

NEW JERSEY STATE LIBRARY

CHAPTER 32

ENERGY CONSERVATION IN STATE BUILDINGS

Authority

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SUBCHAPTER 1. ENERGY AUDITS AND ENERGY-CONSERVING RENOVATIONS OF STATE BUILDINGS

7:32-1.1 Scope and purpose

(a) This subchapter implements the Energy Conservation Bond Act of 1980, P.L.1980, c.68.

(b) The purpose of this subchapter is to provide for energy audits and energy-conserving renovations of State buildings in order to achieve a net reduction in the amount of energy consumed.

7:32-1.2 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings unless the context clearly indicates otherwise:

"Act" means the Energy Conservation Bond Act of 1980, P.L.1980, c.68.

"Auditor" means an individual or company responsible for performing an energy audit, including, but not limited to, an architectural/engineering firm, independent professional engineer, or equipment vendor/manufacturer or facility management personnel.

"Autonomous agency" means any State department, division, or facility such as Rutgers The State University, the New Jersey Institute of Technology (NJIT), the New Jersey Department of Defense (NJDD), the University of Medicine and Dentistry of New Jersey (UMDNJ), the State colleges upon approval of the Department of Higher Education (DHE), or any other agency which uses its own procurement and contract administration procedures.

"Commissioner" means the Commissioner of the Department of Environmental Protection and Energy.

"Commission" means the New Jersey Commission on Capital Budgeting and Planning.

"DBC" means the Division of Building and Construction in the Department of Treasury.

"DEPE" means the New Jersey Department of Environmental Protection and Energy.

"ECBP" means the Energy Conservation Bond Program.

"Energy audit" means a study of a building or facility administered by the Department of Environmental Protection and Energy, Office of Energy to determine operating and maintenance procedures and renovations which will result in reduced energy consumption.

"Energy Conservation Bond Fund" means the fund established pursuant to section 14 of the Energy Conservation Bond Act of 1980, P.L.1980, c.68.

"Energy-conserving operating and maintenance procedure" or "operating and maintenance procedure" means no- or low-cost renovations which can be implemented for the purpose of accomplishing a net reduction in the amount of energy consumed.

"Energy-conserving renovation" or "renovation" means the planning, improvement, reconstruction and rehabilitation of State buildings for the purpose of accomplishing a net reduction in the amount of energy consumed.

"Envelope" means the exterior surfaces of a building including the roof and walls, and penetrations of these surfaces, such as doors and windows.

"Payback" means the number of years required for the dollar savings to equal the total cost of implementation of the renovation.

"Project" means one energy conservation renovation or several energy conservation renovations which will be implemented together.

"State buildings" means buildings, structures and facilities under the supervision and control of any executive department of the State of New Jersey.

"Supervision and control" means the holding of any fee simple estate, or any leasehold estate for a duration of more than 10 years.

"Using agency" means any executive department of the State of New Jersey participating in the Energy Conservation Bond Program.

7:32-1.3 Submission of plan to the treasurer and the commission

(a) Beginning with fiscal year 1983, the Commissioner shall submit to the State Treasurer and the Commission for their review and recommendation with the DEPE's annual budget request a plan for expenditures of funds from the energy conservation bond fund for the upcoming fiscal year. This plan shall include the following information:

1. A performance evaluation of the expenditures made from the fund to date;
2. A description of programs planned during the upcoming fiscal year;
3. A copy of the regulations in force governing the operation of programs that are financed, in part or in whole, by the Energy Conservation Bond Fund;
4. An estimate of the amount of money and energy saved by the program to date; and
5. An estimate of expenditures for the upcoming fiscal year.

7:32-1.4 Submission of plan to the Legislature

Beginning with the fiscal year 1983, immediately following the submission to the Legislature of the Governor's annual budget message, the Commissioner shall submit to the relevant standing committee of the Legislature, as designated by the President of the Senate and the Speaker of the General Assembly, and to the special joint legislative committee created pursuant to Assembly Concurrent Resolution No. 66 of the 1968 Legislature, as reconstituted and continued by the Legislature from time to time, a copy of the plan called for under section 24 of the Act, together with such changes therein as may have been required by the Governor's budget message.

