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Energy Conservation Material Standards for Residential Buildings

Sec. 16a-40b-1. Scope

These regulations shall be used as standards for insulation, alternative energy devices, and energy conservation materials that will be purchased and installed in new and existing residential dwellings and in additions to residential dwellings under a low-cost loan from the state as provided for in Public Act 79-509, as amended by Public Act 79-10 of the October Special Session.

(Effective March 4, 1980)

Sec. 16a-40b-2. Purpose

(a) To establish standards for energy conservation materials and devices for use by the department of housing in the administration of low-cost loans for energy conservation thereby insuring that such loans are issued in the best interest of the state of Connecticut;

(b) To assist loan applicants in the purchase of tested and approved energy conservation materials and devices and in the proper and accepted methods of workmanship for installation of such materials and devices;

(c) To insure against conflict with health, safety, environmental or building code regulations.

(Effective March 4, 1980)

Sec. 16a-40b-3. Definitions

Whenever used in Sections 16a-40b-1 to 16a-40b-6 inclusive, of these regulations:

(a) "Commissioner" means the commissioner of the department of housing or said commissioner's designee.

(b) "Secretary" means the secretary of the office of policy and management or said secretary's designee.

(c) "State" means the state of Connecticut acting by and through the department of housing.

(d) "Residential dwelling" means any residential structure containing not more than four dwelling units.

(e) "Insulation" means a material primarily designed to resist heat flow and which is installed between conditioned areas of a building and the unconditioned areas of the building or the outside or is installed on heating or cooling ducts or pipes or is wrapped around the exterior casing of a domestic water heater.

(f) "Alternative energy device" means a wood-burning stove for space heating and any system or mechanism which uses wood, solar radiation, wind, water or geothermal resources as a source for space heating, water heating, cooling or generation of electrical energy. Such alternate energy device may be a new source or system, a replacement of an existing source or system, or a supplement to an existing source or system.

(g) "Energy conservation material" means material other than insulation which is applied to various portions of a building to reduce the passage of air and moisture, structural modifications to provide for addition or exclusion of solar heat through non-mechanical means and the addition of mechanical devices to improve or control the operational characteristics of heating systems and domestic water heaters.

(h) "Low-cost loan" means a loan made by the commissioner to eligible persons or families for the purchase and installation in residential dwellings of insulation,

alternative energy devices, and energy conservation materials pursuant to Public Act 79-509, as amended.

(i) “Self-built solar energy system” means a solar energy system constructed with basic materials and installed by the owner of a residential dwelling for the provision of space heating, cooling, and domestic water heating to said residential dwelling.

(Effective March 4, 1980)

Sec. 16a-40b-4. Eligible insulation, alternative energy devices, and energy conservation materials

The following insulation, devices, and materials are eligible for a low-cost loan from the commissioner. The secretary shall provide technical assistance to the department of housing regarding eligible insulation, devices, and materials. Eligibility of items not mentioned in these regulations shall be determined by the secretary.

(a) **Insulation.** The insulation materials listed in this subsection are eligible for use in existing residential dwellings to increase the heat flow resistance of such dwellings and are also eligible for use in the construction of new residential dwellings, or additions to existing residential dwellings, for the purpose of exceeding the minimum insulation requirements of the state basic building code.

- (1) Loose-fill organic or wood fiber thermal insulation
- (2) Loose-fill mineral fiber thermal insulation
- (3) Mineral fiber blanket and batt thermal insulation
- (4) Vermiculite thermal insulation
- (5) Perlite thermal insulation board
- (6) Polystyrene thermal insulation board
- (7) Polyurethane and polyisocyanurate thermal insulation board
- (8) Aluminum foil reflective thermal insulation
- (9) Urea-formaldehyde based foam insulation

(b) **Alternative energy devices**

- (1) Wood-burning stoves
- (2) Wood-burning systems or mechanisms for space heating, water heating, or cooling
- (3) Active solar energy heating and cooling systems
- (4) Passive solar energy additions including, but not limited to addition of south-facing windows, non-mechanical solar collectors, and greenhouses attached to the residential dwelling for solar heat supply purposes
- (5) Photo-voltaic electric generating systems
- (6) Windmill electric generating systems
- (7) Low-head hydroelectric generating systems
- (8) Geothermal heating and cooling systems
- (9) Alternative energy systems which are classified by the secretary as systems in the research and development stage for commercialization are *not eligible*.

