



Arran Lakes Substation Modifications

City of Fayetteville, North Carolina

**Developer:
Lumbee River Electric Membership Corporation**

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**SPECIAL USE PERMIT:
North Carolina General Assembly, North Carolina Department of
Environmental Quality**



NORTH CAROLINA GENERAL ASSEMBLY

§ 62-133.8. Renewable Energy and Energy Efficiency Portfolio Standard (REPS).

(a) Definitions. - As used in this section:

- (1) "Combined heat and power system" means a system that uses waste heat to produce electricity or useful, measurable thermal or mechanical energy at a retail electric customer's facility.
- (2) "Demand-side management" means activities, programs, or initiatives undertaken by an electric power supplier or its customers to shift the timing of electricity use from peak to nonpeak demand periods. "Demand-side management" includes, but is not limited to, load management, electric system equipment and operating controls, direct load control, and interruptible load.
- (3) "Electric power supplier" means a public utility, an electric membership corporation, or a municipality that sells electric power to retail electric power customers in the State.
- (3a) "Electricity demand reduction" means a measurable reduction in the electricity demand of a retail electric customer that is voluntary, under the real-time control of both the electric power supplier and the retail electric customer, and measured in real time, using two-way communications devices that communicate on the basis of standards.
- (4) "Energy efficiency measure" means an equipment, physical, or program change implemented after January 1, 2007, that results in less energy used to perform the same function. "Energy efficiency measure" includes, but is not limited to, energy produced from a combined heat and power system that uses nonrenewable energy resources. "Energy efficiency measure" does not include demand-side management.
- (5) "New renewable energy facility" means a renewable energy facility that either:
 - a. Was placed into service on or after January 1, 2007.
 - b. Delivers or has delivered electric power to an electric power supplier pursuant to a contract with NC GreenPower Corporation that was entered into prior to January 1, 2007.
 - c. Is a hydroelectric power facility with a generation capacity of 10 megawatts or less that delivers electric power to an electric power supplier.
- (6) "Renewable energy certificate" means a tradable instrument that is equal to one megawatt hour of electricity or equivalent energy supplied by a renewable energy facility, new renewable energy facility, or reduced by implementation of an energy efficiency measure that is used to track and verify compliance with the requirements of this section as determined by the Commission. A "renewable energy certificate" does not include the related emission reductions, including, but not limited to, reductions of sulfur dioxide, oxides of nitrogen, mercury, or carbon dioxide.
- (7) "Renewable energy facility" means a facility, other than a hydroelectric power facility with a generation capacity of more than 10 megawatts, that either:
 - a. Generates electric power by the use of a renewable energy resource.
 - b. Generates useful, measurable combined heat and power derived from a renewable energy resource.
 - c. Is a solar thermal energy facility.
- (8) "Renewable energy resource" means a solar electric, solar thermal, wind, hydropower, geothermal, or ocean current or wave energy resource; a

Article 4.

Electrical Contractors.

§ 87-39. Board of Examiners; appointment; terms; chairman; meetings; quorum; principal office; compensation; oath.

(a) The State Board of Examiners of Electrical Contractors shall continue as the State agency responsible for the licensing of persons engaging in electrical contracting within this State, and shall consist of one member from the North Carolina Department of Insurance to be designated by the Commissioner of Insurance; one member who has satisfied the requirements for an unlimited license as defined in G.S. 87-43.3 and who is a representative of the North Carolina Association of Electrical Contractors to be designated by the governing body of that organization; and five members to be appointed by the Governor: one from the faculty of The Greater University of North Carolina who teaches or does research in the field of electrical engineering, one who is serving as a chief electrical inspector of a municipality or county in North Carolina, one who has satisfied the requirements for an unlimited license as defined in G.S. 87-43.3 and who is a representative of the Carolinas Electrical Contractors Association operating a sole proprietorship, partnership or corporation located in North Carolina which is actively engaged in the business of electrical contracting, and two who have no ties with the construction industry and who represent the interest of the public at large.

