

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2007

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SENATE BILL 668
Commerce, Small Business and Entrepreneurship Committee Substitute Adopted
7/18/07

Short Title: Energy Conservation in State Buildings. (Public)

Sponsors:

Referred to:

March 12, 2007

1 A BILL TO BE ENTITLED
2 AN ACT TO PROMOTE THE CONSERVATION OF ENERGY AND WATER USE
3 IN STATE, UNIVERSITY, AND COMMUNITY COLLEGE BUILDINGS.

4 The General Assembly of North Carolina enacts:

5
6 **PART I. REQUIRE NEW STATE, UNIVERSITY, AND COMMUNITY**
7 **COLLEGE BUILDINGS AND MAJOR RENOVATIONS OF THESE**
8 **BUILDINGS TO BE CONSTRUCTED USING ENERGY AND WATER**
9 **EFFICIENT CONSTRUCTION STANDARDS AND PROHIBIT THE STATE**
10 **FROM ACQUIRING BY PURCHASE BUILDINGS THAT DID NOT MEET**
11 **STANDARDS FOR ENERGY EFFICIENCY THAT APPLIED TO THE**
12 **CONSTRUCTION OR RENOVATION OF COMPARABLE STATE**
13 **BUILDINGS WHEN THE BUILDINGS UNDER CONSIDERATION FOR**
14 **PURCHASE WERE CONSTRUCTED OR RECEIVED A MAJOR**
15 **RENOVATION.**

16 **SECTION 1.1.** Chapter 143 of the General Statutes is amended by adding a
17 new Article to read:

18 "Article 8C.

19 "Energy and Water Efficient Public Buildings.

20 **"§ 143-135.35. Findings; legislative intent.**

21 (a) The General Assembly finds that public buildings can be built and renovated
22 using sustainable, energy efficient methods that save money, reduce negative
23 environmental impacts, improve employee and student performance, and make
24 employees and students more productive. The main objectives of sustainable, energy
25 efficient design are to avoid resource depletion of energy, water, and raw materials;
26 prevent environmental degradation caused by facilities and infrastructure throughout
27 their life cycle; and create buildings that are livable, comfortable, safe, and productive.

1 (b) It is the intent of the General Assembly that State-owned buildings, The
2 University of North Carolina, and the North Carolina Community College System be
3 improved by establishing specific performance criteria and goals for sustainable, energy
4 efficient public buildings based upon recognized, consensus standards with
5 scientifically proven basis and demonstrated performance. The General Assembly also
6 intends that State agencies, The University of North Carolina, and the North Carolina
7 Community College System shall perform after-construction measurement and
8 verification of costs and savings to confirm that the performance goals of this Article
9 are met and ensure that economic and environmental goals are achieved. Also, it is the
10 intent of the General Assembly to establish a priority to use North Carolina-based
11 resources, building materials, products, industries, manufacturers, and businesses to
12 provide economic development to North Carolina and to meet the objectives of this
13 Article.

14 **"§ 143-135.36. Definitions.**

15 As used in this Article, the following definitions apply:

- 16 (1) "ASHRAE" means the American Society of Heating, Refrigerating
17 and Air-Conditioning Engineers, Inc.
- 18 (2) "Department" means the Department of Administration.
- 19 (3) "Institutions of higher education" means the constituent institutions of
20 The University of North Carolina, the regional institutions as defined
21 in G.S. 115D-2, and the community colleges as defined in
22 G.S. 115D-2.
- 23 (4) "Major facility" means a construction project larger than 20,000 gross
24 square feet of occupied or conditioned space, as defined in the *North*
25 *Carolina State Building Code*, or a building renovation project when
26 the cost is greater than fifty percent (50%) of the insurance value and
27 the project is larger than 20,000 gross square feet of occupied or
28 conditioned space, as defined in the *North Carolina State Building*
29 *Code*, whose construction is funded in whole or in part by the State of
30 North Carolina. "Major facility" does not include the following:
31 transmitter buildings or pumping stations.
- 32 (5) "Public agency" means every State office, officer, board, department,
33 and commission and institutions of higher education.
- 34 (6) "Sustainable, energy efficient public buildings" means public buildings
35 that, by complying with this Article, are the most economical energy
36 and water efficiency for that building type.

