North Carolina
Department of Commerce
Division of Employment Security

Utility Management Plan

March, 2021
Executive Summary

The Utility Management Plan began development as the Strategic Energy Plan. The Strategic Energy Plan was originally developed in accordance with General Statutes 143-64.12 (b) to support statewide efforts in improving the energy efficiency of state-owned facilities (see Appendix 1). The Strategic Energy Plan has been superseded by the Utility Management Plan in accordance with Executive Order 80.

The DES Central Office, at 700 Wade Avenue, is comprised of 246,039 square feet of space (interior gross) and nine wings. The utility plant consists of two steam boilers (150 horsepower each), and two chillers (350 tons each). This equipment provides comfort cooling and heating only. The facility provides approximately 400 persons general office space usually between 6 AM and 7 PM, five days per week. DES owns the Central Office space and leases nearly 27,913 square footage of office space in 2 locations in Raleigh and Charlotte.

This Plan encompasses five focus areas; Utility Accounting, Procurement Management, Building Energy Use, Equipment Efficiency and Organization Integration. The Plan is built around seven sections:

1) Baseline Energy Use 2002/2003 (benchmarking)
2) Planned Actions and Projects
3) Savings Opportunity Assessment
4) Financial Assessment
5) Goals and Measures
6) Budgeting
7) The Energy Mandate

This Plan will be updated and submitted on a biennial basis to the Department of Environmental Quality.

1. Baseline Energy Use

The Executive Order 80 established the calendar year 2002-2003 as the baseline for its energy program as a starting point from which to measure improvement. The measure consists of a cost of $1.53/sf, and a consumption rate of 105.5 kBTU/sf (see appendix 2). The DES Central Office measurements currently use a square footage of 261,091 (gross interior) sq. ft.

Appendix number 2 contains a break down by energy source of the usage and cost data per square foot for the campus.

2. Planned actions and Projects

The Division of Employment Security Wade Avenue Central Office has been deemed surplus by the NC Department of Administration. This has significantly affected the overall objective and dynamics of the DES Utility Management Plan. Planned actions and projects must have the intent and goal of final compliance with Executive Order 80 while remaining fiscally responsible in respect to taxpayer funding and the future of the 700 Wade Avenue complex. A consolidated, comprehensive Utility Management Plan is attached in Appendix 3

A. Plans

Energy Data Management: The Support Services Division established Excel spreadsheets for collecting and analyzing the monthly energy billing information. The energy monitor reviews the data with the Division Director to identify and analyze excessive variations and to target areas for follow-up studies.

Energy Use in Facilities: Through attrition and project funding DES will continue to replace or modify existing systems with more modern energy efficient equipment. This effectively will reduce resource consumption throughout the facility.

Equipment Efficiency: The maintenance staff operates under a robust preventative maintenance program that ensures efficient operation of our physical plant and air handlers throughout the facility. The staff walks the campus several times per day to
keep close tabs on any mechanical failures. The automated controls assist in monitoring the entire site system. In addition, DES conducts annual boiler and chiller/cooling tower tune-ups to maintain efficiency.

**Organization Integration:** The Assistant Secretary assigned day-to-day responsibility for the energy management program to the Director of Support Services. Support Services staff monitors energy consumption and costs and provides the resources to maintain the equipment.

DES compiled, reviewed, and incorporated suggestions and information from several sources (power company survey, State Construction survey, Department of Environmental Quality, and others) to determine improvement actions. The assessment process identified actions that if put into place could improve the DES energy conservation performance. In the Utility Management Plan, these actions are addressed under the following sections.

**Process Improvement**
**Program Implementation**
**Savings Estimate & Financial Evaluation**
**Projects**

**Process Improvement:**

A comprehensive continuous review of policies and procedures by the Energy Manager and staff to ensure procedures include energy efficiency best practices.

*Assigned to: Energy Manager*  
*Continuous*

Continue to improve the operation of the HVAC system through improved controls and assessments by outside consultants.

*Assigned to: Support Services Director*  
*Continuous*

Continued scheduling maintenance of facility related equipment, i.e. boilers, chillers, and air handlers during off peak hours only.

*Assigned to: Support Services Director*  
*Continuous*

**Program Implementation:**

Seek out and provide training opportunities for the maintenance staff to maintain proficiency in operations and to keep abreast of new technologies.

*Assigned to: Support Services Director*  
*Continuous*
3. Savings Estimate & Financial Evaluation:

The Support Services Division is always looking for better ways to enhance our energy conservation program, while evaluating further potential savings and financial impacts. Utility bills are reviewed monthly to evaluate the overall results of energy saving initiatives.

Projects

Due to pending sale of the facility, no major capital improvement projects are scheduled at this time. Low cost and no cost conservation strategies are in constant development and deployment throughout the facility.

Section 4: Financial Assessment

DES works closely with architects and engineers in developing alternatives to improving our infrastructure. Additionally, DES works with the State Construction Office on the best method in which to execute these projects. Finally, DES works closely with our Finance and Budget office to determine the most prudent time to accomplish any improvements based on availability of funds and payback assessments. Where applicable and feasible a return on investment calculation is prepared to better evaluate cost. The 700 Wade Avenue Facility has been identified as surplus property and will be sold after a new facility is appropriated for the agency. Any capital expenditures must be fiscally responsible in accordance with the pending relocation.

Section 5: Goals and Measures

DES’s primary goal of the Utility Management Plan is to reduce per square foot energy usage by 40% by 2025.

