INITIAL STATEMENT OF REASONS

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PROPOSED AMENDMENTS
TO APPLIANCE EFFICIENCY REGULATIONS

CALIFORNIA CODE OF REGULATIONS,
TITLE 20, SECTIONS 1601 – 1608

CALIFORNIA ENERGY COMMISSION
Docket Number 05-AAER-2
December 2005

Introduction

In this rulemaking proceeding, the California Energy Commission ("Energy Commission") is proposing to amend its Appliance Efficiency Regulations concerning the energy efficiency of appliances, and make minor corrections and clarifications.

The Energy Commission first adopted appliance regulations in 1976 and has periodically revised them since then. The current regulations include provisions on testing of appliances to determine their efficiency, reporting of data by manufacturers to the Energy Commission, standards establishing mandatory efficiency levels, and compliance and enforcement procedures, as well as general provisions on the scope of the regulations and definitions.

In 2002 the Energy Commission adopted extensive revisions to its appliance regulations, including re-organizing some sections and making substantial additions to the sections on compliance and enforcement. In the current rulemaking addressed by this Initial Statement of Reasons ("ISOR"), the basic structure established by the 2002 amendments remains in place.

This ISOR describes the technical and policy rationales for the proposed amendments, including the projected energy and economic impacts resulting from the proposed amendments, where applicable, and other information as required by law. Information on public hearings, submittal of comments on the proposed amendments, document availability, and other matters concerning the proposal are contained in the companion Notice of Proposed Action, which is available from Linda Franklin at LFrankli@energy.state.ca.us. Also available from Ms. Franklin is the Form 399, Economic and Fiscal Impact Statement.

Factors Applicable to All Sections

Several of the legal requirements for the ISOR call for the same general information for each section of the proposed amendments. To save space and the reader's time, we provide that general information here. Where additional information is required, it is presented under the appropriate individual section.

PURPOSE, RATIONALE, AND NECESSITY OF THE PROPOSED AMENDMENTS IN GENERAL

The California economy, and the well-being of all of California's citizens, depends on an adequate, reasonably-priced, and environmentally-sound supply of energy. Recent growth in electricity demand has strained the reliability of California's electricity system and has in some circumstances contributed to a substantial rise in electricity prices. Similarly, natural gas supplies are becoming tighter.

Improvements in energy efficiency are the cheapest and most environmentally-friendly methods to help bring demand and supply into balance. Thus existing law (Public Resources Code Section 25402(c)) requires the Energy Commission to adopt standards that prescribe minimum efficiency levels for appliances. The proposed amendments will provide revised, higher efficiency standards for State-Regulated General Service and Enhanced Spectrum Incandescent lamps, Incandescent Reflector-Lamps and Metal Halide Luminaries, additional data submittal requirements and necessary corrections and clarifications to the regulations.

REASONS FOR MANDATING SPECIFIC ACTIONS, PROCEDURES, TECHNOLOGIES, OR EQUIPMENT; CONSIDERATION OF PERFORMANCE STANDARDS

The following provisions would add or revise prescriptive standards:

Section 1605.3, (k), and (n)

STUDIES, REPORTS, AND DOCUMENTS RELIED UPON

Ecos Consulting, "Analysis of Proposed Tier II and Tier III General Service Incandescent Lamp Energy Savings", December 6, 2005

NEMA / ACEEE letter to California Energy Commission, "RE: Potential Appliance Efficiency Regulations for General Service, Reflector, and Enhanced Spectrum Incandescent Lamps; and for Metal Halide Luminaires," December 2, 2005

NEMA letter to California Energy Commission, "RE: Enhanced Spectrum Definition," December 15, 2005

Steve Nadel, ACEEE email message to the California Energy Commission, "Proposed New Efficiency Equations for Metal Halide Ballasts" December 12, 2005

Flamm, Gary, California Energy Commission. "Potential Appliance Efficiency Regulations for General Service and Reflector Incandescent Lamps and for Metal Halide Luminaires: Staff Report," Publication Number CEC-400-2005-041-SF, December 2005

REASONABLE ALTERNATIVES, IF ANY, TO THE PROPOSED AMENDMENTS THAT WERE CONSIDERED, INCLUDING ALTERNATIVES TO LESSEN IMPACTS ON SMALL BUSINESS, AND REASONS FOR REJECTING THEM