37 **"§ 143-135.37. Standard for major facilities; reports by agencies and the**
38 **Department.**

39 (a) All major facility projects of public agencies shall be designed, constructed,
40 and certified to at least a thirty percent (30%) greater energy efficiency than the
41 standard under ASHRAE 90.1-2004. For major renovations a twenty percent (20%)
42 greater energy efficiency standard than ASHRAE 90.1-2004 shall be used. In addition,
43 for new construction, the water systems shall be designed and constructed to use a
44 minimum of twenty percent (20%) less potable water than the indoor water use baseline

1 calculated for the building after meeting the fixture performance requirements required
2 by the 2006 North Carolina Plumbing Code. Outdoor potable water or harvested ground
3 water consumption shall be reduced by a minimum of fifty percent (50%) over that
4 consumed by conventional means through water use efficient landscape materials and
5 irrigation strategies, including water reuse and recycling. This subsection applies to
6 major facility projects that have not entered the schematic design phase prior to the
7 effective date of this section.

8 (a1) For the purposes of this Article, any exceptions or special standards for
9 specific types of buildings or building facilities found in ASHRAE 90.1-2004 are
10 included in the ASHRAE 90.1-2004 standard under subsection (a) of this section.

11 (b) Commissioning for Major Facilities. – Building and/or system
12 commissioning practices, tailored to the size and complexity of the building and its
13 system components, shall be employed in order to verify performance of building
14 components and systems and help ensure that design requirements are met upon
15 completion of construction.

16 (c) Measurement and Verification for Major Facilities.

17 (1) Building level owner's meters for electricity, natural gas, fuel oil,
18 water, etc., in accordance with United States Department of Energy
19 (DOE) guidelines issued under Section 103 of the Energy Policy Act
20 of 2005 shall be installed. The public agency and the designers shall
21 compare metered data from the first 12 months of building operation
22 with the energy design target(s) and report that performance to the
23 State Construction Office.

24 (2) If the average building energy or water consumption over the one year
25 period following the date of beneficial occupancy is eighty-five
26 percent (85%) or less than the performance goals established by these
27 standards, the designer, owner agency, contractor, Contract Manager at
28 Risk, and commissioning agent shall investigate, determine the cause
29 of the shortfall, and recommend corrections or modifications to meet
30 performance goals.

31 (d) The Department shall consolidate the reports required in this section and any
32 report from the State Building Commission under G.S. 143-135.39 into one report and
33 report to the Chairs of the General Government Appropriations Subcommittees of both
34 the Senate and the House of Representatives, the Environmental Review Commission,
35 and the Joint Legislative Commission on Governmental Operations by November 1 of
36 each year beginning in 2008. In its report, the Department shall also report on the
37 implementation of this Article including reasons why the standards required in
38 subsection (a) of this section were not used for the reason that it would not be
39 practicable in accordance with G.S. 143-135.39. The Department shall make
40 recommendations regarding the ongoing implementation of this Article, including a
41 discussion of incentives and disincentives related to implementing this Article.

42 **§ 143-135.38. Guidelines for administering Article; other considerations**
43 **regarding project proposals.**

1 (a) The Department, in consultation with affected public agencies, shall develop
2 and issue policies and technical guidelines to implement this Article for public agencies.
3 The purpose of these policies and guidelines is to define procedures and methods for
4 complying with the criteria and performance goals for major facility projects defined by
5 § 143-135.37.

6 (b) As provided in the request for proposals for construction services, the public
7 agency may hold a preproposal conference for prospective bidders to discuss
8 compliance with, and achievement of, standards identified in this Article for prospective
9 respondents.

