

Express Terms

AMENDMENTS TO APPLIANCE EFFICIENCY REGULATIONS

CALIFORNIA CODE OF REGULATIONS, TITLE 20,

SECTIONS 1602, 1604, 1606, and 1607

CALIFORNIA ENERGY COMMISSION

Docket Number 07-AAER-1

December 1, 2006

Section 1602. Definitions.

(a) General.

In this Article the following definitions apply. If a term is not defined here, the applicable definition in NAECA, EPCAct, or the test methods listed in Section 1604 shall apply where it is reasonable to do so.

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“Basic model” of a federally-regulated consumer product means “basic model” as defined in 10 CFR Section 430.2 (2005). “Basic model” of any other appliance means all units of a given type of appliance (or class thereof) that are manufactured by one manufacturer, that have the same primary energy source, and that do not have any differing electrical, hydraulic, physical, or functional characteristics that affect energy consumption.

Basic model of a federally-regulated electric motor, as defined in 10 CFR Section 431.12, means all units of a given type of electric motor (or class thereof) manufactured by a single manufacturer, and which have the same rating, have electrical characteristics that are essentially identical, and do not have any differing physical or functional characteristics which affect energy consumption or efficiency. For the purpose of this definition, "rating" means one of the 113 combinations of an electric motor's horsepower (or standard kilowatt equivalent), number of poles, and open or enclosed construction, with respect to which 10 CFR Section 431.25 prescribes nominal full load efficiency standards.

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(s) Electric Motors.

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“Motor Power Consumption” means the electrical energy over time that must be supplied to a motor to maintain its operation.

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NOTE: Authority cited: Sections 25213, 25218(e), 25402(a)-(c), and 25960, Public Resources Code. Reference: Sections 25216.5(d), 25402(a)-(c), and 25960, Public Resources Code.

Section 1604. Test Methods for Specific Appliances.

(c) Central Air Conditioners.

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**Table C-1
Central Air Conditioner Test Methods**

<i>Appliance</i>	<i>Test Method</i>
Computer room air conditioners	ANSI/ASHRAE 127-2001
Other electric-powered unitary air-conditioners and electric-powered heat pumps	
air-cooled air conditioners and air-source heat pumps	
< 65,000 Btu/hr	ANSI/ARI 210/240-2003
≥ 65,000 and < 135,000 Btu/hr	ANSI/ARI 210/240-2003
≥ 135,000 Btu/hr	ANSI/ARI 340/360-2000
water-cooled air conditioners, evaporatively-cooled air conditioners, and water-source heat pumps	
< 135,000 Btu/hr	ANSI/ARI 320-98
≥ 135,000 Btu/hr	ANSI/ARI 340/360-2000
<u>water-source single package and split system heat pumps</u>	
<u>< 240,000 Btu/hr</u>	<u>ISO 13256-1-1998</u>
<u>≥ 240,000 Btu/hr</u>	<u>ANSI/ARI 340/360-2000</u>
<u>water-cooled single-package and split system air conditioners</u>	
<u>< 65,000 Btu/hr</u>	<u>ANSI/ARI 210/240-2003</u>

<p><u>≥ 65,000 Btu/hr and < 135,000 Btu/hr</u></p> <p><u>≥ 135,000 Btu/hr</u></p> <p>ground water-source heat pumps</p> <p>ground-source closed-loop heat pumps</p>	<p><u>ANSI/ARI 320-1998</u></p> <p><u>ANSI/ARI 340/360-2000</u></p> <p>ARI/ISO-13256-1:1998</p> <p>ARI/ISO-13256-1:1998</p>
<p>Gas-fired air conditioners and gas-fired heat pumps</p>	<p>ANSI Z21.40.4-1996 as modified by CEC, Efficiency Calculation Method for Gas-Fired Heat Pumps as a New Compliance Option (1996)</p>

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(s) **Electric Motors.** The test method for electric motors is 10 CFR Sections 431.23 – 431.28 (2005), including but not limited to provisions on testing laboratories, recognition of accreditation bodies, and recognition of certification programs. The required data submittal for "Basic Model" testing shall be pursuant to the protocols of the U. S. Department of Energy's "MotorMaster +" energy-efficient motor selection and management tool.