(c) **Energy conservation materials.**

- (1) Caulking
- (2) Weatherstripping
- (3) Storm doors and storm windows
- (4) Thermal doors and thermal windows
- (5) Flue dampers
- (6) Replacement burners for oil-fired heating systems
- (7) Electrical or mechanical ignition systems, replacing gas pilot lights

- (8) Furnace heat reclamation systems
 - (9) Setback thermostats and zone thermostats
 - (10) Off-peak electric water heater storage tanks
 - (11) Shading devices for south-facing windows and doors including, but not limited to, exterior awnings roof overhang extensions and reflective glass, except that the use of trees and shrubs for shading is *excluded*
 - (12) Insulating shades and shutters
 - (13) Heat reflective and heat absorbing window or door material
 - (14) Low flow showerheads and faucets.
- (Effective March 4, 1980)

Sec. 16a-40b-5. Mandatory compliance

(a) **Insulation.** Eligible insulation shall meet the requirements of the Connecticut fire safety code and basic building code, except that insulation in new residential buildings and additions to existing residential buildings shall exceed the requirement of the basic building code and only the excess insulation shall be eligible for a loan.

(b) **Alternative energy devices.**

(1) All eligible alternative energy devices and installation thereof shall meet the minimum requirements of the Connecticut fire safety code and basic building code.

(2) Self-built solar energy heating, cooling, and electrical system designs and installation shall be certified as to safety and feasibility by a registered professional engineer when required by the commissioner.

(3) System and installation designs for photo-voltaic, windmill and low-head hydroelectric generation and geothermal heating and cooling shall be certified as to safety and feasibility by a registered professional engineer when required by the commissioner.

(c) **Energy conservation materials.**

(1) The following eligible materials shall meet the requirements of the Connecticut fire safety code and be approved by an accredited independent national testing laboratory accepted by the commissioner:

- (A) Flue dampers
- (B) Replacement oil burners
- (C) Electrical or mechanical ignition systems, replacing gas pilot lights
- (D) Furnace heat reclamation systems

(2) The following eligible materials shall meet the requirements of the Connecticut basic building code: shading devices, such as roof overhang extensions, requiring structural modifications.

(Effective March 4, 1980)

Sec. 16a-40b-6. Consideration of approved materials

(a) **Alternative energy devices.** In making a loan pursuant to Public Act 79-509 the commissioner may consider the use of appurtenant mechanical, electrical, structural, and insulating parts and materials that have been approved by the state board of material review or the department of consumer protection.

(b) **Insulation and energy conservation materials.** In making a loan pursuant to Public Act 79-509 the commissioner may consider the use of eligible insulation and energy conservation materials approved by the state board of material review or the department of consumer protection.

(Effective March 4, 1980)

Energy Conservation Loan Program

Sec. 16a-40b-7. Definitions

Whenever used in Sections 16a-40b-7 to 16a-40b-14 of these regulations:

(a) "Alternative Energy Device" means a wood-burning stove for space heating and any system or mechanism which uses wood, solar radiation, wind, water or geothermal resources as a source for space heating, water heating, cooling or generation of electrical energy.

(b) "Commissioner" means the Commissioner of Housing.

(c) "Eligible person" means any resident of the State of Connecticut holding title to real property in Connecticut which consists of a residential property.