10 (c) The Department shall create a sustainable, energy efficient buildings
11 advisory committee comprised of representatives from the design and construction
12 industry involved in public works contracting, personnel from the affected public
13 agencies responsible for overseeing public works projects, and others at the
14 Department's discretion to provide advice on implementing this Article. Among other
15 duties, the advisory committee shall make recommendations regarding an education and
16 training process for stakeholders and an ongoing evaluation or feedback process to help
17 the Department implement this Article. The advisory committee may also make
18 recommendations to the Department regarding water efficiency requirements and
19 energy efficiency requirements.

20 (d) The Department shall review the advisory committee's recommendations
21 under subsection (c) of this section regarding education and training. The Department
22 shall develop one level of education and training requirements for the chief financial
23 officer of each public agency that is appropriate for the chief financial officer's level of
24 involvement in projects under this Article. The Department shall develop, for each
25 public agency that is responsible for the payment of the agency's utilities, another higher
26 level of education and training requirements for the facility manager of the agency that
27 is appropriate for the facility manager's level of involvement in projects under this
28 Article. This level of education and training shall also be a requirement for the capital
29 project coordinator of an agency involved in a project under this Article. The
30 Department shall develop a highest level of education and training requirements for the
31 architects and mechanical design engineers that are involved in the design of projects
32 under this Article that is appropriate for their level of involvement in these projects.

33 (e) The Department may adopt rules to implement this Article. The Department
34 may adopt architectural or engineering standards as needed to implement this Article.
35 **§ 143-135.39. Use of other standard when ASHRAE standard not practicable.**

36 When the Department, public agency, and the design team determine the ASHRAE
37 90.1-2004 standard to be not practicable for a major facility project, then it must be
38 determined by the State Building Commission if the standard is not practicable for that
39 major facility project. If the State Building Commission determines the standard is not
40 practicable for that major facility project, the State Building Commission shall
41 determine which standard is practicable for the design and construction for that major
42 facility project. If the ASHRAE 90.1-2004 standard is not followed for that project, the
43 public agency shall report this information and the reasons to the Department in its

1 report under G.S. 143-135.37, and the State Building Commission shall report this
2 information and the reasons to the Department."

3 **SECTION 1.2.** G.S. 115D-20 is amended by adding a new subdivision to
4 read:

5 "(14) To comply with the design and construction requirements for energy
6 and water efficient public buildings under Article 8C of Chapter 143 of
7 the General Statutes."

8 **SECTION 1.3.** The Department of Administration shall monitor the
9 development of construction or other energy efficiency standards to determine whether
10 there is a standard that the Department and the energy efficient buildings advisory
11 committee, established under G.S. 143-135.38, as enacted in Section 1.1 of this act,
12 determine would better fulfill the intent of Article 8C of Chapter 143 of the General
13 Statutes, as enacted by Section 1.1 of this act, to achieve energy efficiency and
14 increased energy savings in major facility projects, as defined in G.S. 143-135.36, as
15 enacted in Section 1.1 of this act, in buildings of the State, The University of North
16 Carolina, and the North Carolina Community College System than the ASHRAE
17 90.1-2004 standard defined in G.S. 143-135.36, as enacted in Section 1.1 of this act,
18 and, if so, whether Article 8C of Chapter 143 of the General Statutes, as enacted in
19 Section 1.1 of this act, should be amended to provide for the use of this standard rather
20 than the ASHRAE 90.1-2004 standard under that Article. Specifically, the Department
21 of Administration shall monitor the development of improved energy efficiency
22 standards developed by the American Society of Heating, Refrigerating and
23 Air-Conditioning Engineers, the ASHRAE standards, and monitor whether the State
24 Building Code Council adopts improved ASHRAE standards or any other energy
25 efficiency standards for inclusion in the State Building Code under Article 9 of Chapter
26 143 of the General Statutes that result in greater energy efficiency and increased energy
27 savings in major facility projects in State, University System, and community college
28 buildings. No later than January 1, 2009, and again January 1, 2010, the Department of
29 Administration shall report to the Chairs of the General Government Appropriations
30 Subcommittees of both the Senate and the House of Representatives, the Environmental
31 Review Commission, and the Joint Legislative Commission on Governmental
32 Operations on the results of its monitoring under this section, including any
33 recommendations for administrative or legislative proposals.