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The following documents are incorporated by reference in Section 1604.

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FEDERAL TEST METHODS

CFR, Title 10, Section 430.23 (2005)

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Copies available from: US EPA Climate Protection Partnership ENERGY STAR

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MotorMaster+ Software Tool

Copies available from: US DOE, Energy Efficiency and Renewable Energy (EERE) Information Center (1-877-337-3463)
BestPractices web site at:

www.eere.energy.gov/gov/industry/bestpractices, or http://www1.eere.energy.gov/industry/bestpractices/software.html#MM

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INTERNATIONAL ORGANIZATION FOR STANDARDS (ISO)

ISO 13256-1-1998

**Water-source heat pumps-Testing and rating for
performance-Part 1: Water-to-air and
brine-to-air heat pumps**

Copies available from:

**ISO Central Secretariat
International Organization for Standardization (ISO)
1, rue de Varembé, Case postale 56
CH-1211 Geneva 20, Switzerland
www.iso.org
Phone: +41 22 749 01 11
FAX: +41 22 733 34 30**

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NOTE: Authority cited: Sections 25213, 25218(e), 25402(a)-(c), and 25960, Public Resources Code. Reference: Sections 25216.5(d), 25402(a)-(c), and 25960, Public Resources Code.

Section 1606. Filing by Manufacturers; Listing of Appliances in Database.

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**Table V
Data Submittal Requirements**

	Appliance	Required Information	Permissible Answers
A	Non-Commercial Refrigerators, Non-Commercial Refrigerator-Freezers, Non-Commercial Freezers	*Style	Category in Table A-3 (specify)
		*Defrost System	Automatic, manual, partial-automatic
		*Type	Refrigerator, refrigerator-freezer, freezer
		Access ¹	Door, drawer, both door and drawer
		Kitchen Unit ¹	Yes, no
		Internal Freezer ¹	Yes, no
		Wine Chiller	Yes, no
		Chest Refrigerator ¹	Yes, no
		Refrigerator Volume	
		Freezer Volume	
		Total Volume	
		Height	
		Width	
		Depth	
		Annual Energy Consumption (low)	
		Annual Energy Consumption (high)	
		Annual Energy Consumption (mean)	
Anti-sweat Heater Switch	Yes, no		
Refrigerant Type ¹	Ozone-depleting, non-ozone-depleting		
Insulation Type ¹	Ozone-depleting, non-ozone-depleting		

* "Identifier" information as described in Section 1606(e).

1 = Voluntary

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	Appliance	Required Information	Permissible Answers
B	Room Air Conditioners and Room Air-Conditioning Heat Pumps	*Voltage	
		*Electrical Phase	1, 3
		*Type	Room air conditioner, room air conditioning heat pump, casement-only room air conditioner, casement-slider room air conditioner.
		* Louvered Sides	Yes, no
		Cooling Capacity at 95° F	
		Electrical Input at 95° F	
		Energy Efficiency Ratio (EER) at 95° F	
		Heating Capability	Heat pump, electric resistance heating, heat pump and electric resistance heating, no heating capability
		Heating Capacity (for heat pumps only)	
		Electrical Input (for heat pumps only)	
		Coefficient of Performance (for heat pumps only)	
		Heating Capacity (for models with electric resistance heating only)	
		Electrical Input (for those with electric resistance heating)	
		Refrigerant Type ¹	Ozone-depleting, non-ozone-depleting

	Appliance	Required Information	Permissible Answers
B	Packaged Terminal Air Conditioners and Packaged Terminal Heat Pumps	*Voltage	
		*Electrical Phase	1, 3
		*Type	PTAC, PTHP
		Cooling Capacity at 95° F	
		Electrical Input at 95° F	
		Energy Efficiency Ratio (EER) at 95° F	
		Heating Capability	Heat pump, electric resistance heating, heat pump and electric resistance heating, no heating capability
		Heating Capacity (for models with heating capability only)	
		Electrical Input (for models with heating capability only)	
		Coefficient of Performance (for models with heating capability only)	
		Refrigerant Type [‡]	Ozone-depleting, non-ozone-depleting
		Indoor Fan Nominal Horsepower	
		Indoor Fan Motor Type	Premium, standard
		Outdoor Fan Nominal Horsepower [‡]	
Outdoor Fan Motor Type [‡]	Premium, standard		
Compressor Power [‡]			

