

Title 22. Public Property

Chapter III. Department of Energy and Environment

Subchapter A. Generally

Part 10. Energy Efficiency and Natural Resource Conservation in Public Buildings

Codification Notes. This part as promulgated prior to codification in the Code of Arkansas Rules provided as follows:

"FOREWARD

The Arkansas General Assembly authorized the Arkansas Energy Office to promulgate these Rules in Act 1494 of 2009. These Rules, in adherence with the Administrative Procedures Act, are effective January 1, 2011."

"Questions or inquiries about these Rules may be addressed to:

Arkansas Energy Office

Attn: 2009 Efficient Use of Energy and Natural Resources Rules

900 West Capitol, Suite 400

Little Rock, AR 72201

Phone: 800-558-2633 or 501-682-6103

Fax: 501-682-7499

Email: EnergyInfo@ArkansasEDC.com"

[The updated address is as follows:

Arkansas Energy Office

Attn: Act 1494

5301 Northshore Drive

North Little Rock, AR 72118

Phone: 501-682-7379

Email: energyinfo@adeq.state.ar.us]

"INTRODUCTION

Public buildings can be built, renovated and operated using sustainable, energy-efficient practices and technologies that save money, reduce negative environmental impacts and improve employee performance. Act 1494 was passed by the General Assembly to show that the State of Arkansas can design and operate its buildings in order to "Lead By Example". The two programs established by Act 1494 are the Sustainable Public Buildings Program and the State Buildings Energy Management Program.

The main objectives of the Sustainable Public Buildings Program are to:

1. Avoid resource depletion of energy, water, and raw materials;
2. Prevent environmental degradation caused by facilities and infrastructure throughout their life cycle; and
3. Create buildings that are cost effective, habitable, safe, and productive.

State-owned buildings and buildings owned by an institution of higher education can be improved by establishing specific performance criteria and goals for sustainable, energy-efficient public buildings that are based on recognized, consensual standards with a scientifically proven basis and a history of successful performance.

The role of the Arkansas Energy Office (AEO) is to develop and administer policies, procedures and technical guidelines for compliance with the criteria and performance standards for the construction and renovation of major facilities. The AEO will also develop and administer guidelines for state agencies to manage energy, water and other utilities that will reduce total energy consumption per gross square foot, to the maximum extent practicable, for all existing state buildings. This energy management program is designed to achieve compliance with State Laws and Policies concerning energy efficiency goals through the implementation of energy conservation measures and monitoring of the utility costs and usage.

The main objectives of the State Buildings Energy Management Program are to:

1. Promote energy conservation in buildings owned by public agencies and institutions of higher education, and therefore reduce the rate of expenditures of public dollars;
2. Develop and adopt guidelines and technical guidance for compliance with the efficient energy management and operation of state buildings; and
3. Reduce the use of energy, in accordance with ACA § 25-4-406, twenty percent (20 %) by the end of fiscal year 2014 and thirty percent (30%) by the end of the fiscal year 2017. This reduction will be measured in total energy use per gross square foot per year compared to fiscal year 2008."

Subpart 1. General Provisions

22 CAR § 10-101. Title.

This part shall be known as Sustainable Energy-Efficient Public Buildings (Lead by Example) or this part.

Authority. Arkansas Code § 22-3-2009.

22 CAR § 10-102. Applicable energy standards.

(a) Arkansas adopts the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE), Standard 90.1-2007, Energy Standard for Buildings Except Low-Rise Residential Buildings.

(b) To order copies of the ASHRAE Standard with updated supplements, contact:

ASHRAE

180 Technology Parkway NW

Peachtree Corners, GA 30092

Toll-free for Customer Service: (800) 527-4723 (U.S. and Canada only)

Phone: (404) 636-8400

Fax: (404) 321-5478

Web: www.ashrae.org or <https://www.techstreet.com/ashrae/pages/home>

Authority. Arkansas Code § 22-3-2009.

22 CAR § 10-103. Scope.

(a) The Arkansas Energy Office promulgates this part:

(1) For the implementation of energy-efficient measures in certain state buildings; and

(2) To adopt building energy standards for energy efficiency and conservation in sustainable state building design.