(d) "Energy Conservation Loan Fund" means the fund established and used to make loans or loan guarantees authorized by sections 16a-40 through 16a-40c of the Connecticut General Statutes, as amended, and for expenses incurred by the Commissioner in the implementation of the program of loans and loan guarantees established by said sections and in servicing of loans made before July 1, 1985, under section 16a-40k, as amended, of the Connecticut General Statutes.

(e) "Loan" means monies provided from the Energy Conservation Loan Fund to an eligible person for the purchase and installation of insulation, alternative energy devices, energy conservation materials, and replacement furnaces and boilers, as these appear in regulations adopted by the Secretary of the Office of Policy and Management, or for the purchase of a secondary heating system using a source of heat other than electricity or for the conversion of a primary electric heating system to a system using a source of heat other than electricity.

(f) "Loan Guarantee" means an agreement by the Department to guarantee a loan made by a private institution for purposes, terms and limits as covered in these regulations.

(g) "Primary Heating System" means a heating system which will satisfy all heating requirements of a dwelling unit in a residential structure.

(h) "Residential Structure" means any building in which at least two-thirds of the usable square footage is used for dwelling purposes.

(i) "Secondary Heating System" means a heating system which will satisfy only a portion of the heating requirements of a residential structure or of a dwelling unit in a residential structure.

(j) "Adjusted Gross Income" means the adjusted gross income for federal income tax purposes for all family members residing in the dwelling unit.

(k) "Department" means the Connecticut Department of Housing.

(l) "Family" means one or more persons residing in the same household.

(m) "Gross Income" means the aggregate annual income of all family members residing in the dwelling unit from all sources, before any deductions.

(n) "Interest Rate Subsidy Payment" means the annual payment made by electric and gas companies which is used to subsidize the interest rates charged on loans extended under the Energy Conservation Loan Program.

(Effective August 4, 1988)

Sec. 16a-40b-8. Loans for residential structures with not more than four dwelling units

(a) **Income Limit.** All eligible persons shall submit evidence, satisfactory to the Commissioner, that their adjusted gross income is not in excess of the amount established as the income limit in Section 16a-40b (b) of the General Statutes.

(b) **Loan Limits.** The loan shall not be less than four hundred dollars (\$400) and not more than six thousand dollars (\$6000) per structure.

(c) **Term.** The term of the loan shall not exceed ten years.

(d) **Interest Rates.** The State Bond Commission shall establish a range of rates of interest payable on all loans for residential structures containing not more than four dwelling units. The range shall be applied to applicants in accordance with a formula which reflects their income.

(e) **Underwriting.** All eligible persons must meet the following underwriting criteria:

(1) **Income Ratio.** Not more than thirty-nine percent (39%) of gross income shall be applied to payments of the first mortgage, taxes, homeowners insurance and all countable obligations, including the Energy Conservation Loan.

(2) **Saving/Payment Ratio.** Eligible persons whose adjusted gross income is (115%) of median area income adjusted for family size, as determined from time to time by the U.S. Department of Housing and Urban Development, and who do not qualify for a loan under subdivision (1) above may qualify if the energy conservation improvements financed by this loan result in net savings, as projected by a technical energy audit performed according to standards set by the Office of Policy and Management, at least ten percent (10%) greater than the energy loan monthly payment. In the case of multiple improvements, the net savings is the sum of the normalized savings from individual measures as projected by a technical energy audit performed according to standards set by the Office of Policy and Management. In the case of inoperable heating systems, the Energy Conservation improvements shall be considered cost effective in order to determine the net savings.

(3) **Income.**

(A) Eligible person(s) shall identify the amount and source of all income. All income other than that from primary employment that is necessary to meet the income ratio shall be verified.

(B) **Primary Employment**

(i) The commissioner shall require the eligible person(s) to provide copies of federal income tax returns as filed with the Commissioner of Internal Revenue.

(ii) Overtime shall be verified as likely to continue by the following: year to date earnings; previous history of overtime in this company and Department; and last year's overtime income.