(b) Members of the Board shall serve staggered seven-year terms. Each member shall serve until his or her successor is designated or appointed, and is duly qualified. Vacancies occurring during a term shall be filled for the remainder of that term by the authority that designated or appointed the departing member.

(c) Members of the Board shall not serve consecutive, complete terms. For purposes of this subsection, only a term of less than seven years that results from the filling of a vacancy is an incomplete term; a term of less than seven years that results from the successor's late designation or appointment is not an incomplete term.

(d) All members shall be residents of North Carolina during their tenure on the Board. Any member of the Board may be removed by the authority that designated or appointed that member for misconduct, incompetency, or neglect of duty.

(e) The Board shall hold regular meetings quarterly and may hold meetings on call of the chair. The chair shall be required to call a special meeting upon written request by two members of the Board. At its regular first quarter meeting, the Board shall elect from its membership a chair and a vice-chair, each to serve for one year. Four members of the Board shall constitute a quorum. The principal office of the Board shall be at such place as shall be designated by a majority of the members thereof. Payment of compensation and reimbursement of expenses of Board members shall be governed by G.S. 93B-5.

(f) Before entering upon the performance of his or her duties hereunder, each member of the Board shall take and file with the Secretary of State an oath in writing to properly perform the duties of his or her office as a member of the Board, and to uphold the Constitution of North Carolina and the Constitution of the United States. (1937, c. 87, s. 1; 1969, c. 669, s. 1; 1979, c. 904, ss. 1-3; 1989, c. 709, s. 1; 1995, c. 114, s. 1.)

§ 87-40. Secretary-treasurer.

At its regular first quarter meeting, the Board shall appoint a secretary-treasurer to serve for one year. The secretary-treasurer need not be a member of the Board, and the Board is authorized to employ a full-time secretary-treasurer and such other assistants and to make such other

expenditures as may be necessary to the proper performance of the duties of the Board under this Article. The compensation and the duties of the secretary-treasurer shall be fixed by the Board, and the secretary-treasurer shall give bond in such sum and form as the Board shall require for the faithful performance of duty. The secretary-treasurer shall keep a record of the proceedings of said Board and shall receive and account for all moneys derived from the operations of the Board under this Article. (1937, c. 87, ss. 2, 3; 1969, c. 669, s. 1; 1995, c. 114, s. 2.)

§ 87-41. Seal of Board.

The Board shall adopt a seal for its own use, and the secretary-treasurer shall have charge and custody thereof. The seal shall have inscribed thereon the words "Board of Examiners of Electrical Contractors, State of North Carolina." (1937, c. 87, s. 3; 1969, c. 669, s. 1.)

§ 87-41.1. Definitions.

As used in this Article, unless the context requires otherwise:

- (1) A "qualified individual" is an individual who is qualified in a specific license classification as a result of having taken and passed the qualifying examination required by this Article for such a classification and who has been certified as such by the Board pursuant to G.S. 87-42.
- (2) A "listed qualified individual" is a qualified individual whose name is listed on a license issued by the Board. A listed qualified individual has the specific duty and authority to supervise and direct electrical contracting done by or in the name of a licensee of the Board on whose license the qualified individual is so listed.
- (3) A licensee of the Board is a person listed pursuant to subsection (2), or a partnership, firm or corporation that regularly employs at least one listed qualified individual and which has been issued a license by the Board. (1989, c. 709, s. 2.)

§ 87-42. Duties and powers of Board.