7:32-1.5 Consultation with special joint legislative committee

Not less than 30 days prior to entering into any contract, lease, obligation, or agreement to effectuate the purpose of the Act, the Commissioner shall report to and consult with the special joint legislative committee created pursuant to Assembly Concurrent Resolution No. 66 of the 1968 Legislature as reconstituted and continued from time to time by the Legislature.

7:32-1.6 Energy conservation renovation funding procedure

(a) Each using agency which has supervision and control over State buildings shall comply with the following procedures when requesting energy conservation funds:

1. The using agency shall submit to the ECBP its long-range plan for the facility, including data on planned additions, renovations and removals of buildings or facilities.
2. The using agency shall have an energy audit completed for the facility, building or special project that will be considered for energy conservation funding and shall submit the audit to the ECBP. The using agency can request the ECBP to fund the energy audit. All energy audits shall comply with N.J.A.C. 7:32-1.7, which sets forth the energy audit implementation procedures.
3. Upon completion and approval of the energy audit by the ECBP, the using agency may submit a request to the ECBP to fund the energy conservation renovations identified in the audit. Each request will be reviewed and ranked by the ECBP according to payback. The Department must comply with N.J.A.C. 7:32-1.9, which sets forth project funding request procedures.
4. The using agency will be notified by the Commissioner of the approved energy conservation renovations and their funding levels. Upon notification of approval, the using agency must implement the renovations, according to N.J.A.C. 7:32-1.10.
5. Upon project completion and acceptance by all parties, the ECBP shall review the final cost figures. The using agency will be subject to an audit and shall make available all records pertaining to the completed project. The using agency shall return any unused funds to the ECBP. Failure to comply with this requirement will result in the using agency's returning all ACBP funds awarded for additional projects and jeopardize future ECBP funding.

7:32-1.7 Energy audit implementation procedure

(a) Requests for funding to perform energy audits shall include:

1. The name of the facility;
2. The name/number and address of the buildings to be audited;
3. The gross square footage of each building;
4. The scope of the audit; and
5. An estimate of the cost of the audit.

(b) Requests for funding of energy audits shall be approved at the discretion of the ECBP and are subject to the following criteria:

1. That the audits requested do not duplicate existing audits or engineering studies considered acceptable by the ECBP;

2. That the estimated cost of an audit or analysis is not disproportionately great when compared to the possible savings that may be identified;

3. That the continued use of the building(s) or facility is consistent with the using agency's long-range plan; and

4. That energy audits are efficiently scheduled (that is, audits will be grouped by institution, location and technical similarities in order to keep the number of consultants to a minimum, reduce cost and expedite energy audits).

(c) Upon the Commissioner's approval of funding, the using agency shall submit to DBC a list of the energy audits to be performed. However, autonomous agencies shall use their own procurement procedures when energy audits will be performed at their facilities.

(d) All audits shall be in compliance with N.J.A.C. 7:32-1.8, which sets forth the required energy audit contents.

(e) The DBC or the autonomous agency shall coordinate with the ECBP to define the scope of the audit prior to advertising for the selection of the auditing firm.

(f) The DBC or autonomous agency shall select and retain an auditor.

(g) The using agency shall consult ECBP in the selection process of the auditor.

(h) The auditor shall submit the audit to the DBC and/or the using agency, and the ECBP. When the using agency is autonomous, the auditor shall submit the audit to the using agency and the ECBP. The ECBP and the using agency shall have 15 working days after receipt of the audit to notify the DBC of acceptance or of any deficiencies in the audit with regard to conformance with general auditing procedure, completion of specific tasks in the work assignment, and compliance with the audit content requirements of N.J.A.C. 7:32-1.8. If there are any deficiencies, the DBC or, when applicable, the autonomous agency, shall return the work product to the auditor marked "unacceptable."

(i) Upon acceptance of the completed audit, the ECBP shall transmit written approval of the audit to the using agency and the DBC. Final payment shall not be made until ECBP approval is on record.

