General Assembly

Raised Bill No. 341

February Session, 2002

LCO No. **1533**

Referred to Committee on Energy and Technology

Introduced by:
(ET)

AN ACT CONCERNING ENERGY EFFICIENCY.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Section 16a-38 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective July 1, 2002*):

(a) As used in this section, subsection (e) of section 4b-23, sections 16a-38a and 16a-38b, unless the context otherwise requires: (1) "Major capital project" means the construction or renovation of a major facility; (2) "major facility" means any building owned by the state or constructed or renovated wholly or partly with state funds, including a state-financed housing project, which is used or intended to be used as a school or which has ten thousand or more gross square feet, or any other building so owned, constructed or renovated which is designated a major facility by the Commissioner of Public Works; (3) "renovation" means additions, alterations or repairs to a major facility which the Commissioner of Public Works finds will have a substantial effect upon the energy consumption of the facility; (4) "life-cycle cost" means the cost, as determined by the methodology identified in the National Institute of Standards and Technology's special publication 544 and interagency report 80-2040, available as set forth in the Code of

Federal Regulations, Title 15, Part 230, of a major facility including the initial cost of its construction or renovation, the marginal cost of future energy capacity, the cost of the energy consumed by the facility over its expected useful life or, in the case of a leased facility, over the remaining term of the lease, and the cost of operating and maintaining the facility as such cost affects energy consumption; (5) "energy performance standard" means a rate of energy consumption which is the minimum practically achievable, on a life-cycle cost basis, by adjusting maintenance or operating procedures, modifying a building's equipment or structure and utilizing renewable sources of energy; (6) "energy audit" means an evaluation of, recommendations for and improvements of the energy consumption characteristics of all passive, active and operational energy systems and components by demand and type of energy used including the internal energy load imposed on a building by its occupants, equipment and components, and the external energy load imposed on a building by the climatic conditions at its location; (7) "renewable sources of energy" means energy from direct solar radiation, wind, water, geothermal sources, wood and other forms of biomass; (8) "cost effective" means that savings exceed cost over a ten-year period; (9) "state agency" means any department, board, commission, institution, or other agency of this state; and (10) "covered products" means the consumer products set forth as covered products in the Energy Policy and Conservation Act, 42 USC 6292.

(b) (1) Except as provided in subsection (f) of this section, the Commissioner of Public Works and the Secretary of the Office of Policy and Management shall jointly establish and publish standards for life-cycle cost analyses required by this section for buildings owned or leased by the state. Such life-cycle cost analyses for buildings shall provide, but shall not be limited to, information on the estimated initial cost of each energy-consuming system being compared and evaluated, annual operating and maintenance costs of all energy-consuming systems over the useful life of the building, cost of energy, salvage value and the estimated replacement cost for each energy-

consuming system or component expressed in annual terms for the useful life of the building.

(2) Except as provided in subsection (f) of this section, the Commissioner of Administrative Services and the Secretary of the Office of Policy and Management may jointly establish and publish standards for life-cycle cost analyses required by this section for equipment and appliances owned or leased by the state which are not covered products, and for such equipment and appliances which are covered products. In establishing such standards, the commissioner and secretary shall consider the criteria set forth in subsection (j) of this section.

(c) No state agency shall obtain preliminary design approval for a major capital project unless the Commissioner of Public Works makes a written determination that the design is cost effective on a life-cycle cost basis. To make such a determination, the commissioner (1) shall require documentation that the design meets or exceeds the standards set forth in the National Bureau of Standards Handbook 135, or subsequent corresponding handbook of the United States Department of Commerce and the State Building Code, and (2) may require additional documentation, including, but not limited to, a life-cycle cost analysis that complies with the standards established pursuant to subdivision (1) of subsection (b) of this section.

(d) All design proposals for major capital projects shall include at least two differing energy systems for space heating, cooling and hot water to supplement the passive features designed into the building. Such proposals may include computer or other analytical modeling or simulation but shall not be construed to require the development of architectural or mechanical design plans for each such system. All cost evaluations of the competing energy systems shall be based on life-cycle costs. A life-cycle cost analysis for each competing energy system determined by the Commissioner of Public Works to meet the standards of subsection (b) of this section shall be included as part of

the design proposal for all projects. No major capital project shall be approved by the Commissioner of Public Works or by the State Properties Review Board pursuant to section 4b-23, after June 30, 1980, unless the proposed project achieves to the maximum extent practicable the energy performance standards established in accordance with subsection (b) or (g) of this section.