In order to protect the life, health and property of the public, the State Board of Examiners of Electrical Contractors shall provide for the written examination of all applicants for certification as a qualified individual, as defined in G.S. 87-41.1. The Board shall receive all applications for certification as a qualified individual and all applications for licenses to be issued under this Article, shall examine all applicants to determine that each has met the requirements for certification and shall discharge all duties enumerated in this Article. Applicants for certification as a qualified individual must be at least 18 years of age and shall be required to demonstrate to the satisfaction of the Board their good character and adequate technical and practical knowledge concerning the safe and proper installation of electrical work and equipment. The examination to be given for this purpose shall include, but not be limited to, the appropriate provisions of the National Electrical Code as incorporated in the North Carolina State Building Code, the analysis of electrical plans and specifications, estimating of electrical installations, and the fundamentals of the installation of electrical work and equipment. Certification of qualified individuals shall be issued in the same classifications as provided in this Article for license classifications. The Board shall prescribe the standards of knowledge, experience and proficiency to be required of qualified individuals, which may vary for the various license classifications. The Board shall issue certifications and licenses to all applicants meeting the requirements of this Article and of the

Board upon the receipt of the fees prescribed by G.S. 87-44. The Board shall have power to make rules and regulations necessary to the performance of its duties and for the effective implementation of the provisions of this Article. The Board shall have the power to administer oaths and issue subpoenas requiring the attendance of persons and the production of papers and records before the Board in any hearing, investigation, or proceeding conducted by it. Members of the Board's staff or the sheriff or other appropriate official of any county of this State shall serve all notices, subpoenas, and other papers given to them by the Chairman for service in the same manner as process issued by any court of record. Any person who neglects or refuses to obey a subpoena issued by the Board shall be guilty of a Class 1 misdemeanor. The Board shall have the power to acquire, rent, encumber, alienate, and otherwise deal with real property in the same manner as a private person or corporation, subject only to approval of the Governor and the Council of State. Collateral pledged by the Board for an encumbrance is limited to the assets, income, and revenues of the Board. The Board shall keep minutes of all its proceedings and shall keep an accurate record of receipts and disbursements which shall be audited at the close of each fiscal year by a certified public accountant, and the audit report shall be filed with the State of North Carolina in accordance with Chapter 93B of the General Statutes. (1937, c. 87, s. 4; 1969, c. 669, s. 1; 1989, c. 709, s. 3; 1993, c. 539, s. 605; 1994, Ex. Sess., c. 24, s. 14(c); 2001-159, s. 1.)

§ 87-43. Electrical contracting defined; licenses.

Electrical contracting shall be defined as engaging or offering to engage in the business of installing, maintaining, altering or repairing any electric work, wiring, devices, appliances or equipment. No person, partnership, firm or corporation shall engage, or offer to engage, in the business of electrical contracting within the State of North Carolina without having received a license in the applicable classification described in G.S. 87-43.3 from the State Board of Examiners of Electrical Contractors in compliance with the provisions of this Article, regardless of whether the offer was made or the work was performed by a qualified individual as defined in G.S. 87-41.1. In each separate place of business operated by an electrical contractor at least one listed qualified individual shall be regularly on active duty and shall have the specific duty and authority to supervise and direct all electrical wiring or electrical installation work done or made by such separate place of business. Every person, partnership, firm or corporation engaging in the business of electrical contracting shall display a current certificate of license in his principal place of business and in each branch place of business which he operates. Licenses issued hereunder shall be signed by the chairman and the secretary-treasurer of the Board, under the seal of the Board. A registry of all licenses issued to electrical contractors shall be kept by the secretary-treasurer of the Board, and said registry shall be open for public inspection during ordinary business hours. (1937, c. 87, s. 5; 1951, c. 650, ss. 1-2 1/2; 1953, c. 595; 1961, c. 1165; 1969, c. 669, s. 1; 1989, c. 709, s. 4.)

§ 87-43.1. Exceptions.

The provisions of this Article shall not apply:

- (1) To the installation, construction or maintenance of facilities for providing electric service to the public ahead of the point of delivery of electric service to the customer.
- (2) To the installation, construction, maintenance, or repair of telephone, telegraph, or signal systems, by public utilities, or their corporate affiliates, when said work pertains to the services furnished by said public utilities.