	Appliance	Required Information	Permissible Answers
C	All Central Air Conditioners and Central Air-Conditioning Heat Pumps	*Coil Model Number with which Compressor was Tested (for split systems only)	
		*Type	Air conditioner, heat pump (heating and cooling), heat pump (heating only), heat pump (cooling only)
		*Energy Source for Cooling	Electricity, natural gas
		*Energy Source for Heating	Gas, oil, electric heat pump, electric resistance, heat pump and electric resistance, none
		*Computer Room Air Conditioner	Yes, no
		*ARI Classification	
		*Voltage	
		*Electrical Phase	1, 3
		Refrigerant Type [‡]	Ozone-depleting, non-ozone-depleting
		Thermostatic Expansion Valve (for air-source or air-cooled models only)	Yes, no
		Thermostatic Expansion Valve (for air-source or air-cooled models only) [‡]	Exception 1, Exception 2, Exception 3 [See Section 1605.2(c)(1)(B)], no exception
		Compressor Motor Design	Single-speed, dual-speed, multiple-speed, variable-speed
		Compressor Motor Horsepower ¹	
		Compressor Motor Type [‡]	Premium, standard
		Outdoor Fan Motor Design	Single-speed, dual-speed, multiple-speed, variable-speed
		Outdoor Fan Motor Nominal Horsepower	
		Outdoor Fan Motor Type [‡]	Premium, standard
		Outdoor Fan Motor Power Factor (for models with variable speed motors only) [‡]	
		Indoor Fan Motor Design	Single-speed, dual-speed, multiple-speed, variable-speed
		Indoor Fan Motor Nominal Horsepower	
		Indoor Fan Motor Type	Premium, standard
Indoor Fan Motor Power Factor (for variable speed motors only) [‡]			

* "Identifier" information as described in Section 1606(e).

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	Appliance	Required Information	Permissible Answers
C	Water-Cooled Single-Package CAC < 240,000 Btu/hour and Water-Cooled, Split System CAC < 240,000 Btu/hour	Compressor Electrical Input (for models ≥ 65,000 Btu/hour only)	
		Indoor Fan Electrical Input (for models ≥ 65,000 Btu/hour only)	
		Outdoor Fan Electrical Input (for models ≥ 65,000 Btu/hour only)	
		Cooling Capacity at 85° F Entering Water Temperature	
		Electrical Input at 85° F Entering Water Temperature	
		Energy Efficiency Ratio (EER) at 85° F Entering Water Temperature	
		Low Temperature EER at 75 70° F Entering Water Temperature (for models < 65,000 Btu/hour only)	
		Heating System Type ¹	Gas, oil electric resistance, none
		Water-Source, Single Package HP < 240,000 Btu/hour and Water-Source Split System HP < 240,000 Btu/hour	Compressor Electrical Input (for models ≥ 65,000 Btu/hour only)
	Indoor Fan Electrical Input (for models ≥ 65,000 Btu/hour only)		
	Outdoor Fan Electrical Input (for models ≥ 65,000 Btu/hour only)		
	Cooling Capacity at 85 86° F Entering Water Temperature		
	Electrical Input at 85 86° F Entering Water Temperature		
	Energy Efficiency Ratio (EER) at 85 86° F Entering Water Temperature		
	Heating Capacity at 70 68° F Entering Water Temperature		
	Electrical Input at 70 68° F Entering Water Temperature		
	Coefficient of Performance (COP) at 70 68° F Entering Water Temperature		
	Low Temperature EER at 75° F Entering Water Temperature (for models < 65,000 Btu/hour only) ¹		

* "Identifier" information as described in Section 1606(e).