(e) All applications for state funding of major capital projects shall be accompanied by a life-cycle cost analysis which the Commissioner of Public Works has determined complies with the standards established pursuant to subsection (b) of this section. The Commissioner of Public Works or the Secretary of the Office of Policy and Management may require such a life-cycle cost analysis for projects other than major capital projects.

(f) The Commissioner of Economic and Community Development and the Secretary of the Office of Policy and Management shall jointly establish and publish energy performance standards for buildings constructed as part of state-owned and state-financed housing projects that meet the Leadership in Energy and Environmental Design's Rating System for New Construction's Silver building rating, as established by the United States Green Building Council, as revised from time to time, and establish standards for life-cycle cost analyses for such projects. In establishing such standards, the commissioner and secretary shall consider (1) the coordination, positioning and solar orientation of the project on its situs, (2) the amount of glazing, degree of sun shading and direction of exposure, (3) the levels of insulation incorporated into the design, (4) the variable occupancy and operating conditions of the facility, (5) all architectural features which affect energy consumption, and (6) the design and location of all heating, cooling, hot water and electrical systems.

(g) Notwithstanding any provision in this section concerning the review of life-cycle cost analyses by the Commissioner of Public Works, a life-cycle cost analysis of a major capital project prepared for

the Department of Housing shall be reviewed by the Commissioner of Economic and Community Development and the Secretary of the Office of Policy and Management to determine if such analysis is in compliance with the life-cycle cost analyses standards established for such project under subsection (f) of this section.

(h) Each state agency preparing a life-cycle cost analysis under this section shall submit a summary of the analysis to the Secretary of the Office of Policy and Management.

(i) Except as provided in subsection (f) of this section, the Commissioner of Public Works and the Secretary of the Office of Policy and Management shall jointly establish and publish energy performance standards for existing buildings that meet the Leadership in Energy and Environmental Design's Rating System for Existing Building's Silver building rating, as established by the United States Green Building Council, as revised from time to time, and new buildings that meet the Leadership in Energy and Environmental Design's Rating System for New Construction, as revised from time to time, that are owned or leased by the state. Such standards shall require maximum efficiency in energy use in all such buildings and maximum practicable use of renewable sources of energy in all such buildings, provided the benefits of achieving such efficiency outweigh the costs. In establishing such standards, the commissioner and secretary shall consider (1) the coordination, positioning and solar orientation of the project on its situs, (2) the amount of glazing, degree of sun shading and direction of exposure, (3) the levels of insulation incorporated into the design, (4) the variable occupancy and operating conditions of the facility, (5) all architectural features which affect energy consumption, and (6) the design and location of all heating, cooling, hot water and electrical systems.

(j) Except as provided in subsection (f) of this section, the Commissioner of Administrative Services and the Secretary of the Office of Policy and Management may jointly establish and publish

energy performance standards for equipment and appliances owned or leased by the state which are not covered products, and for such equipment and appliances which are covered products. Any such standards shall require maximum energy efficiency for all such equipment and appliances and, for equipment and appliances owned or leased by the state which are covered products, shall be more stringent than the corresponding federal energy conservation standards set forth in the Energy Policy and Conservation Act, 42 USC 6295, or federal regulations adopted thereunder. In establishing such standards, the commissioner and secretary shall consider, without limitation, (1) the initial cost of the equipment or appliance, (2) the projected useful lifetime of the equipment or appliance, (3) the projected cost of the energy that the equipment or appliance will consume over its projected useful lifetime, (4) the estimated operating costs for maintenance and repair, over the projected useful lifetime of the equipment or appliance, and (5) the positive or negative salvage value of the equipment or appliance upon disposal at the conclusion of its projected useful lifetime.

(k) Any life-cycle cost analysis standards established pursuant to subdivision (2) of subsection (b) of this section and any energy performance standards established pursuant to subsection (j) of this section shall be implemented in accordance with the purchasing requirements set forth in chapter 58, and any regulations adopted thereunder, and the provisions of this section and section 16a-38j.

Sec. 2. Section 16a-48 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective July 1, 2002*):

(a) As used in this section:

(1) "Commissioner" means the Commissioner of Consumer Protection;

(2) "Fluorescent lamp ballast" or "ballast" means a device designed to operate fluorescent lamps by providing a starting voltage and

current and limiting the current during normal operation, but does not include such devices that have a dimming capability or are intended for use in ambient temperatures of zero degrees Fahrenheit or less or have a power factor of less than sixty-one hundredths for a single F40T12 lamp;

(3) "F40T12 lamp" means a tubular fluorescent lamp that is a nominal forty-watt lamp, with a forty-eight-inch tube length and one and one-half inches in diameter;