The measurement system uses the following criteria to meet the Utility Management Plan goal:

- Total utility consumption (power, gas) per square foot
- Initial investment versus cost avoidance
- Guarantee of continued service to customer

Section 6: Budget

DES uses Federal grant funds to accomplish facility improvements. We look at cost effectiveness, as well as, need to assess the best use of the taxpayer’s money.
Section 7: Mandate for Energy Management

Energy and energy management must be recognized as a controllable operating expense where in savings can result in funding being available for other program needs. If the energy management program is to be successful, all members of the DES staff have important roles to play. Energy cost reduction must become a vital part of the DES Utility Management Plan.

As an integral part of this Energy Strategic Plan, the DES established an Energy Mandate (see appendix 4).

Appendices

2. Utility Management Plan
3. General Statutes Article 3B
4. Energy Mandate
## Appendix 1

### Utility Data

<table>
<thead>
<tr>
<th>year</th>
<th>total utility $</th>
<th>total energy $</th>
<th>total btu</th>
<th>kwh</th>
<th>kwh $</th>
<th>ng therms</th>
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<td>btu/sf</td>
<td>btu/sf %change</td>
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### Appendix 2
#### Utility Management Plan

**2020-21**

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<th>Comprehensive Plan</th>
<th>Expected Measurement</th>
<th>Assigned To</th>
<th>Occurrence</th>
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<tr>
<td>Strategy 1. Designate Energy Manager as the point of contact for SEO</td>
<td>Discuss training schedule available, current Utility Management Plan and future Management Plan</td>
<td>Energy Manager and SEO staff</td>
<td>Quarterly</td>
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<tr>
<td>Strategy 2. Edit or create a plan to reflect EE strategy toward 40% reduction in Btu/gsf.</td>
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<tr>
<td>Strategy 3. Contact the SEO to assist with review of strategy, budget, training, and timeline.</td>
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<tr>
<td>Strategy 4. Develop internal stakeholders to develop behavioral programming and internal team building toward goals</td>
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<td></td>
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<td>Strategy 5. Implement Plan</td>
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<th>2020-21 Planned Activities</th>
<th>Expected Measurement</th>
<th>Assigned To</th>
<th>Occurrence</th>
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<tr>
<td>Meet with SEO to develop ideas for plan</td>
<td>Discuss training schedule available, current Utility Management Plan and future Management Plan</td>
<td>Energy Manager and SEO staff</td>
<td>Quarterly</td>
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<tr>
<td>Research facilities for potential energy savings projects</td>
<td>Create a list to use for potential projects to be implemented in the Utility Management Plan</td>
<td>Energy Manager and Agency Staff</td>
<td>Monthly</td>
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<td>Create a Utility Management Plan</td>
<td>Complete timeline and approvals from agency and submit plan to SEO</td>
<td>Energy Manager and staff</td>
<td>October 1&lt;sup&gt;st&lt;/sup&gt; each year</td>
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<tr>
<td>Attend SEO or other energy conservation training sessions</td>
<td>Discuss lessons learned with staff and how that can enhance your strategy</td>
<td>Agency staff</td>
<td>(add dates of training)</td>
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<td>Develop internal stakeholders and internal teams to implement plan</td>
<td>Designate a person or team to implement portions on the plan</td>
<td>Energy Manager and staff</td>
<td></td>
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<td>Develop internal marketing and awards/rewards program</td>
<td>Designate person to develop programming and implement program</td>
<td>Energy Manager and staff</td>
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<td>Review Utility Management Plan progress</td>
<td>Tweak plan if it is not realizing expected savings</td>
<td>Energy Manager</td>
<td>Quarterly</td>
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<tr>
<td>Track utility data</td>
<td>Collect annual utility data submit to SEO and trend to catch anomalies early on</td>
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### Projects to Implement

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<th>Strategy</th>
<th>Description</th>
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<td>1.</td>
<td>Review projects with staff to determine high priority projects to implement</td>
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<tr>
<td>2.</td>
<td>Work with staff to determine the best timeframe to implement projects</td>
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<td>3.</td>
<td>Determine cost feasibility of projects</td>
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<td>4.</td>
<td>Communicate projects to staff</td>
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<td>5.</td>
<td>Implement projects</td>
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<table>
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<th>Occurrence</th>
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<tr>
<td>Continual Lighting Retrofit</td>
<td>32 watt T8 replaced with 13 watt LED</td>
<td>Maintenance Staff</td>
<td>continuous</td>
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<td>Meet with automation vendor to investigate low no cost changes to improve efficiency</td>
<td>Automated energy conservation measures</td>
<td>Energy Manager</td>
<td>June, 2021</td>
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<td></td>
<td>Disseminate information on new procedures to staff for added efficiency while ensuring continuity of building services during working hours.</td>
<td>Energy Manager and Agency Staff</td>
<td>Continuous</td>
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<td>HVAC systems optimization</td>
<td>Dynamic adjustment of setpoints to match ambient temperatures. Savings dependent on amount of heating and cooling degree days.</td>
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<td>Continuous</td>
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<td>Low cost conservation equipment solutions</td>
<td>Implement low cost energy conservation equipment.</td>
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<td>Replace Kewanee boiler burner with efficient low turn down model</td>
<td>Waiting on data</td>
<td>Energy Manager</td>
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Appendix 3

Article 3B.
Conservation of Energy, Water, and Other Utilities in Government Facilities.