- (3) To any person in the course of his work as a bona fide employee of a licensee of this Board.
- (4) To the installation, construction or maintenance of electrical equipment and wiring for temporary use by contractors in connection with the work of construction.
- (5) To the installation, construction, maintenance or repair of electrical wiring, devices, appliances or equipment by persons, firms or corporations, upon their own property when such property is not intended at the time for rent, lease, sale or gift, who regularly employ one or more electricians or mechanics for the purpose of installing, maintaining, altering or repairing of electrical wiring, devices or equipment used for the conducting of the business of said persons, firms or corporations.
- (5a) To any person when that person is installing, maintaining, altering or repairing electric work, wiring, devices, appliances or equipment upon that person's own property and for that person's own benefit when such property is not intended at the time for rent, lease, or sale. This subdivision shall not be construed to limit the ability of local boards of education, hospitals as defined in G.S. 131E-76, or nonprofit organizations exempt from taxation under section 501(c)(3) of the Internal Revenue Code (26 U.S.C. § 501(c)(3)), to employ personnel who are licensed under this Article to perform maintenance and repairs on property owned or in the possession of that local board of education, hospital, or nonprofit organization.
- (6) To the installation, construction, maintenance or repair of electrical wiring, devices, appliances or equipment by State institutions and private educational institutions which maintain a private electrical department.
- (7) To the replacement of lamps and fuses and to the installation and servicing of cord-connected appliances and equipment connected by means of attachment plug-in devices to suitable receptacles which have been permanently installed or to the servicing of appliances connected to a permanently installed junction box. This exception does not apply to permanently installed receptacles or to the installation of the junction box.
- (8) To the bonding of corrugated stainless steel tubing (CSST) gas piping systems as required under Section 310.1.1 of the North Carolina Fuel Gas Code.
- (9) To the installation, maintenance, or replacement of any load control device or equipment by an electric power supplier, as defined in G.S. 62-133.8, or an electrical contractor contracted by the electric power supplier, so long as the work is subject to supervision by an electrical contractor licensed under this Article. The electric power supplier shall provide such installation, maintenance, or replacement in accordance with (i) an activity or program ordered, authorized, or approved by the North Carolina Utilities Commission pursuant to G.S. 62-133.8 or G.S. 62-133.9 or (ii) a similar program undertaken by a municipal electric service provider, whether the installation, modification, or replacement is made before or after the point of delivery of electric service to the customer. The exemption under this subdivision applies to all existing installations.

§ 160D-1110. Building permits.

(a) Except as provided in subsection (c) of this section, no person shall commence or proceed with any of the following without first securing all permits required by the State Building Code and any other State or local laws applicable to any of the following activities:

- (1) The construction, reconstruction, alteration, repair, movement to another site, removal, or demolition of any building or structure.
- (2) The installation, extension, or general repair of any plumbing system except that in any one- or two-family dwelling unit a permit is not required for the connection of a water heater that is being replaced if (i) the work is performed by a person licensed under G.S. 87-21 who personally examines the work at completion and ensures that a leak test has been performed on the gas piping, and (ii) the energy use rate or thermal input is not greater than that of the water heater that is being replaced, there is no change in fuel, energy source, location, capacity, or routing or sizing of venting and piping, and the replacement is installed in accordance with the current edition of the State Building Code.
- (3) The installation, extension, alteration, or general repair of any heating or cooling equipment system.
- (4) The installation, extension, alteration, or general repair of any electrical wiring, devices, appliances, or equipment, except that in any one- or two-family dwelling unit a permit is not required for repair or replacement of electrical lighting fixtures or devices, such as receptacles and lighting switches, or for the connection of an existing branch circuit to an electric water heater that is being replaced if all of the following requirements are met:
 - a. With respect to electric water heaters, the replacement water heater is placed in the same location and is of the same or less capacity and electrical rating as the original.
 - b. With respect to electrical lighting fixtures and devices, the replacement is with a fixture or device having the same voltage and the same or less amperage.
 - c. The work is performed by a person licensed under G.S. 87-43.
 - d. The repair or replacement installation meets the current edition of the State Building Code, including the State Electrical Code.