(4) "F96T12 lamp" means a tubular fluorescent lamp that is a nominal seventy-five-watt lamp with a ninety-six-inch tube length and one and one-half inches in diameter;

(5) "Luminaire" means a complete lighting unit consisting of a fluorescent lamp, or lamps, together with parts designed to distribute the light, to position and protect such lamps, and to connect such lamps to the power supply;

(6) **[**"New appliance"**]** "New product" means **[**an appliance**]** a product that is sold, offered for sale, or installed for the first time and specifically includes floor models and demonstration units;

(7) "Secretary" means the Secretary of the Office of Policy and Management;

(8) "State Building Code" means the building code adopted pursuant to section 29-252;

(9) "Torchiere lighting fixture" means a portable electric lighting fixture with a reflector bowl giving light directed upward so as to give indirect illumination;

(10) "Unit heater" means a self-contained fan-type heater designed to be installed within the heated space. Unit heaters include an apparatus or appliance to supply heat, and a fan for circulating air over a heat exchange surface, all enclosed in a common casing. Unit

heaters do not include "warm air furnaces" as defined in the federal Energy Policy Act of 1992;

(11) "Transformer" means a device consisting of two or more coils of insulated wire that transfers alternating current by electromagnetic induction from one coil to another in order to change the original voltage or current value;

(12) "Low-voltage dry-type transformer" means a transformer that: (A) Has an input voltage of 600 volts or less; (B) is air-cooled; and (C) does not use oil as a coolant;

(13) "Refrigerated beverage vending machine" means a machine that cools bottled or canned beverages and dispenses them upon payment;

(14) "Traffic signal" means a device consisting of a set of signal lights operating in sequence and placed at intersections to regulate traffic;

(15) "Traffic signal module" means a standard eight-inch or twelve-inch round traffic signal indication consisting of a light source, lens and all parts necessary for operation and communicates movement messages to drivers through red, amber and green colors;

(16) "Illuminated Exit Sign" means an internally illuminated sign that is designed to be permanently fixed in place and used to identify an exit. A light source illuminates the sign or letters from within, and the background of the exit sign is not transparent;

(17) "Automatic commercial ice-maker" means a factory-made assembly, not necessarily shipped in one package, consisting of a condensing unit and ice-making section operating as an integrated unit, with means for making and harvesting ice. It may also include means for storing or dispensing ice, or both;

(18) "Packaged air-conditioning equipment" means air-conditioning equipment that is built as a package and shipped as a whole to end-user sites;

(19) "Large packaged air-conditioning equipment" means packaged air-conditioning equipment with over 20 tons of cooling capacity;

(20) "Set-top box" means a commercially available electronic product whose purpose is to receive, send, process, translate or record signals that are then sent to a television or similar display device for viewing or to a computer for processing;

(21) "Commercial clothes washer" means a soft mount front-loading or soft mount top-loading clothes washer that is designed for use in (A) applications where the occupants of more than one household will be using it, such as in multi-family housing common areas and coin laundries; or (B) other commercial applications, if the clothes container compartment is no greater than 3.5 cubic feet for horizontal-axis clothes washers, or no greater than 4.0 cubic feet for vertical-axis clothes washers.

(b) The provisions of this section apply to the testing, certification and enforcement of efficiency standards for the following types of new **[**appliances**]** products sold, offered for sale or installed in the state: (1) Fluorescent ballasts for F40T12 and F96T12 lamps; (2) luminaires with fluorescent ballasts for F40T12 and F96T12 lamps; (3) showerheads; (4) torchiere lighting fixtures; (5) unit heaters; (6) low-voltage dry-type transformers; (7) refrigerated beverage vending machines; (8) traffic signal modules; (9) illuminated exit signs; (10) automatic commercial ice-makers; (11) large packaged air-conditioning equipment; (12) set-top boxes; (13) commercial clothes washers; and (14) any other products as may be designated by the commissioner in accordance with subsection (f) of this section.

(c) The provisions of this section do not apply to (1) new **[**appliances**]** products manufactured in the state and sold outside the state, (2) new **[**appliances**]** products manufactured outside the state and sold at wholesale inside the state for final retail sale and installation outside the state, (3) **[**appliances**]** products installed in mobile manufactured homes at the time of construction, or (4)

[appliances] products designed expressly for installation and use in recreational vehicles.