(b) The office will also develop educational and training guidelines for the various personnel that may be involved in implementation of energy measures required by this part.

Authority. Arkansas Code § 22-3-2009.

22 CAR § 10-104. Exempt buildings.

Buildings and structures indicated in subdivisions (1) – (3) of this section may be exempt from the provisions of this part, if the conditions below have been met:

(1) **Major university systems.**

(A) The boards of trustees for the University of Arkansas system, Arkansas State University system, the University of Central Arkansas, Henderson State University, Arkansas Tech University, and Southern Arkansas University are exempt from the provisions of this part if those institutions develop policies and procedures to meet the specific performance criteria and goals for a major facility or major renovation.

(B) This part does not preclude an institution of higher education from adopting the policies and technical guidelines for a major facility or major renovation established by the Arkansas Energy Office under Subparts 2 and 3 of this part or affect the processes or exemptions under Arkansas Code § 22-6-601;

(2) **Other institutions of higher education.**

(A) The board of trustees of any institution of higher education that is not included under subdivision (1) of this section may be exempted from the provisions of this part by the Department of Higher Education using the procedures described in this part.

(B) This part does not preclude an institution of higher education from adopting the policies and technical guidelines for a major facility or major renovation established by the office under Subparts 2 and 3 of this part or affect the processes or exemptions under Arkansas Code § 22-6-601; and

(3) Historic and unique buildings.

(A) This part does not apply if the implementation of a measure to conserve energy, water, or other utility use conflicts with the requirements for a property to be eligible for, nominated to, or entered on the:

- (i) National Register of Historic Places; or
- (ii) State Register of Historic Places.

(B) The property is:

- (i) An historic building located within an historic district;
- (ii) An historic building listed, owned, or under the jurisdiction of an historic properties commission; or
- (iii) A building that the office has exempted from this part because of its unique architectural characteristics or usage.

Authority. Arkansas Code § 22-3-2009.

22 CAR § 10-105. Definitions.

As used in this part:

(1) "ASHRAE" means the American Society of Heating, Refrigerating, and Air-Conditioning Engineers;

(2)(A) "Commissioning" means a systematic process of ensuring that building systems perform interactively according to the design intent and the owner's operational needs.

(B) This is achieved beginning in the predesign phase by documenting the design intent and continuing through construction, acceptance, and the warranty period with actual verification of performance, operation, and maintenance (O&M) documentation verification and training of operating personnel (see Appendix E for further references);

(3) "Director" means the Director of the Arkansas Energy Office;

(4)(A) "Economic life" means the projected or anticipated useful life of a facility or mechanical system.

(B) The maximum study period is twenty-five (25) years not including planning, design, construction, and installation.

(C) This is referenced in Subpart A of 10 C.F.R. pt. 436;

(5)(A) "Energy audits" means a process for identifying energy conservation opportunities in a facility.

(B) There are four (4) levels of energy audit:

(i) Walk-thru audit;

(ii) Walk-thru analysis;

(iii) Energy survey and analysis; and

(iv) Detailed analysis of capital intensive modifications.

(C) These classifications are as noted in ASHRAE Procedures for Commercial Building Energy Audits, 2004, and Appendix B;

(6) "Energy conservation measure" means an installation or modification of an installation in, or a remodeling of, an existing building in order to reduce energy consumption and operating costs;

(7) "Energy efficiency measure" means actions taken that create a reduction in the energy used for a given service (heating, lighting, etc.) or level of activity;

(8) "Energy Star Portfolio Manager (ESPM)" means an interactive energy management tool developed by the United States Environmental Protection Agency that allows managers to track and assess energy and water consumption across the entire portfolio of buildings in a secure online environment;

(9)(A) "Energy price indices and discount factors for life-cycle cost analysis"

means the National Institute of Standards and Technology (NISTR) 85-3272-24, the source document to be used for life-cycle cost analysis for energy, water conservation, and renewable energy projects.

(B) This publication is a supplement for NIST Handbook 135, Life-Cycle Costing Manual and the indices are updated annually;

(10)(A) "Gross square footage", expressed in square feet, means the total area to include rooms and supporting functions used by the occupants of a building.