(iii) Self-employed eligible person(s) shall submit a profit and loss statement prepared by a qualified accountant or CPA showing a minimum of one year in the business. Only net business income will be counted.

(iv) Bonuses or commissions must have been received for the past two years in present employment or present and past employment. An average of the last two years shall generally be used.

(C) Income from second jobs may be counted if verified as permanent and likely to continue. The Commissioner may accept new second job income if verified as permanent and if the eligible person has had a verifiable second job in the recent past.

(D) Income shall also include alimony, child support or maintenance receipts only to the extent that they are likely to be consistently received. Factors to be considered in determining the likelihood of consistent payments include, but are not limited to: whether payments are received pursuant to a written agreement or court decree; the length of time payments have been received; regularity of receipt; availability of procedures to compel payment; whether full or partial payments have

been made; the age of any child for whom child support is to be paid; and the credit worthiness of the obligee, including the credit history of the obligee where available.

(E) Social Security and pensions shall be verified.

(F) Income from Rents.

(i) One hundred percent (100%) of rental income shall be added to the eligible person's gross income where the residential dwelling is owner-occupied.

(ii) Net rental income shall be used for investment properties. Such properties must have been owned for a minimum of one year with at least six months reflected on the investment rental analysis.

(G) Interest and dividends may be counted if verified.

(4) Countable Obligations.

Countable obligations shall include, but are not limited to:

(A) All installment debts and credit union loans with ten or more months remaining from date of closing and all monthly interest charged on demand notes;

(B) Five percent (5%) of the balance of all revolving credit per month;

(C) Court-ordered alimony, child support or maintenance payments; and

(D) Condominium fees.

(5) Credit.

(A) All applications for loans shall be accompanied by a written credit report obtained not more than six months prior to the date of application.

(B) Written explanations for previous poor credit and/or bankruptcies shall be included with the loan application.

(C) Grounds for rejection of any application shall include, but are not limited to, situations where an eligible person has a history of continuing delinquencies in the year prior to the date of application, has an account in collections, or has had an account written off to profit and loss.

(f) **Loan Security.** Pursuant to Section 16a-40b of the Connecticut General Statutes, the state shall have a lien on each property for which a loan has been made to ensure compliance with the terms and conditions of such loan.

(Effective April 20, 1990)

Sec. 16a-40b-9. Loans and loan guarantees for residential structures of more than four dwelling units

(a) **Income Limits.** There shall be no income limit for eligible persons under this section. The Commissioner shall, however, give preference, through reduced interest rates or other means, to applications for loans for structures which are occupied by persons of low or moderate income. Standards for low or moderate income shall be established by the Commissioner. The

Commissioner shall consider, but not be limited to, the following statistics in making this determination: poverty level statistics as determined by the Department of Health and Human Services and median income statistics as determined by the United States Department of Housing and Urban Development.

(b) **Loan Limits.** The loan shall not be more than one thousand dollars (\$1,000) multiplied by the number of dwelling units in each structure, provided no such loan shall exceed thirty thousand dollars (\$30,000). If the cost of the energy improvements exceeds this amount for a structure containing more than thirty dwelling units, the eligible person shall include in his application a commitment to make comparable energy improvements to all dwelling units in the structure in addition to the thirty units which are eligible for the loan.

(c) **Term.** The term of the loan or loan guarantee shall not exceed ten years.

(d) **Interest Rates.** A range of interest rates payable on loans made under this section shall be established by the Commissioner.

(e) **Underwriting.**

(1) **Savings/Payment Ratio.** The energy conservation improvement financed by this loan must result in net savings, as projected by a technical energy audit performed according to standards set by the Office of Policy and Management, at least ten percent (10%) greater than the energy loan monthly payment. In the case of multiple improvements, the net savings is the sum of the normalized savings from individual measures as projected by a technical energy audit. In the case of inoperable heating systems, no technical energy audit shall be required and the energy conservation improvements shall be considered cost effective in order to determine the net savings.