1 = Voluntary

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	Appliance	Required Information	Permissible Answers
E	All Space Heaters	*Energy Source	Natural gas, LPG, oil, combination (natural gas and oil)
		*Burner Type	Induced draft, luminous, injection type, power, pressure
		Constant burning pilot light, (for gas or oil models only)	Yes, no
		*Labeled for Outdoor Installation	Yes, no
		*Electrical Phase	1, 3, none
		Draft Equipment ¹	Draft hood, draft diverter, barometric regulator, none
		Off-Cycle Devices	Stack damper, electro-mechanical inlet damper, electro-mechanical flue damper, none
		Flue Gas	Condensing, non-condensing
		Control	Single-stage, two-stage modulating, step modulating
		Fan Motor Design (furnaces only) ¹	Single-speed, dual-speed, multiple-speed, variable speed
		Total Nominal Fan Motor Horsepower (furnaces only)	
		Fan Motor Type (furnaces only)	Premium, standard
		Fan Motor Power Factor (furnaces with variable-speed motors only) ¹	
		Pump Motor Design (boilers only)	Single-speed, dual-speed, multiple-speed, variable speed
		Total Nominal Pump Motor Horsepower (boilers only) Note: This information is not required for boilers that are not provided with a pump.	
		Pump Motor Type (boilers only)	Premium, standard
		Pump Motor Power Factor (boilers with variable-speed motors only) ¹	
Nameplate Input Rating			
Rated Output			

* "Identifier" information as described in Section 1606(e).

1 = Voluntary

	Appliance	Required Information	Permissible Answers
E	Central Furnaces	*Mobile Home	Yes, no
		*Air Flow Direction	Up, down, horizontal
		Fan Blower Capacity, High, at 0.5" W.C. ¹	
		Fan Blower Capacity, Low, at 0.5" W.C. ¹	
		Thermal Efficiency (for models \geq 225,000 Btu/hour input and for three-phase equipment $<$ 225,000 Btu/hour input for which the manufacturer chooses to test using ANSI Z21.47-2001)	
		Standby Watts [controls, not fan energy] (for models \geq 225,000 Btu/hour input only) ¹	
		Annual Fuel Energy Consumption (for models $<$ 225,000 Btu/hour input only, except for three-phase equipment for which the manufacturer chooses to test using ANSI Z21.47-2001)	
		Annual Fuel Utilization Efficiency [AFUE] (for models $<$ 225,000 Btu/hour input only, except for three-phase equipment for which the manufacturer chooses to test using ANSI Z21.47-2001)	

	Appliance	Required Information	Permissible Answers
		Annual Auxiliary Electrical Energy Consumption (for models < 225,000 Btu/hour input only, except for three-phase equipment for which the manufacturer chooses to test using ANSI Z21.47-2001)	
		Thermal Efficiency at Minimum Capacity Provided and Allowed by the Controls (for models ≥ 225,000 Btu/hour input only) ¹	

* "Identifier" information as described in Section 1606(e)
1 = Voluntary

	Appliance	Required Information	Permissible Answers
E	Room Heaters, Floor Furnaces, and Wall Furnaces	*Type	Room heater (vented fan); room heater (gravity); floor furnace (fan); floor furnace (gravity); wall furnace (direct vent fan); wall furnace (direct vent gravity); wall furnace (vented fan); wall furnace (vented gravity)
		Annual Fuel Utilization Efficiency (AFUE)	
		Auxiliary Electric Power (for fan-type heaters only)	
		Average Annual Auxiliary Electrical Energy Consumption (for fan-type heaters only) ¹	

* "Identifier" information as described in Section 1606(e)
1 = Voluntary

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	Appliance	Required Information	Permissible Answers
E	Boilers	*Type	Steam, hot water
		Design	Copper, cast iron, other
		Input at Minimum Capacity ¹	
		Output at Minimum Capacity ¹	
		Combustion Efficiency (for models ≥ 300,000 Btu/hour input only)	
		Thermal Efficiency (for models ≥ 300,000 Btu/hour input and < 2,500,000 Btu/hour input only)	
		Thermal Efficiency (for models ≥ 2,500,000 Btu/hour input only) ¹	
		Standby Loss (for packaged boilers ≥ 300,000 Btu/hour input only) ¹	
		Standby Loss (for nonpackaged boilers ≥ 300,000 Btu/hour input only)	
		Thermal Efficiency at Minimum Capacity Rating (for non-packaged boilers ≥ 300,000 Btu/hour input only)	
	AFUE (for models < 300,000 Btu/hour input only)		