Thus far for this rulemaking, the Energy Commission has found no alternatives to the proposed regulations that would be more effective, or as effective and less burdensome. In particular, the Energy Commission has found no alternatives for the specific purpose of avoiding impacts on small businesses, because there will be no significant adverse impacts (see next paragraph). For the appliance efficiency standards as a whole, the alternative to setting the efficiency standards would be to allow market forces to drive the efficiency of the appliances upward over time. This process would require a far longer period to reach the efficiency levels in the proposed standards (if indeed they ever would be reached), thereby depriving California's citizens and businesses of the economic and environmental benefits of increased energy efficiency.

EVIDENCE RELIED UPON TO SUPPORT THE INITIAL DETERMINATION, IN THE NOTICE OF PROPOSED ACTION, THAT THE PROPOSED REGULATIONS WILL NOT HAVE A SIGNIFICANT ADVERSE ECONOMIC ADVERSE IMPACT ON BUSINESS

The improved levels of efficiency resulting from the proposed efficiency standards will increase the purchase price of the effected appliances. However, the improved efficiency resulting from the proposed standards will result in reduced energy use and thus reduce utility bills for businesses. The Commission conducted a cost effectiveness analysis and determined a savings to California consumers and businesses will greatly outweigh any initial cost increase.

EFFORTS TO AVOID UNNECESSARY DUPLICATION OR CONFLICT WITH THE CODE OF FEDERAL REGULATIONS

The proposed regulations neither duplicate nor conflict with any federal regulation.

There are extensive federal regulations on appliance efficiency. (See 42 U.S.C. section 6291 et seq.; 10 CFR Parts 430, 431.) However, the proposed amendments affect only those appliances that are not covered by the federal regulations, except for minor clarifications and corrections that do not duplicate or conflict with any federal regulation.

Specific Purpose, Rationale, and Necessity of Each Proposed Adoption, Amendment, and Repeal

In addition to the changes discussed below, the proposed amendments would make minor clarifications and corrections throughout the regulations.

Section 1601. Scope.

There are no proposed amendments for this section.

Section 1602. Definitions.

Section 1602(b) Refrigerators, Refrigerator-Freezers and Freezers, add the following definitions for clarity:

"envelope" of a walk-in refrigerator or walk-in freezer means the walls and ceilings of the walk-in refrigerator or walk-in freezer but not the doors nor floors.

"(lumens per watt)" is added to the existing definition for "LPW."

Section 1602 (k) Lamps, modify the following definitions for clarity:

"Clear type lamp" change from: "Any lamp labeled as 'clear' is a 'clear type lamp' " change to: "The designation shall be on the lamp packaging, and marketing materials shall identify the lamp as being a clear type lamp."

"Enhanced Spectrum" change from: "lamp, as related to incandescent lamps means a lamp that contains an integral glass filter or powdered coating filter to suppress selective wavelengths of light in the middle of the visual spectrum generally having the effect of enhancing the blue end and/or red end of the spectrum. The designation shall be on the lamp packaging, and marketing materials shall identify the lamp as being "enhanced spectrum" or a similar designation." Change to "Enhanced Spectrum" or "Modified Spectrum" lamp, as related to incandescent lamps, means an incandescent lamp that is not a colored incandescent lamp, and, when operated at its rated voltage and wattage:

1. Has a color point (x,y) chromaticity coordinates on the Commission International de l'Eclairge (C.I.E) 1931 chromaticity diagram that lies below the black-body locus, and
2. Has a color point (x,y) chromaticity coordinates on the C.I.E 1931 chromaticity diagram that lies at least 4 MacAdam steps distant from the color point of a clear lamp with the same filament and bulb shape, operated at the same rated voltage and wattage. The MacAdam steps are defined as referenced in IESNA LM16.

The designation shall be on the lamp packaging, and marketing materials shall identify the lamp as being "enhanced spectrum," "modified spectrum," or a similar designation.

"Lamp" change from "means a fluorescent lamp or an incandescent lamp;" change to "means an electrical appliance that includes a glass envelope and produces optical radiation for the purpose of visual illumination, designed to be installed into a luminaire by means of an integral lamp-holder. Types of lamps include incandescent, fluorescent, and high intensity discharge (high pressure sodium and metal halide)."