(B) This would include:

- (i) Offices;
- (ii) Hallways;
- (iii) Corridors;
- (iv) Lobbies;
- (v) Atria;
- (vi) Conference rooms;
- (vii) Auditoria;
- (viii) Fitness areas;
- (ix) Storage areas;
- (x) Stairways; and
- (xi) Elevator shafts, etc.

(C) Gross square footage is computed by physically measuring or scaling measurements from the outside faces of exterior walls;

(11) "Institution of higher education" means a state-supported university or college;

(12) "International Performance Measurement and Verification Protocol (IPMVP)" means the uniform way to implement and measure energy and water savings;

(13) "Life-cycle cost analysis (LCCA)" means an analytical technique that considers the costs of owning, using, and operating a facility over its economic life including the following:

- (A) Initial costs;
- (B) System repair and replacement costs;

- (C) Maintenance costs;
- (D) Operating costs, including energy costs; and
- (E) Salvage value;

(14)(A) "Major facility" means a construction project larger than twenty thousand (20,000) gross square feet of occupied or conditioned space.

(B) "Major facility" does not include a transmitter building or a pumping station;

(15) "Major renovation" means a building renovation project that:

(A) Costs more than fifty percent (50%) of the building's current insured value;

(B) Is larger than twenty thousand (20,000) gross square feet of occupied or conditioned space; and

(C) Is funded in whole or part by the state;

(16)(A) "Measurement and verification (M&V)" quantifies the savings being obtained.

(B) This applies to initial savings and long-term savings.

(C) Because the persistence of savings has been shown to decrease with time, long term M&V provides data to make these savings sustainable.

(D) Measurement and verification must be cost effective, so that the cost of measurement and the analysis does not consume the savings.

(E) Measurement and verification will be performed in accordance with the guidelines established in the International Performance Measurement and Verification Protocol, 2002;

(17) "Public agency" means a state agency, office, officer, board, department, or commission;

(18)(A) "Retrocommissioning" means the application of the commissioning process to existing buildings.

(B) "Retrocommissioning" is a process that seeks to improve how building equipment and systems function together.

(C) Depending on the age of the building, retrocommissioning can often

resolve problems that occurred during design and construction, or address problems that have developed throughout the building's life.

(D) In all, retrocommissioning improves a building's operations and maintenance procedures to enhance overall building performance;

(19)(A) "Recommissioning" means the process of reverifying the performance of building systems that have been commissioned previously to ensure the systems continue to operate according to the design intent or current operating needs.

(B) Recommissioning may be initiated periodically or in response to a building renovation or a change in usage;

(20) "Separate utility meters" means meters installed to monitor the usage of each utility type, electricity, fuel oil, natural gas, water, and other utilities installed at each building undergoing a major facility construction or renovation project;

(21) "Standards" means sustainable public building standards;

(22) "Sustainable energy-efficient public building" means a public building that, by complying with this part, has the most economical energy and water efficiency for that type of building;

(23)(A) "Sustainable public building" means a state-owned, public building that:

(i) Integrates building materials and methods that promote environmental quality, energy conservation, economic vitality, and social benefit through the design, construction, and operation of the building; and

(ii) Merges sound, environmentally responsible practices into one (1) design that looks at the environmental, economic, and social effects of a building or built project as a whole.

(B) A sustainable public building design encompasses:

(i) Efficient management of energy and water resources;

(ii) Management of material resources and waste;

(iii) Protection of environmental quality;

(iv) Protection of health and indoor environmental quality;

(v) Reinforcement of natural systems; and

(vi) Integrating the design approach; and

(24) "Water conservation measure" means an installation or modification of an installation in, or a remodeling of, an existing building or the surrounding grounds in order to reduce water consumption.

Authority. Arkansas Code § 22-3-2009.

Subpart 2. Sustainable Energy-Efficient Public Buildings Rules (Lead by Example)

22 CAR § 10-201. General.

This subpart is established to promote energy efficiency in buildings owned by public agencies and institutions of higher education.

Authority. Arkansas Code § 22-3-2009.