§ 143-64.10. Findings; policy.
(a) The General Assembly finds all of the following:
   (1) That the State shall take a leadership role in aggressively undertaking the conservation of energy, water, and other utilities in North Carolina.
   (2) That State facilities and facilities of State institutions of higher learning have a significant impact on the State's consumption of energy, water, and other utilities.
   (3) That practices to conserve energy, water, and other utilities that are adopted for the design, construction, operation, maintenance, and renovation of these facilities and for the purchase, operation, and maintenance of equipment for these facilities will have a beneficial effect on the State's overall supply of energy, water, and other utilities.
   (4) That the cost of the energy, water, and other utilities consumed by these facilities and the equipment for these facilities over the life of the facilities shall be considered, in addition to the initial cost.
   (5) That the cost of energy, water, and other utilities is significant and facility designs shall take into consideration the total life-cycle cost, including the initial construction cost, and the cost, over the economic life of the facility, of the energy, water, and other utilities consumed, and of operation and maintenance of the facility as it affects the consumption of energy, water, or other utilities.
   (6) That State government shall undertake a program to reduce the use of energy, water, and other utilities in State facilities and facilities of the State institutions of higher learning and equipment in those facilities in order to provide its citizens with an example of energy-use, water-use, and utility-use efficiency.

(b) It is the policy of the State of North Carolina to ensure that practices to conserve energy, water, and other utilities are employed in the design, construction, operation, maintenance, and renovation of State facilities and facilities of the State institutions of higher learning and in the purchase, operation, and maintenance of equipment for these facilities. (1975, c. 434, s. 1; 1993, c. 334, s. 2; 2001-415, s. 1; 2006-190, s. 8; 2007-546, s. 3.1(b).)

§ 143-64.11. Definitions.
For purposes of this Article:
(1) "Economic life" means the projected or anticipated useful life of a facility.
(2) "Energy-consumption analysis" means the evaluation of all energy-consuming systems, including systems that consume water or other utilities, and components of these systems by demand and type of energy or other utility use, including the internal energy load imposed on a facility by its occupants, equipment and components, and the external energy load imposed on the facility by climatic conditions.
(2a) "Energy Office" means the State Energy Office of the Department of Environmental Quality.
(2b) "Energy-consuming system" includes but is not limited to any of the following equipment or measures:

a. Equipment used to heat, cool, or ventilate the facility;
b. Equipment used to heat water in the facility;
c. Lighting systems;
d. On-site equipment used to generate electricity for the facility;
e. On-site equipment that uses the sun, wind, oil, natural gas, liquid propane gas, coal, or electricity as a power source; and
f. Energy conservation measures, as defined in G.S. 143-64.17, in the facility design and construction that decrease the energy, water, or other utility requirements of the facility.

(3) "Facility" means a building or a group of buildings served by a central distribution system for energy, water, or other utility or components of a central distribution system.

(4) "Initial cost" means the required cost necessary to construct or renovate a facility.

(5) "Life-cycle cost analysis" means an analytical technique that considers certain costs of owning, using, and operating a facility over its economic life, including but not limited to:

a. Initial costs;
b. System repair and replacement costs;
c. Maintenance costs;
d. Operating costs, including energy costs; and
e. Salvage value.


(7) "State agency" means the State of North Carolina or any board, bureau, commission, department, institution, or agency of the State.

(8) "State-assisted facility" means a facility constructed or renovated in whole or in part with State funds or with funds guaranteed or insured by a State agency.

(9) "State facility" means a facility constructed or renovated, by a State agency.

(10) "State institution of higher learning" means any constituent institution of The University of North Carolina. (1975, c. 434, s. 2; 1989, c. 23, s. 1; 1993, c. 334, s. 3; 2001-415, s. 2; 2006-190, ss. 9, 10, 11; 2007-546, s. 3.1(c); 2009-446, s. 1(f); 2013-360, s. 15.22(o); 2015-241, s. 14.30(u).)

§ 143-64.12. Authority and duties of the Department; State agencies and State institutions of higher learning.

(a) The Department of Environmental Quality through the State Energy Office shall develop a comprehensive program to manage energy, water, and other utility use for State agencies and State institutions of higher learning and shall update this program annually.
Each State agency and State institution of higher learning shall develop and implement a management plan that is consistent with the State's comprehensive program under this subsection to manage energy, water, and other utility use, and that addresses any findings or recommendations resulting from the energy audit required by subsection (b1) of this section. The energy consumption per gross square foot for all State buildings in total shall be reduced by twenty percent (20%) by 2010 and thirty percent (30%) by 2015 based on energy consumption for the 2002-2003 fiscal year. Each State agency and State institution of higher learning shall update its management plan biennially and include strategies for supporting the energy consumption reduction requirements under this subsection. Each community college shall submit to the State Energy Office a biennial written report of utility consumption and costs. Management plans submitted biennially by State institutions of higher learning shall include all of the following:

(1) Estimates of all costs associated with implementing energy conservation measures, including pre-installation and post-installation costs.
(2) The cost of analyzing the projected energy savings.
(3) Design costs, engineering costs, pre-installation costs, post-installation costs, debt service, and any costs for converting to an alternative energy source.
(4) An analysis that identifies projected annual energy savings and estimated payback periods.

(a1) State agencies and State institutions of higher learning shall carry out the construction and renovation of facilities in such a manner as to further the policy set forth under this section and to ensure the use of life-cycle cost analyses and practices to conserve energy, water, and other utilities.

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

(b1) The Department of Administration, as part of the Facilities Condition and Assessment Program, shall identify and recommend energy conservation maintenance and operating procedures that are designed to reduce energy consumption within the facility of a State agency or a State institution of higher learning and that require no significant expenditure of funds. Every State agency or State institution of higher learning shall implement these recommendations. Where energy management equipment is proposed for any facility of a State agency or of a State institution of higher learning, the maximum interchangeability and compatibility of equipment components shall be required. As part of the Facilities Condition and Assessment Program under this section, the Department of
Administration, in consultation with the State Energy Office, shall develop an energy audit and a procedure for conducting energy audits. Every five years the Department shall conduct an energy audit for each State agency or State institution of higher learning, and the energy audits conducted shall serve as a preliminary energy survey. The State Energy Office shall be responsible for system-level detailed surveys.