34 **SECTION 1.4.(a)** The Department of Administration shall conduct a
35 performance review of the energy and water efficient buildings program established
36 under Article 8C of Chapter 143 of the General Statutes, as enacted by Section 1.1 of
37 this act. The performance review shall include at least all of the following:

- 38 (1) Identification of the costs of implementing energy and water efficient
39 building standards in the design and construction of major facility
40 projects subject to that Article.
- 41 (2) Identification of operating savings attributable to the implementation
42 of energy and water efficient building standards, including, but not
43 limited to, savings in energy, water, utility, and maintenance costs.

- 1 (3) Identification of any impacts on employee productivity from using
- 2 energy and water efficient building standards.
- 3 (4) Evaluation of the effectiveness of the energy and water efficient
- 4 building standards established under this Article.
- 5 (5) Any recommendations for any changes in those standards that may be
- 6 supported by the Department's findings.

7 **SECTION 1.4.(b)** No later than December 1, 2010, the Department of
8 Administration shall make a preliminary report of its findings under its performance
9 review under subsection (a) of this section and its recommendations and, on or before
10 December 1, 2011, a final report to the Chairs of the General Government
11 Appropriations Subcommittees of both the Senate and the House of Representatives, the
12 Environmental Review Commission, and the Joint Legislative Commission on
13 Governmental Operations.

14 **SECTION 1.5.** Article 6 of Chapter 146 of the General Statutes is amended
15 by adding a new section to read:

16 **"§ 146-23.2. Purchase of buildings constructed or renovated to a certain energy**
17 **and water efficiency standard.**

18 (a) A State agency shall not acquire by purchase any building unless the building
19 was designed and constructed to at least the same standard for energy and water
20 efficiency that the design and construction of a comparable building was required to
21 meet under applicable State law or local ordinance at the time the building under
22 consideration for purchase was constructed.

23 (b) A State agency shall not acquire by purchase any building that had a major
24 renovation unless the renovation was performed to at least the same standard for energy
25 and water efficiency that the design and construction of a major renovation of a
26 comparable building was required to meet under applicable State law or local ordinance
27 at the time the building under consideration for purchase was renovated.

28 (c) This section does not apply to the purchase of a building having historic,
29 architectural, or cultural significance under G.S. 143-23.1. This section does not apply
30 to buildings that are acquired by devise or bequest."

31
32 **PART II. RETROFIT EXISTING STATE AND UNIVERSITY BUILDINGS**
33 **WITH ENERGY CONSERVATION MEASURES THAT HAVE A HIGH**
34 **RETURN IN ENERGY SAVINGS AND THAT REQUIRE NO SIGNIFICANT**
35 **EXPENDITURE OF FUNDS AND APPROPRIATE FUNDS TO A RESERVE**
36 **FOR THE COSTS OF THESE RETROFITS.**

37
38 **SECTION 2.1.(a)** The Department of Administration shall administer and
39 oversee the implementation of a program whereby all of the following energy
40 conservation measures, as defined in G.S. 143-64.17, shall be fully implemented no
41 later than December 31, 2009, in each building owned by the State, The University of
42 North Carolina, or the North Carolina Community College System:

- 43 (1) Lighting Systems. – The installation of exit signs that employ
- 44 light-emitting diode (LED) technology; the replacement of

1 incandescent light bulbs with compact fluorescent light bulbs; and
2 where appropriate, as determined by the Department of
3 Administration, the installation of occupancy sensors or optical
4 sensors.

5 (2) Water Systems. – The installation of aerators in sink faucets that
6 reduce the flow of water to a rate of no more than five-tenths gallons
7 per minute (.5 g.p.m.); the installation of shower heads that reduce the
8 flow of water to a rate of no more than one and five-tenths gallons per
9 minute (1.5 g.p.m.); where appropriate, as determined by the
10 Department of Administration, the resetting of hot water heaters to a
11 water temperature of 120 degrees; the training of staff to monitor the
12 use of irrigation systems and to base the use of the system on the
13 moisture content of the soil, and either the elimination of potable water
14 for irrigation or the reduction of water consumption in the building by
15 twenty percent (20%) based on water consumption for the 2002-2003
16 fiscal year.