7:32-1.8 Energy audit contents

(a) The energy audit shall include the following:

1. A description of building characteristics and energy data, including:

i. The operating characteristics of energy using systems; and

ii. A chart of energy use and cost data for each type of fuel used in the prior 12-month period;

2. A description and analysis of all potential energy-conserving maintenance and operating procedures, including:

i. A description of each maintenance and operating procedure;

ii. An estimate of the annual energy savings and energy cost savings expected from the implementation of each maintenance and operating procedure. In calculating the potential energy savings and energy cost savings, the auditor shall clearly show how energy savings and energy cost savings have been estimated by providing calculations for manual procedures, or by providing input data, methodology, equations, and sample calculations capable of verification for computer-generated results; and

iii. A cost estimate for implementing each maintenance and operating procedure.

3. A description and analysis of all potential energy conservation renovations, setting forth the following:

i. A description of each renovation;

ii. A cost estimate for the design and installation of each renovation;

iii. An estimate of the useful life of each renovation;

iv. An estimate of increases or decreases in maintenance and operating costs as a result of implementing each renovation, if any;

v. An estimate of the salvage value or disposal cost of each renovation at the end of its useful life;

vi. An estimate of the annual energy savings and energy cost savings expected from the implementation of each energy conservation renovation. In calculating the potential energy savings and energy cost savings the auditor shall:

(1) Assume that all energy savings obtained from energy conservation maintenance and operating procedures have been realized;

(2) Calculate the total energy savings and energy cost savings, by fuel type, expected to result from the implementation of all potential renovations, taking into account the interaction among the various renovations;

(3) Calculate the portion of the total energy savings and cost savings, as determined in (a)3ii above, attributable to each individual renovation; and

(4) Clearly show how energy savings and energy cost savings have been estimated by providing calculations for manual procedures, or by providing input data, methodology, equations, and sample calculations capable of verification for computer-generated results;

4. The payback of each potential energy-conserving renovation taking into account the interactions among the various renovations, and presented in the format established by the ECBP;

5. An analysis of the estimated energy consumption for each building or facility by fuel type in total British Thermal Units (BTU) and British Thermal Unit/Square Foot/Year (BTU/sq. ft./yr.) at optimum efficiency; and

6. A certification that the energy audit has been conducted in accordance with the requirements of this section, and that the auditors are free from conflicting financial interest in the products or equipment to be acquired and installed.

7:32-1.9 Energy conservation renovation funding request

(a) All requests to fund energy conservation renovations shall include the following:

1. An energy audit of the building/facility for which funding is requested;

2. Payback calculations for the implementation of the renovations, calculated by dividing the total implementation cost of the renovation(s) by the total dollar savings per year. Total dollar savings can include, but may not be limited to, direct energy savings, labor savings, equipment maintenance savings and avoided future capital costs;

3. Certification that the energy-conserving renovation is in conformance with the long-range plan for the facility and that the building or facility will not undergo major reconstruction, be vacated, condemned or demolished prior to the end of the payback period; and

4. A description and schedule of any non-energy construction or remodeling projects which must be coordinated with the energy-related projects for which funding is required.

(b) Requests for funding of energy-conserving renovations shall be evaluated for acceptability by ECBP according to the following criteria:

1. Compliance with (a) above a request may be returned to the submitting agency for revision if found to be incomplete or not in compliance;

2. Identification of proposed renovations which appear to require unusual or extensive maintenance. Supporting data may be required before acceptance; and

3. Proposed renovations which appear to require the State to use unproven or experimental systems shall not be accepted.

(c) Acceptable energy conservation renovations conforming to the requirements of (b) above shall be ranked according to payback.

(d) Based on the availability of funds, the ECBP shall establish the maximum acceptable payback for energy conservation renovations. However, the Commissioner, at his or her discretion, may include projects of higher payback, special need, merit or significance.

(e) Maximum payback established for any renovation shall not exceed 10 years.

(f) Upon selection and approval of energy conservation renovations for funding, the Commissioner shall notify the using agency, in writing, of such approval.