(b2) The Department of Administration shall submit a report of the energy audit required by subsection (b1) of this section to the affected State agency or State institution of higher learning and to the State Energy Office. The State Energy Office shall review each audit and, in consultation with the affected State agency or State institution of higher learning, incorporate the audit findings and recommendations into the management plan required by subsection (a) of this section.

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

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

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

(j) The State Energy Office shall submit a report by December 1 of every odd-numbered year to the Joint Legislative Energy Policy Commission, the Joint Legislative Oversight Committee on Agriculture and Natural and Economic Resources, and the Fiscal Research Division describing the comprehensive program to manage energy, water, and other utility use for State agencies and State institutions of higher learning required by subsection (a) of this section. The report shall also contain the following:

1. A comprehensive overview of how State agencies and State institutions of higher learning are managing energy, water, and other utility use and achieving efficiency gains.

2. Any new measures that could be taken by State agencies and State institutions of higher learning to achieve greater efficiency gains, including any changes in general law that might be needed.

3. A summary of the State agency and State institutions of higher learning management plans required by subsection (a) of this section and the energy audits required by subsection (b1) of this section.

4. A list of the State agencies and State institutions of higher learning that did and did not submit management plans required by subsection (a) of this section and a list of the State agencies and State institutions of higher learning that received an energy audit.

5. Any recommendations on how management plans can be better managed and implemented. (1975, c. 434, s. 3; 1993, c. 334, s. 4; 2000-140, s. 76(f); 2001-415, s. 3; 2006-190, s. 12; 2007-546, s. 3.1(a); 2008-198, s.
§ 143-64.13: Repealed by Session Laws 1993, c. 334, s. 5.

§ 143-64.14: Recodified as § 143-64.16 by Session Laws 1993, c. 334, s. 7.

§ 143-64.15. Life-cycle cost analysis.

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

   (1) The coordination, orientation, and positioning of the facility on its physical site.
   (2) The amount and type of fenestration and the potential for daylighting employed in the facility.
   (3) Thermal characteristics of materials and the amount of insulation incorporated into the facility design.
   (4) The variable occupancy and operating conditions of the facility, including illumination levels.
   (5) Architectural features that affect the consumption of energy, water, and other utilities.

(b) The life-cycle cost analysis performed for any State facility shall, in addition to the requirements set forth in subsection (a) of this section, include, but not be limited to, all of the following:

   (1) An energy-consumption analysis of the facility's energy-consuming systems in accordance with the provisions of subsection (g) of this section.
   (2) The initial estimated cost of each energy-consuming system being compared and evaluated.
   (3) The estimated annual operating cost of all utility requirements.
   (4) The estimated annual cost of maintaining each energy-consuming system.
   (5) The average estimated replacement cost for each system expressed in annual terms for the economic life of the facility.

(c) Each entity shall conduct a life-cycle cost analysis pursuant to this section for the construction or the renovation of any State facility or State-assisted facility of 20,000 or more gross square feet. For the replacement of heating, ventilation, and air-conditioning equipment in any State facility or State-assisted facility of 20,000 or more gross square feet, the entity shall conduct a life-cycle cost analysis of the replacement equipment pursuant to this section when the replacement is financed under a guaranteed energy savings contract or financed using repair and renovation funds.

(d) The life-cycle cost analysis shall be certified by a registered professional engineer or bear the seal of a North Carolina registered architect, or both. The engineer or architect shall be particularly qualified by training and experience for the type of work involved, but shall not be employed directly or indirectly by a fuel provider, utility company, or group supported by fuel providers or utility funds. Plans and specifications for facilities involving public funds shall be designed in conformance with the provisions of G.S. 133-1.1.
(e) In order to protect the integrity of historic buildings, no provision of this Article shall be interpreted to require the implementation of measures to conserve energy, water, or other utility use that conflict with respect to any property eligible for, nominated to, or entered on the National Register of Historic Places, pursuant to the National Historic Preservation Act of 1966, P.L. 89-665; any historic building located within an historic district as provided in Chapters 160A or 153A of the General Statutes; any historic building listed, owned, or under the jurisdiction of an historic properties commission as provided in Chapter 160A or 153A; nor any historic property owned by the State or assisted by the State.

(f) Each State agency shall use the life-cycle cost analysis over the economic life of the facility in selecting the optimum system or combination of systems to be incorporated into the design of the facility.

(g) The energy-consumption analysis of the operation of energy-consuming systems utilities in a facility shall include, but not be limited to, all of the following:

1. The comparison of two or more system alternatives.
2. The simulation or engineering evaluation of each system over the entire range of operation of the facility for a year's operating period.
3. The engineering evaluation of the consumption of energy, water, and other utilities of component equipment in each system considering the operation of such components at other than full or rated outputs. (1993, c. 334, s. 6; 2001-415, ss. 4, 5; 2006-190, s. 13; 2007-546, s. 4.1.)

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

Each State agency and each State institution of higher learning performing a life-cycle cost analysis for the purpose of constructing or renovating any facility shall, prior to selecting a design option or advertising for bids for construction, submit the life-cycle cost analysis to the Department for certification at the schematic design phase and again when it is updated or amended as needed in accordance with G.S. 143-64.15. The Department shall review the material submitted by the State agency or State institution of higher learning, reserve the right to require an agency or institution to complete additional analysis to comply with certification, perform any additional analysis, as necessary, to comply with G.S. 143-341(11), and require that all construction or renovation conducted by the State agency or State institution of higher learning comply with the certification issued by the Department. (2001-415, s. 6; 2007-546, s. 4.2.)

§ 143-64.16. Application of Part.

The provisions of this Part shall not apply to municipalities or counties, nor to any agency or department of any municipality or county; provided, however, this Part shall apply to any board of a community college. Community college is defined in G.S. 115D-2(2). (1975, c. 434, s. 5; 1989, c. 23, s. 2; 1993, c. 334, s. 7; 1993 (Reg. Sess., 1994), c. 775, s. 2.)