(2) **Credit.** All mortgages on the building to be improved must be current and show a satisfactory payment history. If other credit is not satisfactory, arrangements for payment must be made. At the option of the Commissioner, an eligible person may be required to submit evidence that, for the property to be improved, property taxes are current.

(f) **Loan Security.** Pursuant to Section 16a-40b of the Connecticut General Statutes, the State shall have a lien on each property for which a loan has been made in order to ensure compliance with the terms and conditions of such loan.

(g) The Commissioner may employ the criteria in this section of these regulations to provide loans to owners of residential structures which contain four or less dwelling units which share common property with other multi-unit structures so long as the aggregate number of units on the property is more than four.

(Effective April 20, 1990)

Sec. 16a-40b-10. Loans for residential electrical heating conversion

(a) **Eligible Structures.** To be eligible for a loan, a residential structure must:

- (1) Be located in the State of Connecticut;
- (2) Have been constructed prior to January 1, 1980;
- (3) Have an existing electric heating system which the applicant is replacing with a primary or secondary heating system; and
- (4) Have had at least fifty percent (50%) of the area of the structure heated by the existing electric heating system or predecessor electric heating systems since December 31, 1979.

(b) **Eligible Replacement Heating Systems.**

(1) The following heating systems are eligible for funding as primary heating systems;

- (A) Oil-fired boiler or furnace and distribution system;
- (B) Gas-fired boiler or furnace and distribution system;
- (C) Coal-fired boiler or furnace and distribution system;
- (D) Wood-fired boiler or furnace and distribution system;
- (E) Multi-fueled boiler or furnace and distribution system;
- (F) Air or water source heat pumps and distribution system; and
- (G) Chimney and fuel tank when needed.

(2) The following heating systems are eligible for funding as secondary heating systems:

- (A) Vented kerosene, oil, and gas (natural or bottled) space heaters;
- (B) Wood stoves;
- (C) Coal stoves;

(D) Passive solar heating systems including sunspaces, thermosiphon air panels, fan-assisted air panels, integral storage passive space heating systems;

(E) Active solar space heating; and

(F) Chimney and fuel tank when needed.

(3) All secondary heating systems must be permanent fixtures to be eligible for a loan.

(Effective August 4, 1988)

Sec. 16a-40b-10a. Eligibility requirements for residential structures with not more than four dwelling units

(a) Eligible Costs.

(1) Loans made under this program shall be used for the purchase and installation of insulation, alternative energy devices, energy conservation or materials and replacement furnaces and boilers, or for the purchase of a secondary heating system using a source of heat other than electricity or for the conversion of a primary electric heating system to a system using a source of heat other than electricity.

(2) All materials purchased and/or installed shall be approved in accordance with regulations promulgated by the Secretary of the Office of Policy and Management.

(3) In the purchase and installation of insulation in residential structures built after December 31, 1979, only that insulation which exceeds the requirements of the state building code shall be eligible for such loans.

(b) Eligible Structures

(1) Loans in this program shall be used for residential structures only.

(2) Any eligible residential structure shall be located within the State of Connecticut.

(Effective August 4, 1988)

Sec. 16a-40b-10b. Eligibility requirements for residential structures with more than four dwelling units

(a) Eligible Costs

(1) Weatherization

(2) Mechanical Systems including, but not limited to;

(A) Heating systems efficiency improvements,

(B) Domestic hot water system efficiency improvements, or

(C) Lighting efficiency improvements;

(3) Building Envelope Improvements; or

(4) Renewable Resources

(b) Eligible Structures

(1) Loans in this program shall be used for residential structures only;

(2) Any eligible residential structure shall be located within the State of Connecticut;

(3) Prior to closing the loan, any delinquent property taxes or outstanding code violations must be satisfactorily resolved, in the opinion of the Commissioner.