17 (3) Heating, Ventilation, and Air-conditioning (HVAC) Systems. – For
18 HVAC equipment that is subject to replacement, the review of the
19 specifications for the replacement HVAC equipment to ensure that it is
20 not oversized; and, for building automation systems that are
21 programmable, the training to ensure that these systems are properly
22 programmed.

23 (4) Minor Equipment. – For minor motorized equipment that is subject to
24 replacement, the replacement of minor equipment with equipment that
25 has premium efficiency motors. For purposes of this subdivision,
26 'premium efficiency motor' means a motor that meets or exceeds a set
27 of minimum full-load efficiency standards developed by the National
28 Electrical Manufacturers Association (NEMA), the NEMA standards.

29 (5) For retrofit of existing buildings that require no significant expenditure
30 of funds: Disconnect lamps in drink vending machines. Use power
31 save feature on computers, monitors, copiers, fax machines and other
32 office equipment. Purchase only Energy Star office equipment and
33 appliances.

34 **SECTION 2.1.(b)** Consistent with G.S. 150B-2(8a)h., the Department of
35 Administration shall develop or revise its architectural and engineering standards to
36 provide assistance in determining which energy conservation measures are best suited to
37 the unique characteristics of each building and in determining the specifications for the
38 energy conservation measures under this section. The development or revision of the
39 architectural and engineering standards shall be completed by February 1, 2008.

40 **SECTION 2.1.(c)** Prior to implementing this section and no later than
41 February 1, 2008, the Department of Administration shall report to the Joint Legislative
42 Commission on Governmental Operations and the Environmental Review Commission
43 on its plan to implement this section.

1 **SECTION 2.1.(d)** In order to protect the integrity of historic buildings, this
2 section does not apply to the extent it would require the implementation of measures to
3 conserve energy, water, or other utility use that conflict with respect to any property
4 eligible for, nominated to, or entered on the National Register of Historic Places,
5 pursuant to the National Historic Preservation Act of 1966, P.L. 89-665; any historic
6 building located within an historic district as provided in Chapter 160A or 153A of the
7 General Statutes; any historic building listed, owned, or under the jurisdiction of an
8 historic properties commission as provided in Chapter 160A or 153A; or any historic
9 property owned by the State or assisted by the State.

10 **SECTION 2.2.(a)** There is appropriated from the General Fund to the Office
11 of State Budget and Management the sum of three million dollars (\$3,000,000) for the
12 2007-2008 fiscal year to be placed in a reserve. No later than February 1, 2008, the
13 Office of State Budget and Management shall develop a plan to allocate funds from this
14 reserve to the State agencies and the Board of Governors of The University of North
15 Carolina for the costs of implementing the energy conservation measures as directed
16 under this part. Subject to subsection (b) of this section, the Office of State Budget and
17 Management shall make allocations from this reserve to the State agencies and the
18 Board of Governors of The University of North Carolina in conformance with its
19 allocation plan under this subsection.

20 **SECTION 2.2.(b)** No State agency or constituent institution of The
21 University of North Carolina shall receive any funds under subsection (a) of this
22 section unless it has submitted its most recent plan for its management of energy, water,
23 and other utility use that is due under G.S. 143-64.12, as amended by Section 3.1 of this
24 act.