Part 2. Energy Saving Measures for Governmental Units.

§ 143-64.17. Definitions.

As used in this Part:

1. "Energy conservation measure" means a facility or meter alteration, training, or services related to the operation of the facility or meter, when the alteration, training, or services provide anticipated energy savings or
capture lost revenue. Energy conservation measure includes any of the following:

a. Insulation of the building structure and systems within the building.
b. Storm windows or doors, caulking, weatherstripping, multiglazed windows or doors, heat-absorbing or heat-reflective glazed or coated window or door systems, additional glazing, reductions in glass area, or other window or door system modifications that reduce energy consumption.
c. Automatic energy control systems.
d. Heating, ventilating, or air-conditioning system modifications or replacements.
e. Replacement or modification of lighting fixtures to increase the energy efficiency of a lighting system without increasing the overall illumination of a facility, unless an increase in illumination is necessary to conform to the applicable State or local building code or is required by the light system after the proposed modifications are made.
f. Energy recovery systems.
g. Cogeneration systems that produce steam or forms of energy such as heat, as well as electricity, for use primarily within a building or complex of buildings.
h. Repealed by Session Laws 2006-190, s. 2, effective August 3, 2006, and applicable to contracts entered into or renewed on or after that date.
i. Faucets with automatic or metered shut-off valves, leak detection equipment, water meters, water recycling equipment, and wastewater recovery systems.
j. Other energy conservation measures that conserve energy, water, or other utilities.

(2) "Energy savings" means a measured reduction in fuel costs, energy costs, water costs, stormwater fees, other utility costs, or operating costs, including environmental discharge fees, water and sewer maintenance fees, and increased meter accuracy, created from the implementation of one or more energy conservation measures when compared with an established baseline of previous costs, including captured lost revenues, developed by the governmental unit.

(2a) "Governmental unit" means either a local governmental unit or a State governmental unit.

(3) "Guaranteed energy savings contract" means a contract for the evaluation, recommendation, or implementation of energy conservation measures, including the design and installation of equipment or the repair or replacement of existing equipment or meters, in which all payments, except obligations on termination of the contract before its expiration, are to be made over time, and in which energy savings are guaranteed to exceed costs.

(4) "Local governmental unit" means any board or governing body of a political subdivision of the State, including any board of a community
college, any school board, or an agency, commission, or authority of a political subdivision of the State.

(5) "Qualified provider" means a person or business experienced in the design, implementation, and installation of energy conservation measures who has been prequalified by the State Energy Office according to the prequalification criteria established by that Office.

(5a) "Qualified reviewer" means an architect or engineer who is (i) licensed in this State and (ii) experienced in the design, implementation, and installation of energy efficiency measures.

(6) "Request for proposals" means a negotiated procurement initiated by a governmental unit by way of a published notice that includes the following:
   a. The name and address of the governmental unit.
   b. The name, address, title, and telephone number of a contact person in the governmental unit.
   c. Notice indicating that the governmental unit is requesting qualified providers to propose energy conservation measures through a guaranteed energy savings contract.
   d. The date, time, and place where proposals must be received.
   e. The evaluation criteria for assessing the proposals.
   f. A statement reserving the right of the governmental unit to reject any or all the proposals.
   g. Any other stipulations and clarifications the governmental unit may require.

(7) "State governmental unit" means the State or a department, an agency, a board, or a commission of the State, including the Board of Governors of The University of North Carolina and its constituent institutions. (1993 (Reg. Sess., 1994), c. 775, s. 3; 1995, c. 295, s. 1; 1999-235, ss. 1, 2; 2002-161, s. 2; 2006-190, s. 2; 2013-396, s. 1.)

§ 143-64.17A. Solicitation of guaranteed energy savings contracts.

(a) RFP Issuance. – Before entering into a guaranteed energy savings contract, a governmental unit shall issue a request for proposals. Notice of the request shall be published at least 15 days in advance of the time specified for opening of the proposals in at least one newspaper of general circulation in the geographic area for which the local governmental unit is responsible or, in the case of a State governmental unit, in which the facility or facilities are located. No guaranteed energy savings contract shall be awarded by any governmental unit unless at least two proposals have been received from qualified providers. Provided that if after the publication of the notice of the request for proposals, fewer than two proposals have been received from qualified providers, or fewer than two qualified providers attend the mandatory prebid meeting, the governmental unit may then open the proposals and select a qualified provider even if only one proposal is received.

(b) Preliminary Proposal Evaluation. – The governmental unit shall evaluate a sealed proposal from any qualified provider. A qualified reviewer shall be required to
evaluate the proposals and will provide the governmental unit with a letter report containing both qualitative and quantitative evaluation of the proposals. The report may include a recommendation for selection, but the governmental unit is not obligated to follow it.

(c) Receipt of Proposals for Unit of Local Government. – In the case of a local governmental unit, proposals received pursuant to this section shall be opened by a member or an employee of the governing body of the local governmental unit at a public opening at which the contents of the proposals shall be announced and recorded in the minutes of the governing body. Proposals shall be evaluated for the local governmental unit by a qualified reviewer on the basis of:

1. The information required in subsection (b) of this section; and
2. The criteria stated in the request for proposals.

The local governmental unit may require a qualified provider to include in calculating the cost of a proposal for a guaranteed energy savings contract any reasonable fee payable by the local governmental unit for the evaluation of the proposal by a qualified reviewer not employed as a member of the staff of the local governmental unit or the qualified provider.