22 CAR § 10-202. Arkansas Energy Office role.

(a) Under the Sustainable Energy-Efficient Public Buildings Rules for public agencies, the Arkansas Energy Office shall develop and issue policies and technical guidelines to establish procedures and methods for compliance with the criteria and the performance standards for a major facility or a major renovation under Subpart 3.

(b) The office will administer an energy management program and provide guidance designed to achieve compliance with the requirements of Subpart 5 through implementation of energy conservation measures.

Authority. Arkansas Code § 22-3-2009.

22 CAR § 10-203. Institutions of higher education role.

(a) Under the Sustainable Energy-Efficient Public Buildings Rules, each institution of higher education, under its own governance, shall develop policies and technical

guidelines to establish procedures and methods for compliance with the criteria and performance standards for a major facility and a major renovation under Subpart 3.

(b)(1) Institutions of higher education may also develop and implement an energy management program.

(2) If an institution of higher education chooses to develop and implement an energy management program, the institution may either develop and administer its own program or they may adopt the State Building Energy Management Program set forth in this part.

Authority. Arkansas Code § 22-3-2009.

22 CAR § 10-204. State agency role.

(a) Each state agency is responsible for complying with this part to ensure the proper design, construction, and operation of new major facilities and major renovations, as well as to implement energy management plans and guidelines.

(b)(1) The appointment and training of an energy manager is necessary to ensure a central point of contact with regard to compliance with this part.

(2) The level of training for the agency energy manager needs to be consistent with the complexity of the agency facilities.

(c) State agencies will be required to submit annual reports to the Arkansas Energy Office as required by this part in order to monitor agency efforts to reduce utility consumption and allow the agency to be recognized for their efforts and achievements.

(d) Each agency is responsible for the monthly updating of their ESPM accounts in order to provide an accurate record of energy efficiency efforts and progress, and is consistent with the agencies' requirements under the Governor's Executive Order #09-07 issued May 28th, 2009 (see Appendix E).

Authority. Arkansas Code § 22-3-2009.

Subpart 3. Sustainable Public Building Standards for a Major Facility or a

Major Renovation

22 CAR § 10-301. Minimum requirements.

(a) The following minimum standards apply to a major facility:

(1) A major facility of a public agency or an institution of higher education shall be designed, constructed, and certified to at least a ten percent (10%) reduction below the baseline energy consumption determined in accordance with the Performance Rating Method of Appendix G of the ASHRAE, Standard 90.1-2007, as existed on January 1, 2009;

(2) The design engineer/architect certifies conformance by adding the following statement on their final design prints for a project:

“I certify that to the best of my knowledge these plans and specifications are as required by the ACA 22-3-2004.

Name/Signature/Title/Date”;

(3) Subdivision (a)(1) of this section applies to a major facility project that has not entered the schematic design phase before the effective date of this part, January 1, 2011; and

(4)(A) An exception or a special standard for a specific type of building or building facility that is found in the ASHRAE, Standard 90.1-2007, is included in the ASHRAE, Standard 90.1-2007, under subdivision (a)(1) of this section.

(B) This supersedes any preceding code requirement.

(b) The following minimum standards apply to a major renovation:

(1) A major renovation of a public agency or an institution of higher education shall be certified to at least a ten percent (10%) reduction below the baseline energy consumption determined in accordance with the Performance Rating Method of Appendix G of the ASHRAE, Standard 90.1-2007, as it existed on January 1, 2009;

(2) The design engineer/architect certifies conformance by adding the following statement on their final design prints for a project:

“I certify that to the best of my knowledge these plans and specifications are as required by the ACA 25-4-404.

Name/Signature/Title/Date”; and

(3) Subdivision (b)(1) of this section applies to a major facility renovation project that has not entered the schematic design phase before the effective date of this part, January 1, 2011.

(c) Construction under either subsection (a) or subsection (b) of this section requires:

(1) Indoor water systems shall be designed and constructed to use at least twenty percent (20%) less potable water than the indoor water use baseline calculated for the building after satisfying the fixture performance requirement, after meeting the 2006 Arkansas Plumbing Code;

(2) Outdoor potable water and/or harvested groundwater systems shall be designed to use water-efficient landscape materials and irrigation strategies, including water reuse and recycling, with the goal to reduce potable water consumption by at least fifty percent (50%) of the water that would have been consumed otherwise;

(3)(A) Commissioning for major facilities/major renovations.