25
26 **PART III. REQUIRE THE DEPARTMENT OF ADMINISTRATION TO**
27 **CONDUCT ENERGY AUDITS EVERY FIVE YEARS FOR EACH STATE AND**
28 **UNIVERSITY BUILDING; REQUIRE ANNUAL UPDATES OF STATE AND**
29 **UNIVERSITY PLANS TO MANAGE ENERGY, WATER, AND OTHER**
30 **UTILITY USE; AND APPROPRIATE FUNDS TO ESTABLISH AN**
31 **ADDITIONAL FCAP TEAM AND TO CREATE A RESERVE FOR**
32 **COMMISSIONING EXISTING STATE AND UNIVERSITY BUILDINGS TO**
33 **REDUCE ENERGY CONSUMPTION.**

34
35 **SECTION 3.1.(a)** G.S. 143-64.12 reads as rewritten:

36 "**§ 143-64.12. Authority and duties of ~~State agencies.~~the Department; State**
37 **agencies and State institutions of higher learning.**

38 (a) The Department of Administration through the State Energy Office shall
39 develop a comprehensive program to manage energy, water, and other utility use for
40 State agencies and institutions of higher learning and shall update this program
41 annually. Each State agency and State institution of higher learning shall develop and
42 implement a management plan that is consistent with the State's comprehensive
43 program under this subsection to manage energy, water, and other utility use. The
44 energy consumption per gross square foot for all State buildings in total shall be reduced

1 by twenty percent (20%) by 2010 and thirty percent (30%) by 2015 compared to the
2 2003 baseline. Each State agency and State institution of higher learning shall update its
3 management plan annually and include strategies for supporting this reduction. Each
4 community college shall submit to the State Energy Office an annual written report of
5 utility consumption and costs.

6 ~~(a1) The General Assembly authorizes and directs that State agencies and State~~
7 ~~institutions of higher learning shall carry out the construction and renovation of State~~
8 ~~facilities, under their jurisdiction facilities in such a manner as to further the policy~~
9 ~~declared herein, ensuring set forth under this section and to ensure the use of life-cycle~~
10 ~~cost analyses and practices to conserve energy, water, and other utilities.~~

11 (b) The Department of Administration shall develop and implement policies,
12 procedures, and standards to ensure that State purchasing practices improve efficiency
13 regarding energy, water, and other utility use and take the cost of the product over the
14 economic life of the product into consideration. The Department of Administration shall
15 adopt and implement Building Energy Design Guidelines. These guidelines shall
16 include energy-use goals and standards, economic assumptions for life-cycle cost
17 analysis, and other criteria on building systems and technologies. The Department of
18 Administration shall modify the design criteria for construction and renovation of
19 facilities of State buildings and State institutions of higher learning buildings to require
20 that a life-cycle cost analysis be conducted pursuant to G.S. 143-64.15.

21 (b1) The Department of Administration, as part of the Facilities Condition and
22 Assessment Program, shall identify and recommend energy conservation maintenance
23 and operating procedures that are designed to reduce energy consumption within the
24 facility of a State agency or State institution of higher learning and that require no
25 significant expenditure of funds. ~~State departments, institutions, or agencies~~ Every State
26 agency or State institution of higher learning shall implement these recommendations.
27 Where energy management equipment is proposed for State facilities, any facility of a
28 State agency or State institution of higher learning, the maximum interchangeability and
29 compatibility of equipment components shall be required. As part of the Facilities
30 Condition and Assessment Program under this section, the Department of
31 Administration shall develop an energy audit and a procedure for conducting energy
32 audits. Every five years the Department shall conduct an energy audit for each State
33 agency or State institution of higher learning.

34 ~~The Department of Administration shall develop a comprehensive program to~~
35 ~~manage energy, water, and other utility use for State government. Each State agency~~
36 ~~shall develop and implement a management plan that is consistent with the State's~~
37 ~~comprehensive program to manage energy, water, and other utility use.~~

38 (c) through (g) Repealed by Session Laws 1993, c. 334, s. 4.

39 (h) When conducting an energy audit under this section, the Department of
40 Administration shall identify and recommend any facility of a State agency or State
41 institution of higher learning as suitable for building commissioning to reduce energy
42 consumption within the facility or as suitable for installing an energy savings measure
43 pursuant to a guaranteed energy savings contract under Part 2 of this Article.

1 (i) Consistent with G.S. 150B-2(8a)h., the Department of Administration may
2 adopt architectural and engineering standards to implement this section."