(c1) Receipt of Proposals for Unit of State Government. – In the case of a State governmental unit, proposals received pursuant to this section shall be opened by a member or an employee of the State governmental unit at a public opening and the contents of the proposals shall be announced at this opening. Proposals shall be evaluated for the State governmental unit by a qualified reviewer who is either privately retained, employed with the Department of Administration, or employed as a member of the staff of the State governmental unit. The proposal shall be evaluated on the basis of the information and report required in subsection (b) of this section and the criteria stated in the request for proposals.

The State governmental unit shall require a qualified provider to include in calculating the cost of a proposal for a guaranteed energy savings contract any reasonable fee payable by the State governmental unit for evaluation of the proposal by a qualified reviewer not employed as a member of the staff of the State governmental unit or the qualified provider. The Department of Administration may charge the State governmental unit a reasonable fee for the evaluation of the proposal if the Department's services are used for the evaluation and the cost paid by the State governmental unit to the Department of Administration shall be calculated in the cost of the proposal under this subsection.

(d) Criteria for Selection of Provider. – The governmental unit shall select the qualified provider that it determines to best meet the needs of the governmental unit by evaluating all of the following and following the procedures set forth in subsection (d1) of this section:

3. Quality of the products and energy conservation measures proposed.
5. General reputation and performance capabilities of the qualified providers.
(6) Substantial conformity with the specifications and other conditions set forth in the request for proposals.

(7) Time specified in the proposals for the performance of the contract.

(8) Any other factors the governmental unit deems necessary, which factors shall be made a matter of record.

(d1) Process for Selection of Provider. – The governmental unit shall select a short list of finalists on the basis of its rankings of the written proposals under the criteria set forth in subsection (d) of this section as well as references from past clients. The governmental unit shall have the highest ranked qualified provider prepare a cost-savings analysis for the proposed contract showing at a minimum a comparison of the total estimated project savings to the total estimated project costs for the proposed term. If the governmental unit and the qualified provider cannot negotiate acceptable terms, pricing, and savings estimates, the governmental unit may terminate the process and begin negotiations with the second highest ranked qualified provider. The State Energy Office shall review the selected qualified provider's proposal, cost-benefit analysis, and other relevant documents prior to the governmental unit announcing the award.

(e) Nothing in this section shall limit the authority of governmental units as set forth in Article 3D of this Chapter. (1993 (Reg. Sess., 1994), c. 775, s. 3; 2002-161, s. 3; 2013-396, s. 2.)

§ 143-64.17B. Guaranteed energy savings contracts.

(a) A governmental unit may enter into a guaranteed energy savings contract with a qualified provider if all of the following apply:

(1) The term of the contract does not exceed 20 years from the date of the installation and acceptance by the governmental unit of the energy conservation measures provided for under the contract.

(2) The governmental unit finds that the energy savings resulting from the performance of the contract will equal or exceed the total cost of the contract.

(3) The energy conservation measures to be installed under the contract are for an existing building or utility system, or utility consuming device or equipment when the utility cost is paid by the governmental unit.

(b) Before entering into a guaranteed energy savings contract, the governmental unit shall provide published notice of the time and place or of the meeting at which it proposes to award the contract, the names of the parties to the proposed contract, and the contract's purpose. The notice must be published at least 15 days before the date of the proposed award or meeting.

(c) A qualified provider entering into a guaranteed energy savings contract under this Part shall provide security to the governmental unit in the form acceptable to the Office of the State Treasurer and in an amount equal to one hundred percent (100%) of the guaranteed savings for the term of the guaranteed energy savings contract to assure the provider's faithful performance. Any bonds required by this subsection shall be subject to the provisions of Article 3 of Chapter 44A of the General Statutes. If the savings resulting
from a guaranteed energy savings contract are not as great as projected under the contract and all required shortfall payments to the governmental unit have not been made, the governmental unit may terminate the contract without incurring any additional obligation to the qualified provider.

(d) As used in this section, "total cost" shall include, but not be limited to, costs of construction, costs of financing, and costs of maintenance and training during the term of the contract less the application of the utility company, State, or federal incentives, grants, or rebates. "Total cost" does not include any obligations on termination of the contract before its expiration, provided that those obligations are disclosed when the contract is executed.

(e) A guaranteed energy savings contract may not require the governmental unit to purchase a maintenance contract or other maintenance agreement from the qualified provider who installs energy conservation measures under the contract if the unit of government takes appropriate action to budget for its own forces or another provider to maintain new systems installed and existing systems affected by the guaranteed energy savings contract.

(f) In the case of a State governmental unit, a qualified provider shall, when feasible, after the acceptance of the proposal of the qualified provider by the State governmental unit, conduct an investment grade audit. During this investment grade audit, the qualified provider shall perform in accordance with Part 1 of this Article a life cycle cost analysis of each energy conservation measure in the final proposal. If the results of the audit are not within ten percent (10%) of both the guaranteed savings contained in the proposal and the total proposal amount, either the State governmental unit or the qualified provider may terminate the project without incurring any additional obligation to the other party. However, if the State governmental unit terminates the project after the audit is conducted and the results of the audit are within ten percent (10%) of both the guaranteed savings contained in the proposal and the total proposal amount, the State governmental unit shall reimburse the qualified provider the reasonable cost incurred in conducting the audit, and the results of the audit shall become the property of the State governmental unit.