(d) Not later than July 1, [1988] 2003, the secretary, in consultation with the commissioner, shall adopt regulations, in accordance with the provisions of chapter 54, establishing minimum energy efficiency standards for the types of new [appliances] products set forth in subsection (b) of this section. The regulations [may provide such efficiency standards for various categories and types of such new appliances as the secretary shall determine and may establish new or increased efficiency standards to become effective on and after January 1, 1990] shall, at a minimum, establish efficiency standards set forth in the Model Legislation for Establishing State Appliance and Equipment Energy Efficiency Standards that is based on Energy Star and Federal Energy Management Program specifications. Such efficiency standards, where in conflict with the State Building Code, shall take precedence over the standards contained in the Building Code. [After July 1, 1988,] Not later than July 1, 2005, and biennially thereafter, the secretary, in consultation with the commissioner, [may] shall review and increase the level of such efficiency standards upon a determination that increased efficiency standards would serve to promote energy conservation in the state and would be cost-effective for consumers who purchase and use such new [appliances] products, provided no such increased efficiency standards shall become effective within one year following the adoption of any amended regulations providing for such increased efficiency standards. The secretary, in consultation with the commissioner, may adopt regulations that establish efficiency standards for products not specifically listed in subsection (b) of this section. The secretary, in consultation with the commissioner, may adopt such further regulations as necessary to implement the provisions of this section.

(e) On or after July 1, [1988] 2004, no new [appliance] product of a type set forth in subsection (b) of this section may be sold, offered for sale, or installed in the state unless the energy efficiency of the new

[appliance**]** product meets or exceeds the efficiency standards set forth in such regulations adopted pursuant to subsection (d) of this section.

(f) The commissioner, in consultation with the secretary, shall adopt procedures for testing the energy efficiency of the new **[**appliances**]** products covered by subsection (b) of this section if such procedures are not provided for in the State Building Code. The commissioner shall use United States Department of Energy approved test methods, or in the absence of such test methods, other appropriate nationally recognized test methods. The manufacturers of such **[**appliances**]** products shall cause samples of such **[**appliances**]** products to be tested in accordance with the test procedures adopted pursuant to this subsection or those specified in the State Building Code.

(g) Manufacturers of new **[**appliances**]** products covered by subsection (b) of this section shall certify to the commissioner that such **[**appliances**]** products are in compliance with the provisions of this section. The commissioner, in consultation with the secretary, shall promulgate regulations governing the certification of such **[**appliances**]** products and shall publish an annual list of such **[**appliances**]** products.

(h) The commissioner shall cause periodic inspections to be made of distributors or retailers of new **[**appliances**]** products covered by subsection (b) of this section in order to determine compliance with the provisions of this section. The commissioner shall cause investigations to be made of complaints received concerning violations of this section and shall report the results of such investigations to the Attorney General. The Attorney General may institute proceedings to enforce the provisions of this section. Any person who violates any provision of this section shall be subject to a civil penalty of not more than two hundred fifty dollars. Each violation of this section shall constitute a separate offense, and each day that such violation continues shall constitute a separate offense.

Sec. 3. Subsection (e) of section 4a-57 of the general statutes is

repealed and the following is substituted in lieu thereof (*Effective October 1, 2002*):

(e) (1) The purchase of or contract for the following public utility services shall not be subject to competitive bidding or competitive negotiation: (A) Electric distribution services; (B) water services; (C) gas distribution services; (D) electric generation services **[**until the date such services are competitive pursuant to the schedule set forth in section 16-244b, provided electric generation services shall be exempt from competitive bidding and competitive negotiation after said date**]** if such services are provided by an electric municipal utility other than by a participating electric municipal utility, as defined in section 16-1, in the service area of said electric municipal utility; and (E) gas supply services until the date such services are competitive pursuant to legislative act or order of the Department of Public Utility Control, provided gas supply services shall be exempt from competitive bidding and competitive negotiation after said date if such services are provided by a gas municipal utility in the service area of said gas municipal utility.

(2) Any purchase of or contract by the department for electric generation services that are subject to competitive bidding and competitive negotiations shall be conducted in cooperation with the Office of Policy and Management pursuant to section 16a-14e. The department and the Office of Policy and Management may encourage the purchase of electricity generated from Class I and Class II renewable energy sources, as defined in section 16-1, as amended.

This act shall take effect as follows:	
Section 1	*July 1, 2002*
Sec. 2	*July 1, 2002*
Sec. 3	*October 1, 2002*

Statement of Purpose:

To incorporate the Leadership in Energy and Environmental Design's standards in the state's life-cycle cost analysis, to update the product

and appliance energy efficiency standards, and to encourage the purchase of electricity generated from renewable sources.

[Proposed deletions are enclosed in brackets. Proposed additions are indicated by underline, except that when the entire text of a bill or resolution or a section of a bill or resolution is new, it is not underlined.]