(B) Commissioning practices shall be employed and tailored to the size and complexity of the building and its system components.

(C) Each building component and each energy and water system shall be identified as soon as possible and incorporated into the commissioning process at the earliest phase of the construction process possible.

(D) Commissioning shall continue through the initial operation of the building until the commissioning agent has ensured that the owner’s building systems have been tested and perform according to the design intent and building operators are properly trained; and

(4)(A) Measurement and verification for major facilities/major renovation.

(B) The project design team, construction team, and the public agency

shall jointly determine what level of measurement and verification is appropriate for the size and complexity of the building or its energy and water system components.

(C) To ensure that measurement and verification of performance of a major facility meets this section's standards:

(i) At a minimum, a separate utility meter for electricity, natural gas, fuel oil, and water shall be installed for each building in accordance with established guidelines of the United States Department of Energy under Section 103 of the Energy Policy Act of 2005; and

(ii) The public agency or institution of higher education and the building designers shall:

(a) Compare metered data from the first twelve (12) months of the building's operation with the energy and water design target; and

(b) Report the performance results of that comparison to the Arkansas Energy Office or to the governing board of the institution of higher education.

(D) If the report under subsection (c)(4)(C)(ii)(b) of this section shows that the building's average energy or water consumption over the one-year period after the date of beneficial occupancy is more than the baseline consumption determined in accordance with the Performance Rating Method of Appendix G of the ASHRAE, Standard 90.1-2007, as it existed on January 1, 2009, the designer, the owner, public agency, or institution of higher education, the contractor, the Contract Manager at Risk, and the commissioning agent shall:

(i) Investigate;

(ii) Determine the cause for the failure to achieve this section's performance standards; and

(iii) Recommend corrections or modifications to meet this section's performance standards.

(d) If the office or the institution of higher education determines the ASHRAE, Standard 90.1-2007 is not practicable for a major facility or major renovation, the office or the institution of higher education shall determine a practicable alternative standard for the design and construction for that major facility or major renovation.

Authority. Arkansas Code § 22-3-2009.

Codification Notes. United States Energy Policy Act of 2005, Section 103 is found at Pub. L. No. 109-58, § 103.

Subpart 4. Purchase of a Constructed or Renovated Building

22 CAR § 10-401. Limits on purchase.

(a) A public agency shall not purchase a building that:

(1) Does not meet the design and construction standards that were applicable for a comparable state building at the time of its construction; or

(2) Had a major renovation that did not meet the standard for energy and water efficiency that was applicable for a comparable building at the time of the major renovation.

(b) This section does not apply to:

(1) The purchase of a building that has historic, architectural, or cultural significance;

(2) A building that is acquired by devise or gift; or

(3) A building that is purchased for demolition.

Authority. Arkansas Code § 22-3-2009.

Subpart 5. State Buildings Energy Management Program

22 CAR § 10-501. General.

(a) The Arkansas Energy Office will promote and develop guidelines and provide technical guidance for state agencies to manage energy, water, and other utilities that will reduce total energy consumption per gross square foot for all existing state buildings.

(b) The office will further administer an energy management program designed to achieve compliance with energy efficiency goals through implementation of energy conservation measures and development of an energy and water cost and use database.

Authority. Arkansas Code § 22-3-2009.

22 CAR § 10-502. Energy manager.

(a)(1) To coordinate the State Buildings Energy Management Program, each agency will assign one (1) person in their organization as the energy manager.

(2) The name of this person shall be given to the Arkansas Energy Office and updated as changes are made.

(b)(1) The energy manager will coordinate energy efficiency efforts for the agency and be responsible for reporting required by this program.

(2) The energy manager should also be responsible for reviewing and approving capital improvement projects and maintenance projects to ensure compliance with the agency's energy management program and compliance with this program.

Authority. Arkansas Code § 22-3-2009.

22 CAR § 10-503. Energy management plan elements.

(a)(1) There are many facets to the development of the State Buildings Energy Management Program.