(g) A qualified provider shall provide an annual reconciliation statement based upon the results of the measurement and verification review. The statement shall disclose any shortfalls or surplus between guaranteed energy and operational savings specified in the guaranteed energy savings contract and actual, not stipulated, energy and operational savings incurred during a given guarantee year. Any guaranteed energy and operational savings shall be determined by using one of the measurement and verification methodologies listed in the United States Department of Energy's Measurement and Verification Guidelines for Energy Savings Performance Contracting, the International Performance Measurement and Verification Protocol (IPMVP) maintained by the Efficiency Valuation Organization, or Guideline 14-2002 of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers. If due to existing data limitations or the nonconformance of specific project characteristics, none of the three methodologies listed in this subsection is sufficient for measuring guaranteed savings, the qualified provider shall develop an alternate method that is compatible with one of the three
methodologies and mutually agreeable to the governmental unit. The guarantee year shall consist of a 12-month term commencing from the time that the energy conservation measures become fully operational. A qualified provider shall pay the governmental unit or its assignee any shortfall in the guaranteed energy and operational savings after the total year savings have been determined. In the case of a governmental unit, a surplus in any one year shall not be carried forward or applied to a shortfall in any other year. (1993 (Reg. Sess., 1994), c. 775, s. 3; 1995, c. 295, s. 2; 1999-235, s. 3; 2002-161, s. 4; 2003-138, s.1; 2006-190, s. 3; 2009-375, s. 2; 2013-396, s. 3; 2014-115, s. 56.7.)

§ 143-64.17C: Repealed by Session Laws 2002, ch. 161, s. 5, effective January 1, 2003, and applicable to contracts entered into on or after that date.

§ 143-64.17D. Contract continuance.
A guaranteed energy savings contract may extend beyond the fiscal year in which it becomes effective. Such a contract shall stipulate that it does not constitute a direct or indirect pledge of the taxing power or full faith and credit of any governmental unit. (1993 (Reg. Sess., 1994), c. 775, s. 3; 2002-161, s. 6.)

§ 143-64.17E. Payments under contract.
A local governmental unit may use any funds, whether operating or capital, that are not otherwise restricted by law for the payment of a guaranteed energy savings contract. State appropriations to any local governmental unit shall not be reduced as a result of energy savings occurring as a result of a guaranteed energy savings contract. (1993 (Reg. Sess., 1994), c. 775, s. 3.)

§ 143-64.17F. State agencies to use contracts when feasible; rules; recommendations.
(a) State governmental units shall evaluate the use of guaranteed energy savings contracts in reducing energy costs and may use those contracts when feasible and practical.

(b) The Department of Administration, in consultation with the Department of Environmental Quality, through the State Energy Office, shall adopt rules for: (i) agency evaluation of guaranteed energy savings contracts; (ii) establishing time periods for consideration of guaranteed energy savings contracts by the Office of State Budget and Management, the Office of the State Treasurer, and the Council of State, and (iii) setting measurements and verification criteria, including review, audit, and precertification. Prior to adopting any rules pursuant to this section, the Department shall consult with and obtain approval of those rules from the State Treasurer. The rules adopted pursuant to this subsection shall not apply to energy conservation measures implemented pursuant to G.S. 143-64.17L.

(c) The Department of Administration, and the Department of Environmental Quality through the State Energy Office, may provide to the Council of State its recommendations concerning any energy savings contracts being considered. (2002-161, s. 7; 2003-138, s. 2; 2009-446, s. 1(d); 2011-145, s. 9.6D(d); 2013-360, s. 15.22(d); 2015-241, s. 14.30(u).)
§ 143-64.17G. Report on guaranteed energy savings contracts entered into by local governmental units.

A local governmental unit that enters into a guaranteed energy savings contract must report the contract and the terms of the contract to the Local Government Commission and the State Energy Office of the Department of Environmental Quality. The Commission shall compile the information and report it biennially to the Joint Commission on Governmental Operations. In compiling the information, the Local Government Commission shall include information on the energy savings expected to be realized from a contract and, with the assistance of the Office of State Construction and the State Energy Office, shall evaluate whether expected savings have in fact been realized. (1993 (Reg. Sess., 1994), c. 775, s. 9; 2006-190, s. 4; 2009-375, s. 3; 2013-360, s. 15.22(e); 2015-241, s. 14.30(u).)

§ 143-64.17H. Report on guaranteed energy savings contracts entered into by State governmental units.

A State governmental unit that enters into a guaranteed energy savings contract or implements an energy conservation measure pursuant to G.S. 143-64.17L must report either (i) the contract and the terms of the contract or (ii) the implementation of the measure to the State Energy Office of the Department of Environmental Quality within 30 days of the date the contract is entered into or the measure is implemented. In addition, within 60 days after each annual anniversary date of a guaranteed energy savings contract, the State governmental unit must report the status of the contract to the State Energy Office, including any details required by the State Energy Office. The State Energy Office shall compile the information for each fiscal year and report it to the Joint Legislative Oversight Committee on Agriculture and Natural and Economic Resources, the Fiscal Research Division, and the Local Government Commission annually by December 1. In compiling the information, the State Energy Office shall include information on the energy savings expected to be realized from a contract or implementation and shall evaluate whether expected savings have in fact been realized. (2002-161, s. 8; 2006-190, s. 5; 2009-446, s. 1(c); 2011-145, s. 9.6D(e); 2013-360, s. 15.22(f); 2015-241, s. 14.30(u); 2017-57, s. 14.1(g).)

§ 143-64.17I. Installment and lease purchase contracts.

A local governmental unit may provide for the acquisition, installation, or maintenance of energy conservation measures acquired pursuant to this Part by installment or lease purchase contracts in accordance with and subject to the provisions of G.S. 160A-20 and G.S. 160A-19, as applicable. (2002-161, s. 8.)

§ 143-64.17J. Financing by State governmental units.

State governmental units may finance the acquisition, installation, or maintenance of energy conservation measures acquired pursuant to this Part in the manner and to the extent set forth in Article 8 of Chapter 142 of the General Statutes or as otherwise authorized by law. (2002-161, s. 8.)
§ 143-64.17K. Inspection and compliance certification for State governmental units.

