</b>	IEEE test procedure for single-phase induction motors is under review.
<b>Other Regulatory Actions</b>	Small motors used in NAECA "covered products" (e.g. white goods) are exempt.
<b>Recommendations by Interested Parties</b>	
<b>Evidence of Market-Driven or Voluntary Efficiency Improvements</b>	None known.
<b>Issues</b>	None.
<b>FY 1997 Priority</b>	Low

## **Proposed Schedule and Rationale**

<b>Proposed Schedule</b>	DOE plans to initiate work in support of rulemaking. For example, conducting a screening workshop for a standards rulemaking.
<b>Rationale for Priority Level</b>	Potential energy savings are moderate. Determination required by EPACT.

## **Test Procedure**

**Product:** Small Electric Motors

**Priority:** Low

<b>Factors for Priority Setting</b>	<b>Assessment</b>
<b>Relationship to Changes in Standard</b>	
<b>Priority of Standard</b>	Low
<b>International or Other Coordinating Activities</b>	
<b>Recommendation by Interested Parties</b>	
<b>Statutory Deadline</b>	
<b>Issues</b>	

## **Proposed Schedule and Rationale:**

<b>Proposed Schedule</b>	Dependant on Determination
<b>Rationale for Priority Level</b>	