7:32-1.10 Energy conservation renovation implementation procedure

(a) The using agency must request, in writing, ECBP approval to start any project(s). This request shall include the following:

1. The name of the project; and
2. The estimated implementation cost.

(b) The using agency shall submit a scope of work for the project(s) to be implemented to the ECBP for approval. This shall include the intent of the proposed project as identified in the energy audit. Any revision of the scope of work shall be submitted to the ECBP for approval. Any revision done without written approval from the ECBP shall result in the using agency being held responsible for the funding of the project.

(c) Upon ECBP approval, funds will be transferred to the using agency according to the following conditions:

1. For projects with an estimated implementation cost of less than \$50,000, the ECBP shall provide funds for design (design and preparation of plans and specifications) and construction (acquisition, installation and construction).

2. For projects with an estimated implementation cost of \$50,000 or greater, the ECBP shall initially provide funds for the design only; this will be 10 percent of the estimated implementation cost. Funds for construction shall be provided based on the construction cost estimate submitted at the end of the design phase.

(d) The using agency shall issue contracts or submit progress reports showing equivalent progress in implementing the funded activities within three months of the date funds are transferred. Failure to do so shall result in the funds being returned to the energy conservation bond fund.

(e) The DBC shall select and retain an engineer or architectural/engineering firm for the design of energy-conserving renovations in accordance with the DBC's Architect/Engineer Selection Procedures. If the using agency is autonomous, it may use its own procurement procedures, provided that the architectural/engineering firm is pre-qualified by the DBC for projects of similar scope and that the ECBP gives formal approval. The ECBP must be consulted in the selection process of the architectural/engineering firm.

(f) The DBC or autonomous agency must notify the ECBP of the award of the project to the architect/engineering firm. This notification shall include the name of the firm, award date and amount of the design fee.

(g) The ECBP shall receive copies for review and approval of all submittals of design plans and specifications, including a final copy that is signed and sealed. As part of this review the ECBP shall confirm that the plans and specifications conform with the objectives of the original project scope of work, and verify that the costs to be incurred are, as far as practicable, solely for application to the purpose of the project. In the event that the submittals are deficient in these respects, the ECBP shall notify the using agency and the DBC or the autonomous agency in writing of same and that funds to complete implementation shall not be released for construction until the ECBP gives approval. In addition, the ECBP shall be notified of all design review meetings.

(h) The ECBP shall review and approve final cost figures for the project. Upon approval, the ECBP will transfer funds for the construction portion of the project to the using agency as provided in (c) above.

(i) Projects shall be advertised and put out for competitive bid by the DBC or, when applicable, by the autonomous agency, in accordance with the State bidding laws. All contractors bidding on the project shall be pre-qualified in accordance with applicable law and DBC regulation.

(j) In the event that the lowest responsible bid or sum of the bids exceeds the construction cost estimate by more than five percent, the bid(s) shall be subject to rejection by the DBC or autonomous agency. The DBC or the autonomous agency shall consider the effect of the bids on the estimated payback, and related factors.

1. The DBC and the using agency, or the autonomous agency, shall coordinate with the ECBP to determine if the project should be reduced in scope and re-bid to meet available funds and ECBP payback requirements or be canceled.

2. The DBC or the autonomous agency determines that the project shall be changed in scope, the ECBP shall determine whether the project still sufficiently conforms with the objectives of the original project to be funded.

(k) The DBC or autonomous agency must notify the ECBP of the award to the construction firm. This notification shall include the name of the firm, award date and the construction bid amount.

(l) The DBC or autonomous agency must notify the ECBP of all construction job meetings. Notification shall be given at least five working days in advance.

(m) The DBC or autonomous agency must notify the ECBP of the final inspection. Notification shall be given at least five working days in advance.

(n) Prior to project closeout, the using agency shall notify the ECBP in writing of its acceptance or rejection of the project. The ECBP shall notify the using agency of its final acceptance or rejection of the project. The project will not be considered complete until both parties have indicated final acceptance.