However, a building permit is not required for the installation, maintenance, or replacement of any load control device or equipment by an electric power supplier, as defined in G.S. 62-133.8, or an electrical contractor contracted by the electric power supplier, so long as the work is subject to supervision by an electrical contractor licensed under Article 4 of Chapter 87 of the General Statutes. The electric power supplier shall provide such installation, maintenance, or replacement in accordance with (i) an activity or program ordered, authorized, or approved by the North Carolina Utilities Commission pursuant to G.S. 62-133.8 or G.S. 62-133.9 or (ii) a similar program undertaken by a municipal electric service provider, whether the installation, modification, or replacement is made before or after the point of delivery of electric service to the customer. The exemption under this subsection applies to all existing installations.

(b) A building permit shall be in writing and shall contain a provision that the work done shall comply with the North Carolina State Building Code and all other applicable State and local laws. Nothing in this section requires a local government to review and approve residential building plans submitted to the local government pursuant to the North Carolina Residential Code, provided that the local government may review and approve the residential building plans as it deems necessary. If a local government chooses to review residential building plans for any structures subject to regulation under the North Carolina Residential Code for One- and G.S. 160D-1110



NCDEQ STORMWATER DESIGN MANUAL

A-4. Built-Upon Area

N.C.G.S.143-214.7(b2): For purposes of implementing stormwater programs, "**built-upon area**" means impervious surface and partially impervious surface to the extent that the partially impervious surface does not allow water to infiltrate through the surface and into the subsoil. "Built-upon area" does not include:

- a slatted deck;
- the water area of a swimming pool;
- a surface of number 57 stone, as designated by the American Society for Testing and Materials, laid at least four inches thick over a geotextile fabric;
- a trail as defined in G.S. 113A-85 that is either unpaved or paved as long as the pavement is porous with a hydraulic conductivity greater than 0.001 centimeters per second (1.41 inches per hour); or
- landscaping material, including, but not limited to, gravel, mulch, sand, and vegetation, placed on areas that receive pedestrian or bicycle traffic or on portions of driveways and parking areas that will not be compacted by the weight of a vehicle, such as the area between sections of pavement that support the weight of a vehicle.

The owner or developer of a property may opt out of any of the exemptions from "built-upon area" set out in this subsection.

NOTE: The above definition of "built-upon area" applies only to state stormwater programs.

Some additional guidance on using #57 stone in accordance with the statute is as follows:

- The #57 stone may not be mixed with other aggregate material;
- "**Geotextile fabric**" means a permeable geosynthetic comprised solely of non-biodegradable textiles. [15A NCAC 2H .1002(19)]
- The #57 stone and geotextile fabric may not be placed on top of an impervious material, such as crusher run or asphalt;
- The #57 stone area may not use an underdrain system that discharges without treatment; and
- The soil on which the 57 stone will be placed (subgrade) should not be mechanically compacted prior to installation; however, the statute does not prohibit this.

Figure 1: Number 57 Stone



Although #57 stone laid on geotextile fabric and trails that meet the minimum hydraulic conductivity standard are not considered built-upon area to determine whether a project is high density or low density, these areas shall be accounted for in the design of SCMs required in high density projects. Per 15A NCAC 02H .1050, SCMs shall be sized to account for runoff from all surfaces draining to the system unless the applicant can demonstrate that those areas will not produce stormwater runoff. The requirement to account for runoff from all surfaces for purposes of SCM sizing is consistent with rule 15A NCAC 2H .1003(3).

Any size stone or aggregate used on portions of projects that receive infrequent vehicular traffic (approximately twice a month or less) may be counted as pervious regardless of the depth of the stone layer. This includes applications such as decorative landscaping, drainage swales, weed control, and the area within the fenced yard at electrical substations.

If an applicant plans to install a surface that does not meet one of the five exemptions to built-upon area called out in N.C.G.S.143-214.7(b2), he has the option of demonstrating to the permitting authority that the proposed surface allows an adequate level of stormwater infiltration to be considered either pervious or partially pervious. The information the applicant provides shall be based on engineering calculations and the results of research studies showing that the proposed surface provides equal or better infiltration rates as the surrounding pervious surfaces and that it shall function in perpetuity.