3 **SECTION 3.1.(b)** G.S. 143-64.10 reads as rewritten:

4 "**§ 143-64.10. Findings; policy.**

5 (a) The General Assembly finds all of the following:

- 6 (1) That the State shall take a leadership role in aggressively undertaking
7 the conservation of energy, water, and other utilities in North Carolina.
8 (2) That State facilities and facilities of the State institutions of higher
9 learning have a significant impact on the State's consumption of
10 energy, water, and other utilities.
11 (3) That practices to conserve energy, water, and other utilities that are
12 adopted for the design, construction, operation, maintenance, and
13 renovation of these facilities and for the purchase, operation, and
14 maintenance of equipment for these facilities will have a beneficial
15 effect on the State's overall supply of energy, water, and other utilities.
16 (4) That the cost of the energy, water, and other utilities consumed by
17 these facilities and the equipment for these facilities over the life of the
18 facilities shall be considered, in addition to the initial cost.
19 (5) That the cost of energy, water, and other utilities is significant and
20 facility designs shall take into consideration the total life-cycle cost,
21 including the initial construction cost, and the cost, over the economic
22 life of the facility, of the energy, water, and other utilities consumed,
23 and of operation and maintenance of the facility as it affects the
24 consumption of energy, water, or other utilities.
25 (6) That State government shall undertake a program to reduce the use of
26 energy, water, and other utilities in ~~State-State~~ State institution of
27 higher learning facilities and equipment in those facilities in order to
28 provide its citizens with an example of energy-use, water-use, and
29 utility-use efficiency.

30 (b) It is the policy of the State of North Carolina to ensure that practices to
31 conserve energy, water, and other utilities are employed in the design, construction,
32 operation, maintenance, and renovation of ~~State-State~~ State institution of higher
33 learning facilities and in the purchase, operation, and maintenance of equipment for
34 ~~State~~ these facilities."

35 **SECTION 3.1.(c)** G.S. 143-64.11 is amended by adding a new subdivision
36 to read:

37 "(10) 'State institution of higher learning' means any constituent institution
38 of The University of North Carolina."

39 **SECTION 3.2.** The Department of Administration shall establish and train
40 an additional team to examine existing facilities of State agencies and State institutions
41 of higher learning to identify and recommend energy conservation maintenance and
42 operating procedures designed to reduce energy consumption and to conduct energy
43 audits and identify a facility as suitable for building commissioning or for installing an

1 energy savings measure under the Facilities Condition Assessment Program (FCAP)
2 under G.S. 143-64.12, as amended by Section 3.1 of this act.

3 **SECTION 3.3.** There is appropriated from the General Fund to the
4 Department of Administration the sum of two hundred sixty-five thousand seven
5 hundred eighty-seven dollars (\$265,787) for the 2007-2008 fiscal year to establish and
6 support three Building System Engineer II positions to comprise the additional team the
7 Department of Administration is directed to establish under Section 3.2 of this act and
8 the sum of two hundred fifty-two thousand two hundred eighty-seven dollars (\$252,287)
9 for the 2008-2009 fiscal year to continue and support these three positions.

10 **SECTION 3.4.(a)** There is appropriated from the General Fund to the Office
11 of State Budget and Management the sum of five million dollars (\$5,000,000) for the
12 2007-2008 fiscal year to be placed in a reserve. No later than February 1, 2008, the
13 Office of State Budget and Management shall develop a plan to allocate funds from this
14 reserve to State agencies and the Board of Governors of The University of North
15 Carolina for the costs of commissioning existing buildings that are identified as suitable
16 for building commissioning to reduce energy consumption under G.S. 143-64.12, as
17 amended by Section 3.1 of this act. Subject to subsection (b) of this act, the Office of
18 State Budget and Management shall make allocations from this reserve to State agencies
19 and the Board of Governors of The University of North Carolina in conformance with
20 its allocation plan under this subsection.