The provisions of G.S. 143-341(3) shall not apply to any energy conservation measure for State governmental units provided pursuant to this Part, except as specifically set forth in this section. Except as otherwise exempt under G.S. 116-31.11, the following shall apply to all energy conservation measures provided to State governmental units pursuant to this Part:

(1) The provisions of G.S. 133-1.1.
(2) Inspection and certification by:
   a. The applicable local building inspector under Part 4 of Article 18 of Chapter 153A of the General Statutes or Part 5 of Article 19 of Chapter 160A of the General Statutes; or
   b. At the election of the State governmental unit, the Department of Administration under G.S. 143-341(3).

The cost of compliance with this section may be included in the cost of the project in accordance with G.S. 143-64.17A(c1) and may be included in the cost financed under Article 8 of Chapter 142 of the General Statutes. (2002-161, s. 8.)

§ 143-64.17L. Board of Governors may authorize energy conservation measures at constituent institutions.

(a) Authority. – Notwithstanding the provisions of this Part to the contrary, the Board of Governors of The University of North Carolina may authorize any constituent institution listed in subsection (e) of this section to implement an energy conservation measure without entering into a guaranteed energy savings contract if both of the following conditions are met:

(1) The Board of Governors finds that the energy savings resulting from the implementation of the energy conservation measure shall, according to the energy savings analysis received pursuant to G.S. 143-64.17M(a), equal or exceed the total cost of implementing the measure. If the proposed implementation will be financed with debt, then the energy savings analysis must project sufficient energy savings to pay the debt service on any bonds to be issued. As used in this subdivision, the term "total cost" shall have the same meaning as it does in G.S. 143-64.17B(d).
(2) The energy conservation measure is for an existing building or utility system.

(b) Scope of Authority. – In implementing an energy conservation measure pursuant to subsection (a) of this section, the Board of Governors may undertake or authorize any constituent institution listed in subsection (e) of this section to undertake any action that (i) could be required of a qualified provider under a guaranteed energy savings contract or (ii) is otherwise permissible under this Part.

(c) Projects Consisting of Multiple Energy Conservation Measures. – The Board of Governors may authorize the implementation of multiple energy conservation measures simultaneously as part of a single project. When doing so, the findings required by subsection (a) of this section may be made with respect to the project as a whole and need not be made with respect to individual energy conservation measures. Similarly, the
analyses required by G.S. 143-64.17M may be conducted for the project as a whole instead of for individual energy conservation measures.

(d) Continuing Applicability of Part to Contracts. – If the Board of Governors or a constituent institution implements an energy conservation measure through a guaranteed energy savings contract, that contract shall accord in all respects with the requirements of this Part.

(e) The Board of Governors may authorize North Carolina State University and the University of North Carolina at Charlotte to implement an energy conservation measure without entering into a guaranteed energy savings contract pursuant to this section. (2011-145, s. 9.6D(a); 2013-396, s. 4(a).)

§§ 143-64.17L through 143-64.19. Reserved for future codification purposes.

§§ 143-64.17M. Energy savings analysis required prior to implementation; post-implementation analyses required.

(a) Energy Savings Analysis Required Prior to Implementation. – Prior to implementing an energy conservation measure pursuant to G.S. 143-64.17L, an energy savings analysis shall be performed to validate the economic assumptions that purportedly support the implementation of the measure. This analysis shall be performed by a third party selected by the constituent institution and shall include an energy consumption analysis to develop a baseline of previous costs of all utilities' energy consumption for the institution on the assumption that the energy conservation measure was not undertaken. The completed analysis shall be submitted to The University of North Carolina System Office and to the State Energy Office.

(b) Post-Implementation Analyses Required. – A constituent institution that implements an energy conservation measure pursuant to G.S. 143-64.17L shall retain a third party to perform an annual measurement and verification of energy savings resulting from the energy conservation measure as compared to the baseline of previous costs set forth in the energy savings analysis required by subsection (a) of this section. The third party shall annually provide a reconciliation statement based upon the results of a preagreed upon measurement, monitoring, and verification protocol which shall disclose any shortfall or surplus between the estimated energy usage and operational savings set forth in the energy savings analysis required by subsection (a) of this section and actual, not stipulated, energy usage and operational savings incurred during a given year.

If a reconciliation statement reveals a shortfall in energy savings for a particular year, the constituent institution shall be responsible for and shall pay the shortfall. However, the institution shall not be held responsible for losses due to natural disasters or other emergencies. Any surplus shall be retained by the institution and may be used in the same manner as any other energy savings. (2011-145, s. 9.6D(b); 2018-12, s. 17.)
North Carolina Division of Employment Security

Appendix – 4

Energy Mandate for the North Carolina Division of Employment Security

The undersigned recognize that our utilities usage is a controllable expense in which reductions can be allocated to other needs within our operations budget, and that energy efficiency is the responsibility of all staff.

- The development and implementation of this Strategic Energy Plan is the responsibility of the undersigned Utilities Manager.
- The undersigned directors will support this Plan and report on progress annually.

Energy Mandate - Goal
The goal of this Plan is to reduce the annual total energy consumption per square foot of this complex to 40% below 2002-2003 levels.

Energy Mandate – Tracking Measures

- Total Utilities use and cost per square foot
- Electric KWH use per square foot
- Gas BTU use per square foot
- Water use per square foot

Energy Mandate – Commitment
1 March, 2021

Pryor Gibson
Assistant Secretary

Kevin Carlson
Chief Financial Officer

Joseph Katzberg
Director of Support Services

This Energy Mandate serves as a Memorandum of Agreement to support Strategic Energy Planning for state government as mandated in General Statutes 143-64.10 & 12.
This Energy Mandate serves as a Memorandum of Agreement to support Executive Order 80 effective 29 October, 2018.