7:32-1.11 Project review and control

(a) The ECBP may require the installation of metering equipment as part of the project where such installation is economically and technically feasible in order that the ECBP may fulfill its statutory responsibility to annually report an estimate of the energy savings resulting from the implementation of the energy-conserving renovation.

(b) Each using agency will be required to submit a quarterly report to the ECBP during the duration and at the completion of the project. This report shall include financial and project status information for each ECBP funded project. Failure to provide reports will result in the cancellation of ECBP funded projects.

(c) Upon completion of the implementation of the energy-conserving renovations, the using agency shall annually provide the ECBP with actual energy savings realized from the implementation of the energy-conserving renovations.

(d) The using agency and/or the DBC shall be responsible for keeping the ECBP informed throughout all stages of the project. This shall include sending the ECBP copies of all relevant correspondence and financial information in a timely fashion.

(e) The DBC shall consider the ECBP as a co-using agency and as such shall place the ECBP on its distribution list for all documents that the ECBP needs to fulfill its statutory obligation of monitoring ECBP funded projects.

(f) The using agency shall be responsible for operating, maintaining, and servicing all equipment in accordance with the manufacturer's recommendations to obtain the maximum energy savings and as such shall be held financially liable.

(g) The using agency shall be responsible for pursuing all legal and administrative channels to ensure that the obli-

gations of the architectural/engineering firms and contractors to the State are met. The using agency shall be held financially liable for failing to comply.

(h) The using agency shall be held financially liable if the anticipated savings from the energy conservation renovations are not fully realized as a result of negligence on the part of the using agency.

(i) The using agency shall be held responsible for any design fees paid to the architectural/engineering firm if the agency makes unauthorized changes which adversely affect the original architectural/engineering estimates and which may cause the project to be cancelled. This shall include escalations due to delays caused by the using agency.

(j) All change orders shall be subject to ECBP review and approval.

(k) The using agency shall return all unused funds to the energy conservation bond fund upon project closeout or at the request of the ECBP.

(l) The using agency must petition the ECBP in writing for any funds in addition to those originally authorized by the ECBP. Unauthorized expenditures shall result in all funds being returned to the energy conservation bond fund and will jeopardize future ECBP funding.

(m) The using agency shall be responsible for reporting its monthly energy consumption to the ECBP in the form prescribed by the ECBP. This shall include manual and computerized reporting procedures. The ECBP shall not consider funding requests from the using agency which do not comply with this requirement.

7:32-1.12 Eligible energy conservation renovations

(a) The following list outlines the types of energy conservation renovations which the ECBP has identified as resulting in a net reduction in the amount of energy consumed by a building or facility and which are eligible for energy conservation bond funds:

1. Energy conversion:
 - i. Boiler, furnace or water heater improvement or replacement;
 - ii. Chiller (refrigeration equipment) improvement or replacement; and
 - iii. Energy recovery installation.
2. Energy distribution:

- i. Distribution system modification, improvement or replacement, including insulation of ducts and pipes;
- ii. Heating, ventilation and air conditioning (HVAC) system modification, improvement or replacement;

- iii. Metering installation; and

- iv. Automatic control systems and automated energy management systems.

3. Electrical systems and lighting:

- i. Light and/or fixture replacement;
- ii. Motor improvement or replacement;
- iii. Mechanical and electrical controls; and
- iv. Automatic controls.

4. Envelope:

- i. Double glazing or window replacement;
- ii. Window treatment, including reflective or shading materials;
- iii. Reduction of glass area;
- iv. Roof insulation;
- v. Wall insulation;
- vi. Storm doors; and
- vii. Storm windows.

5. Other: Specific renovations not listed which may be clearly shown to result in a net reduction of energy consumption or a reduction in the amount of dollars the State spends to purchase energy.

7:32-1.13 Designer qualifications

(a) In order to be qualified to design projects pursuant to this subchapter, the individual or firm must:

1. Be a New Jersey licensed professional engineer or architect, or a member of an architect-engineer team, the principal team members of which are licensed in New Jersey;
2. Be free from any financial interests which may conflict with the proper performance of his or her duties; and
3. Be pre-qualified by the DBC or autonomous agency.