(2) The key program areas for energy efficiency in state facilities are:

- (A) Strategic energy planning;
- (B) Energy and water usage and cost tracking;
- (C) Life-cycle cost analysis;
- (D) Energy-efficient procurement practices;
- (E) Energy efficiency measures;
- (F) Building performance; and

(G) Energy training.

(3) Reductions in energy use per square foot of gross floor area will be achieved through implementation of these key program areas.

(b) Strategic energy plans.

(1) The Arkansas Energy Office will require strategic energy plans from state agencies to insure state agencies have developed and implemented plans intended to reduce total energy consumption per gross square foot for existing state buildings by twenty percent (20%) by 2014 and thirty percent (30%) by 2017 based on energy consumption for the fiscal year 2008.

(2)(A) Strategic energy plans for all agencies will be submitted once every five (5) years to include annual updates each year on October 31.

(B) The five-year plan and updates must be uploaded to the Arkansas Energy Office website, <https://www.adeg.state.ar.us/energy/>, for Arkansas Energy Office review and approval.

(3) All agencies are required to report unless specifically exempted by law.

(4) Each agency shall include in their strategic energy plan a description of the agency's goals and strategies to meet the 2014 and 2017 goals and a plan for continued energy efficiency efforts.

(5) The plan must:

(A) Document the current status of the agency in implementing energy efficiency improvements;

(B) Report the success and challenges of the program to date; and

(C) Describe the plans to continue improvements.

(6) At a minimum, the strategic plan must include the following:

(A) Cover letter from the agency director, which includes a signed acknowledgement showing the director's approval of the plan;

(B) Explanation for why the agency has or has not achieved the goals of its strategic energy plan;

(C) List of the energy efficiency projects planned for the next five (5) years and a timeline for completion of these energy projects; and

(D) An updated inventory of facilities, which is required by agencies owning or leasing buildings.

(7)(A) An Excel template is provided on the Arkansas Energy Office website for this purpose.

(B) A suggested strategic plan outline is provided in Appendix A.

(C) More detailed templates and guidelines for plans will be available from the Arkansas Energy Office website.

(c) Energy usage and cost tracking using Energy Star Portfolio Manager (ESPM).

(1) ESPM shall be used by each agency to organize their data to establish a baseline of energy usage for fiscal year 2008 and track subsequent energy, water, and other utility usage and costs.

(2)(A) Each agency must establish accounts in ESPM.

(B) To establish accounts, facility and utility bill data must be gathered and entered into the accounts, starting with data for July, 2007.

(C) These accounts must be updated on a monthly basis.

(3) The energy manager in each agency will be the point of contact for information in this database.

(4)(A) Agencies will give the Arkansas Energy Office share permission to view and use the account data in ESPM.

(B) This data will allow verification of the energy savings by the agency for each facility and will be aggregated to show the energy savings by an agency and state agencies as a whole.

(5)(A) The Arkansas Energy Office will consider changes in the baseline of an agency on a case-by-case basis.

(B) Requests for changes to the baseline should be forwarded to the Director of the Arkansas Energy Office.

(d) Life-cycle cost analysis (LCCA).

(1) An LCCA shall be performed by state agencies on all building energy and water designs related to state agency facilities.

(2) Methods for performing an LCCA are listed in Appendix C.

(3)(A) The Arkansas Energy Office requires the use of NISTIR 85-3273-21 Energy Price Indices and Discount Factors for Life-Cycle Cost.

(B) Alternative LCCA methods and indices/discount factors may be used only upon approval by the Arkansas Energy Office.

(4) Projects must consider the economic life of the building system and components when making this determination.

(5) The results of the LCCA must be reported to the Arkansas Energy Office and the report must include economic assumptions used in the calculations.

(e) Energy-efficient procurement practices.

(1) Agency purchasing practices must provide the maximum interchangeability and compatibility of equipment components when energy management equipment is proposed for any facility of a public agency.

(2) This is not intended to require agencies to sole source purchasing of equipment or limit the agencies to only one (1) protocol, but to encourage open sources of energy management equipment consistently applied within any given state-owned building.