(Effective August 4, 1988)

Sec. 16a-40b-11. Interest rate subsidy payment

(a) **Calculation.** Not later than August 1 of each year, the Commissioner shall calculate the interest rate subsidy payment which shall be the lesser of the following amounts:

(1) The difference between (1) the weighted average of the percentage rates of interest payable on all subsidized loans made (A) after July 1, 1982 from the

Energy Conservation Loan Fund and (B) from the Home Heating System Loan Fund established under Section 16a-40k, of the Connecticut General Statutes and (2) the average of the percentage rates of interest on any bonds and notes issued pursuant to Section 3-20, which have been dedicated to the energy conservation loan program and used to fund such loans, and multiply such difference by the outstanding amount of all such loans;

(2) The maximum allowable under Section 103 (c) of the Internal Revenue Code of 1954 or any successor legislation thereto; or

(3) Six percent (6%) of the sum of the outstanding principal amount at the end of each fiscal year of all loans made (A) on or after July 1, 1982, from the Energy Conservation Loan Fund and (B) from the Home Heating System Loan Fund established under Section 16a-40k, as amended, and the balance remaining in the Energy Conservation Loan Fund.

(b) **Collection.** The amount of the interest rate subsidy payment shall be paid by the electric and gas companies having at least seventy-five thousand (75,000) customers, as allocated by the Department of Public Utility Control. Not later than September 1 of each year, the Commissioner shall bill the electric and gas companies. Payment shall be due no later than October 1 of each year.

(Effective April 20, 1990)

Sec. 16a-40b-12. Priorities

The department shall endeavor to ensure that loans for dwelling units owned or occupied by low or moderate income persons are facilitated to the extent possible. In the event the allocation of funds available for loans is not sufficient to finance all of the qualified applicants, priority shall be established first by the extent to which the loan will be used by or for low or moderate income persons and then by date of department receipt of application.

(Effective August 4, 1988)

Sec. 16a-40b-13. Program management

(a) The Commissioner shall adopt such internal management procedures as may be required for the processing and servicing of loans made from the Energy Conservation Loan Fund.

(b) The Commissioner shall refuse to provide any loan for any work done prior to receipt of a formal application from the borrower by the Department. The Department shall not be liable for any work performed, materials purchased, contracts signed or any other debt incurred in connection with any unsuccessful application for an energy conservation loan.

(c) The Commissioner shall recall any loan granted from the Energy Conservation Loan Fund when the proceeds of such loan are used for purposes other than those identified in regulations adopted by the Secretary of the Office of Policy and Management where applicable, or for purposes other than those identified in Section 16a-40b of the General Statutes or in these regulations.

(d) In the event a loan is in arrears for a period of 120 days or more, the Commissioner may:

(1) Require the recipient of any loan granted to repay the loan in full; or

(2) To facilitate repayment, the Commissioner may recast the balance of the outstanding indebtedness, at an interest rate not less than that originally levied, for a period of time not exceeding the original loan term and consistent with the appropriate underwriting income ratio.

(e) The Commissioner shall take steps to make the existence of the Energy Conservation Loan Fund known to low and moderate income families. He may use radio, newspaper, and/or television media. In addition, he shall consult with the Department of Human Resources, the Department of Income Maintenance and local Community Action Agencies in an effort to reach as many low and moderate income families as possible.

(f) The Commissioner shall reimburse the general fund for interest on the outstanding bonds and notes used to fund loans made under this program on or after July 1, 1982 by applying to the general fund (1) the interest payments received from recipients of loans made on and after July 1, 1982, less the administrative expenses incurred by the commissioner, and (2) the payments received from electric and gas companies as interest rate subsidy payments.

(Effective August 4, 1988)

Sec. 16a-40b-14. Repealer

Subsection (v) of Section 8-203-4 of the Regulations of Connecticut State Agencies is repealed.

(Effective January 6, 1987)