* "Identifier" information as described in Section 1606(e)
1 = Voluntary

	Appliance	Required Information	Permissible Answers
F	All Water Heaters	*Energy Source	Natural gas, LPG, oil, electric resistance, heat pump
		Rated Volume (except booster heaters, and hot water dispensers, and large instantaneous water heaters < 10 gallons capacity) ¹	
		Measured Volume (large water heaters only)	
		Rated Input	

	Heat Traps (for storage models only)	Yes, no
	Ozone Depleting Substance in Insulation ¹	Yes, no
	Ozone Depleting Substance in Refrigerant (for heat pump water heaters only) ¹	Yes, no
	Constant burning pilot light (for large gas and oil models only)	Yes, no
	Mobile Home	Yes, no

* "Identifier" information as described in Section 1606(e).

1 = Voluntary

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	Appliance	Required Information	Permissible Answers
F	Large Electric Water Heaters	Thermal Efficiency (instantaneous models only)	
		Standby Loss, % per hour (except for those models > 140 gallons for which exemption from standby loss standard is claimed). Note: This data requirement is mandatory for all models except large instantaneous models in which the data requirement is voluntary.	
		Standby Loss, watts (except for those models > 140 gallons for which exemption from standby loss standard is claimed)	
		R-value of Insulation (for models > 140 gallons except those which comply with standby loss standard)	
	Small Gas Water Heaters and Small Oil Water Heaters	First Hour Rating (for storage models only)	
		Maximum Gallons Per Minute (for instantaneous models only)	
		Recovery Efficiency	
		Annual Energy Consumption¹	
		Energy Factor	
		Pilot Light Energy Consumption (for instantaneous models only)	

* "Identifier" information as described in Section 1606(e).

1 = Voluntary

	Appliance	Required Information	Permissible Answers
F	Large Gas Water Heaters and Large Oil Water Heaters	Thermal Efficiency	
		Standby Loss, %/hr (except for those models > 140 gallons for which exemption from standby loss standard is claimed). Note: This data requirement is mandatory for all models except large instantaneous models in which the data requirement is voluntary.	
		Standby Loss, Btu/hr (except for those models > 140 gallons for which exemption from standby loss standard is claimed). Note: This data requirement is mandatory for all models except large instantaneous models in which the data requirement is voluntary.	
		Electrical Power During Recovery While Appliance is Heating (for storage models only)	
		Electrical Power During Standby	
		R-value of Insulation (for models > 140 gallons only) for which exemption from standby loss is claimed	
		Flue Damper (for models > 140 gallons only)	Yes, no

	Appliance	Required Information	Permissible Answers
F	Heat Pump Water Heaters	Current rating	
		Voltage	
		Energy Factor (for models ≤ 24 amps current rating only)	
		Standby Loss (for models >24 amps current rating only)	
		Thermal Efficiency (for models > 24 amps current rating and ≥ 4,000 Btu/hour per gallon only)	
		R-value of Insulation (for models > 24 amps current rating only)	
		Refrigerant Type	Ozone-depleting, non, electric-depleting

* "Identifier" information as described in Section 1606(e).