Section 1602 (r) Cooking Products and Food Service Equipment, modify existing definition or added the following definitions for clarity:

"Commercial hot food holding cabinet" changed to mean a heated, fully enclosed compartment, with one or more solid or partial glass doors, that is designed to maintain the temperature of hot food that has been cooked in a separate appliance. "Commercial hot food holding cabinet" does not include heated glass merchandising cabinets, drawer warmers or cook-and-hold appliances.

Added "Cook-and-hold" appliance means a multiple-mode appliance intended for cooking food that may be used to hold the temperature of the food that has been cooked in the same appliance.

Added "Drawer warmer" means an appliance that consists of one or more heated drawers and that is designed to hold hot food that has been cooked in a separate appliance at a specified temperature.

Added "Heated glass merchandising cabinet" means an appliance with a heated cabinet constructed of glass or clear plastic doors which, with 70% or more clear area, is designed to display and maintain the temperature of hot food that has been cooked in a separate appliance.

Section 1602.1 Rules of Construction

There are no proposed amendments for this section.

Section 1603. Testing: All Appliances

There are no proposed amendments for this section.

Section 1604. Test Methods for Specific Appliances.

Correction of minor typographical errors throughout section.

Section 1604 (k) Lamps, add "state regulated enhanced spectrum lamps" and "state regulated incandescent reflector lamps" for clarity.

Section 1604 (n) **Luminaires**.

Add to subdivision (2): "Ballasts may be tested separately, outside the luminaire. A sample of at least five ballasts shall be tested for each lamp wattage for which the fixture and ballast are rated. The average of these tests shall be used for certification and compliance purposes." The purpose of this change is because of the concern that equipment in current use typically cannot determine ballast efficiency with better than 5-6% accuracy. It has been recommended that if at least five systems are tested, and that the average of those five will be sufficient to determine accuracy. This change is necessary to ensure accuracy with the use of existing equipment.

Section 1605: Energy Performance, Energy Design, Water Performance, and Water Design Standards: In General.

There are no proposed amendments for this section.

Section 1605.1. Federal Standards for Federally-Regulated Appliances

There are no proposed amendments for this section.

Section 1605.2. California Standards for Federally-Regulated Appliances

There are no proposed amendments for this section.

Section 1605.3. California Standards for Non-Federally-Regulated Appliances

Correction of minor typographical errors throughout section.

Modify Table K-3, Standards for State-Regulated General Service Incandescent lamps. The modifications to this table changes the minimum efficiency levels for this type of lamps to improve energy efficiency.

Add Table K-4, Standards for State-Regulated Spectrally Enhanced General Service Incandescent Lamps. The addition of this table prescribes minimum efficiency levels for this type of lamps to improve energy efficiency.

Add Table K-5, Standards for State-Regulated Incandescent Reflector Lamps. The addition of this table prescribes minimum efficiency levels for this type of lamps to improve energy efficiency.

Modify Table N-1, Standards for Metal Halide Luminaires. The modifications to this table changes the minimum efficiency levels for this type of lamps to improve energy efficiency.

Section 1605.3(u) (1), standards for power supplies, for clarity change "accessories, service parts, or spare parts" to "service parts or spare parts" in two places.

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

In order to determine whether appliances comply with the applicable standards, and in order to provide valuable information to building officials, utilities and others operating appliance efficiency incentive programs, researchers, and the general public, it is necessary for manufacturers to report certain appliance data to the Energy Commission. Thus the Energy Commission's appliance regulations have required data reporting since their inception in 1976. The proposed amendments would add reporting requirements for some appliances for proposed efficiency standards adopted during this rulemaking. The proposed amendments also would make a number of minor corrections and clarifications to this section. The proposed amendments are:

New Reporting Requirements

Section 1606, Table V, Group K, add data reporting provision for State-regulated "enhanced spectrum" general service incandescent lamps"

Section 1607: Marking of Appliances.

There are no proposed amendments for this section.

Section 1608: Compliance, Enforcement, and General Administrative Matters.

Section 1608 (f) added "Section 1608 (e) (1) (A)" for clarification purposes.