(3) The Office of State Procurement has developed policies, procedures, and standards to ensure that public agency purchasing practices include:

(A) Requirements concerning the use of financial instruments for energy savings, including energy performance contracting that stipulates the delivery of measurable and predetermined energy savings;

(B) Requirements to purchase equipment based on lists of energy-efficient product specifications for different categories of equipment;

(C) Requirements to purchase equipment that has efficient energy consumption in all modes, including standby mode;

(D)(i) Using, where applicable, life-cycle cost analysis.

(ii) Procurement rules R11:19-11-229 and R3:19-11-234 describe requirements for life-cycle costing;

(E) Requirements to replace or retrofit existing equipment with the

equipment listed in subdivisions (e)(3)(B) and (C) of this section; and

(F) Requirements to purchase or rent energy-efficient buildings or parts thereof.

(4) State agencies will implement a program whereby all of the following low-cost energy conservation measures shall be fully implemented no later than January 1, 2012:

(A) Lighting systems to include:

(i) The installation of exit signs that employ light-emitting diode (LED) technology;

(ii) The replacement of incandescent light bulbs with compact fluorescent light bulbs; and

(iii) Where appropriate, the installation of occupancy sensors or optical sensors;

(B) Water systems to include:

(i) The installation of aerators in sink faucets that reduce the flow of water to a rate of no more than five-tenths gallons per minute (.5 gpm);

(ii) The installation of shower heads with a flow rate equal to or less than two gallons per minute (2 gpm);

(iii) Where appropriate, the resetting of hot water heaters to a water temperature of one hundred thirty degrees (130°); and

(iv) The training of staff to monitor the use of irrigation systems and to base the use of the system on the moisture content of the soil;

(C) Heating, ventilation, and air conditioning (HVAC) systems.

(i) For HVAC equipment that is subject to replacement, review the heat load calculation and proposed specifications for the replacement HVAC equipment to ensure that it is not oversized.

(ii) For building automation systems that are programmable, provide the training to ensure that these systems are properly programmed and maintained; and

(D) For retrofit of existing buildings that require no significant expenditure

of funds:

- (i) Disconnect lamps in drink vending machines;
- (ii) Use power save feature on:
 - (a) Computers;
 - (b) Monitors;
 - (c) Copiers;
 - (d) Fax machines; and
 - (e) Other office equipment; and
- (iii) Purchase only Energy Star office equipment and appliances.

(f) Building performance — Energy audits, recommissioning, and retrocommissioning.

(1) Energy managers should periodically evaluate the performance of the facilities used by the agency.

(2) In order to perform an adequate investigation, the energy manager should determine if the facility needs justify an energy audit or a more intensive recommissioning or retrocommissioning.

(3) Proper evaluation of facilities will identify energy efficiency measures that need to be taken to improve the performance of the facility.

(4)(A) The Arkansas Energy Office recommends audits or commissioning activities be performed every five (5) years.

(B) Appendix B contains supplemental information for the different levels of auditing that can be performed on buildings.

(5) The agency energy manager shall ensure that architects licensed by the Arkansas State Board of Architects, Landscape Architects, and Interior Designers or professional engineers licensed by the State Board of Licensure for Professional Engineers and Professional Surveyors are engaged to provide energy audit or commissioning services when such services involve the practice of architecture or engineering in accordance with the Arkansas Architectural Act, Arkansas Code § 17-15-101 et seq., and Arkansas Code § 17-30-101 et seq., respectively.

(g) Energy training.

(1) The Arkansas Energy Office will offer education and training as funds are available.

(2) The education program will include various levels of training relating to the:

- (A) Design;
- (B) Operation and maintenance of facilities;
- (C) Life-cycle cost analysis;
- (D) Energy audits;
- (E) Retrocommissioning; and
- (F) Energy management.

(3) The training will be open to:

- (A) Energy managers;
- (B) Chief financial officers;
- (C) Facility managers;
- (D) Capital project coordinators of public agencies;
- (E) Architects; and
- (F) Engineers.

(4) The Arkansas Energy Office shall develop one (1) level of education and training requirements for the chief financial officer of each public agency that is appropriate for the chief financial officer's level of involvement in projects under this section.