1 = Voluntary

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	Appliance	Required Information	Permissible Answers
J	Fluorescent Lamp Ballasts	*Ballast Input Voltage	120, 277, other (specify)
		*Number of Lamps	
		*Type of Lamp	F40T12, F96T12, F96T12HO, other T12 (specify), T5, T8, other (specify)
		Designed for Dimming	Continuous, stepped, no
		Designed for Dimming to 50% or Less of Maximum Output	Continuous, stepped, no
		Power Factor	
		Building Application	Designed but not labeled for use only in residential buildings, designed and labeled for use only in residential buildings, other
		Designed for Use in Ambient Temperatures of < 0° F	Yes, no
		Designed for Use (a) at Ambient Temperatures < - 20° F and (b) in an Outdoor Sign (for models with two F96T12HO lamps only)	Yes, no
		Replacement Ballast as Defined in Section 1602(j)	Yes, no
		Total Nominal Lamp Watts	
		Ballast Efficacy Factor	
		Relative Light Output	
		Circuit Design	Cathode cut-out, electronic, magnetic
Start	Instant, rapid		

	Appliance	Required Information	Permissible Answers
K	Federally-regulated general service fluorescent lamps, federally regulated incandescent reflector lamps, and state regulated incandescent reflector lamps	*Type	4-foot medium bi-pin general service fluorescent lamp, 2-foot U-shaped general service fluorescent lamp, 8-foot slim line general service fluorescent lamp, 8-foot high output general service fluorescent lamp, incandescent reflector lamp
		Rated Lumens ¹	
		Nominal Lamp Wattage	
		Rated Color Rendering Index (for general service fluorescent lamp models only)	
		Average Lamp Efficacy	

* "Identifier" information as described in Section 1606(e).

1 = Voluntary

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	Appliance	Required Information	Permissible Answers
P	Clothes Washers that are federally regulated consumer products	*Type	Front-loading, top loading
		*Controls	Automatic, semi-automatic, other (specify)
		*Axis	Horizontal, vertical
		Suds-Saving	Yes, no
		Combination Washer/Dryer ¹	Yes, no
		Clothes Container Compartment Capacity	
		Power Consumption Per Cycle ¹	
		Water Consumption Per Cycle	
		Energy Factor	
		Water Factor	
Remaining Moisture Content			

* "Identifier" information as described in Section 1606(e).

1 = Voluntary

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	Appliance	Required Information	Permissible Answers
Q	Clothes Dryers	*Energy Source	Gas, electric
		*Drum Capacity	
		*Voltage	120, 240, other (specify)
		Combination Washer/Dryer ¹	Yes, no
		Automatic Termination Control ¹	Yes, no
		Energy Factor	
Constant Burning Pilot Light (Gas models only)	Yes, no		

* "Identifier" information as described in Section 1606(e).

1 = Voluntary

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	Appliance	Required Information	Permissible Answers
S	Electric Motors	Type	NEMA Design A, NEMA Design B, IEC Design N, other (specify)
		Voltage	230, 460, both 230 and 460
		Speed ¹	Single, multiple
		Rated Horsepower	
		Motor Power Consumption	Using DOE's MotorMaster+ protocols
		Air Exchange	Open, enclosed
		Number of Poles	2, 4, 6, 8
Nominal Full Load Efficiency			

* "Identifier" information as described in Section 1606(e).

1 = Voluntary

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(b) **Review of Statements by the Executive Director.**

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(2) **Informing Manufacturer of Determination.**

(A) The Executive Director shall inform the manufacturer of the determination within these time limits:

if the statement was filed electronically, within 14 calendar days after receipt by the Executive Director;

if the statement was filed on paper, within 21 calendar days after receipt by the Executive Director.

if the statement was filed by a third party, as described in Section 1606(f), within 30 calendar days after receipt by the Executive Director, regardless of whether it is filed electronically or on paper.

(B) The Executive Director's determination shall be sent to the manufacturer electronically if the statement was filed electronically and either electronically or on paper if the statement was filed on paper.

NOTE: Authority cited: Sections 25213, 25218(e), 25402(a)-(c), and 25960, Public Resources Code. Reference: Sections 25216.5(d), 25402(a)-(c), and 25960, Public Resources Code.

Section 1607. Marking of Appliances.

(a) Scope of this Section.

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(b) Name, Model Number, and Date.

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(c) Exceptions to Subsection (b).

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(d) Energy Performance Information.

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NOTE: Authority cited: Sections 25213, 25218(e), 25402(a)-(c), **25553(b)** and 25960, Public Resources Code. Reference: Sections 25216.5(d), 25402(a)-(c), **25553(b)** and 25960, Public Resources Code.