21 **SECTION 3.4.(b)** No State agency or institution of The University of North
22 Carolina shall receive any funds under subsection (a) of this section unless it has
23 submitted its most recent plan for its management of energy, water, and other utility use
24 that is due under G.S. 143-64.12, as amended by Section 3.1 of this act.

25
26 **PART IV. REQUIRE LIFE-CYCLE COST ANALYSES TO BE COMMENCED**
27 **AND CERTIFIED AT THE SCHEMATIC DESIGN PHASE OF**
28 **CONSTRUCTION OR RENOVATION PROJECTS AND TO BE UPDATED,**
29 **AMENDED, AND RECERTIFIED AS NEEDED AT LATER PHASES OF**
30 **CONSTRUCTION; AND APPROPRIATE FUNDS TO ESTABLISH A**
31 **POSITION IN THE DEPARTMENT OF ADMINISTRATION DEDICATED TO**
32 **CONDUCTING LIFE-CYCLE COST ANALYSES.**

33
34 **SECTION 4.1.** G.S. 143-64.15(a) reads as rewritten:

35 "(a) A life-cycle cost analysis shall be commenced at the schematic design phase
36 of the construction or renovation project, shall be updated or amended as needed at the
37 design development phase, and shall be updated or amended again as needed at the
38 construction document phase. A life-cycle cost analysis shall include, but not be limited
39 to, all of the following elements:

- 40 (1) The coordination, orientation, and positioning of the facility on its
41 physical ~~site~~; site.
42 (2) The amount and type of fenestration and the potential for daylighting
43 employed in the ~~facility~~; facility.

- 1 (3) Thermal characteristics of materials and the amount of insulation
2 incorporated into the facility ~~design;~~design.
- 3 (4) The variable occupancy and operating conditions of the facility,
4 including illumination ~~levels;~~ and levels.
- 5 (5) Architectural features that affect the consumption of energy, water,
6 and other utilities."

7 **SECTION 4.2.** G.S. 143-64.15A reads as rewritten:

8 "**§ 143-64.15A. Certification of life-cycle cost analysis.**

9 ~~All State agencies under the jurisdiction of the Department of Administration~~ Each
10 State agency and each State institution of higher learning performing a life-cycle cost
11 analysis for the purpose of constructing or renovating any State facility or facility of a
12 State institution of higher learning shall, prior to selecting a design option or advertising
13 for bids for construction, submit the life-cycle cost analysis to the Department for
14 ~~certification.~~ certification at the schematic design phase and again when it is updated or
15 amended as needed in accordance with G.S. 143-64.15. The Department shall review
16 the material submitted by the State ~~agency,~~ agency or State institution of higher learning,
17 reserve the right to require ~~agencies~~ an agency or institution to complete additional
18 analysis to comply with certification, perform any additional analysis, as necessary, to
19 comply with G.S. 143-341(11), and require that all construction or renovation
20 conducted by the State agency or State institution of higher learning comply with the
21 certification issued by the Department."

22 **SECTION 4.3.** There is appropriated from the General Fund to the
23 Department of Administration the sum of one hundred thousand dollars (\$100,000) for
24 the 2007-2008 fiscal year to establish and support a Building System Engineer III
25 position, which position shall be dedicated to conducting life-cycle cost analyses under
26 Part 1 of Article 3B of Chapter 143 of the General Statutes, as amended by Part III and
27 Part IV of this act and the sum of ninety-five thousand fifty dollars (\$95,050) for the
28 2008-2009 fiscal year to continue and support this position.

29
30 **PART V. EFFECTIVE DATES.**

31
32 **SECTION 5.** Sections 2.2, 3.3, 3.4, and 4.3 of this act become effective July
33 1, 2007. The remaining sections of this act become effective December 1, 2007.
34 Sections 1.1 and 1.2 apply to contracts for the design of major facility projects, as
35 defined in G.S. 143-135.36 as enacted in Section 1.1 of this act, that are entered into on
36 or after December 1, 2007. Section 4.1 applies to life-cycle cost analyses commenced,
37 and to contracts entered into for life-cycle cost analyses, on or after December 1, 2007.