(5)(A) The Arkansas Energy Office shall develop, for each public agency that is responsible for the payment of the agency's utilities, another higher level of education and training requirements for the facility manager of the agency that is appropriate for the facility manager's level of involvement in projects under this section.

(B) This level of education and training shall also be a requirement for the capital project coordinator of an agency involved in a project under this section.

(6) The Arkansas Energy Office shall develop a highest level of education and training requirements for the architects and mechanical design engineers that are involved in the design of projects under this section that is appropriate for their level of

involvement in these projects.

Authority. Arkansas Code § 22-3-2009.

Subpart 6. Advisory Committee of the Arkansas Energy Office

22 CAR § 10-601. Advisory committee.

(a)(1) The Director of the Arkansas Energy Office of the Division of Environmental Quality shall create an advisory committee composed of:

(A) Representatives from the design and construction industry who are involved in public works contracting;

(B) Persons from public agencies and higher education who are responsible for overseeing public works projects or for developing energy efficiency programs and policies; and

(C) Other persons that the director considers to have useful information.

(2) Advisory committee members shall serve at the pleasure of the director.

(b) The committee shall provide advice on the implementation of this part, including recommendations regarding:

(1) An education and training program for persons who are involved in the implementation of this part to include specific education and training criteria that are appropriate for the various roles with respect to levels of involvement in projects subject to this part or the roles regarding the operation and maintenance of the facility;

(2) An ongoing evaluation or feedback process to help the Arkansas Energy Office administer and implement this section; and

(3) Water efficiency and energy efficiency requirements, in addition to making recommendations to the office regarding revising standards for water and energy efficiency.

Authority. Arkansas Code § 22-3-2009.

Subpart 7. Performance Review and Report

22 CAR § 10-701. Performance review.

(a) The Arkansas Energy Office, to the extent funds are available, shall conduct a performance review of the Sustainable Energy-Efficient Public Building Rules that include at least the following:

(1) An identification of the costs of implementing energy-efficient and water-efficient building standards in the design and construction of a major facility or major renovation;

(2) An identification of the operating savings attributable to the implementation of energy-efficient and water-efficient building standards, including savings in energy, water, utility, and maintenance costs;

(3) An identification of any impact on employee productivity from the application of the standards under this part;

(4) An evaluation of the effectiveness of the application of the standards under this part;

(5) Recommendations on whether stricter standards or additional criteria for sustainable buildings should be used other than those in effect;

(6) Recommendations on the expansion of this program to include additional types of projects, and/or include smaller major facility construction or renovation projects; and

(7) Recommendations for other changes regarding sustainable, energy-efficient building standards supported by the office findings.

(b) No later than December 1, 2010, and each year thereafter, the office shall report to the co-chairs of the Legislative Council its findings under subsection (a) of this section and recommended changes, if any.

(c) Institutions of higher education named in Subpart 1. Major university systems shall follow such reporting requirements as may be required by their board of trustees' or department's policies and procedures.

Authority. Arkansas Code § 22-3-2009.

Appendix A. Strategic Energy Plan Outline

Link:

<https://CodeOfARRules.arkansas.gov/docs/CARCodeAppendices/Appendices/323/22CARpt.10AppendixA.pdf>

Appendix B. Energy Audits and Audit Procedures

Link:

<https://CodeOfARRules.arkansas.gov/docs/CARCodeAppendices/Appendices/324/22CARpt.10AppendixB.pdf>

Appendix C. Additional Resources

Link:

<https://CodeOfARRules.arkansas.gov/docs/CARCodeAppendices/Appendices/325/22CARpt.10AppendixC.pdf>

Appendix D. Energy Conservation Measures and Examples

Link:

<https://CodeOfARRules.arkansas.gov/docs/CARCodeAppendices/Appendices/326/22CARpt.10AppendixD.pdf>

Appendix E. Executive Order: EO 09-07

Link:

<https://CodeOfARRules.arkansas.gov/docs/CARCodeAppendices/Appendices/326/22CARpt.10AppendixD.pdf>

[s/327/22CARpt.10AppendixE.pdf](#)