

## ARTICLE XIII

### SOLAR ENERGY: PROCEDURES AND STANDARDS

#### 1. Purpose

The purpose of this ordinance is to facilitate the construction, installation, and operation of Solar Energy Systems (SESs) in Edgecombe County in a manner that promotes economic development and ensures the protection of health, safety and welfare while also avoiding adverse impacts to important areas such as agricultural lands, endangered species habitats, conservation lands, and other sensitive lands. It is the intent of this ordinance to encourage the development of SESs that reduce reliance on foreign and out-of-state energy resources, bolster local economic development and job creation, support the diversification of the state's energy portfolio, strengthen energy and grid security, reduce greenhouse gas emissions, reduce local air and water pollution, and aid North Carolina in meeting its Renewable Portfolio Standard. This ordinance is not intended to abridge safety, health or environmental requirements contained in other applicable codes, standards, or ordinances. The provisions of this ordinance shall not be deemed to nullify any provisions of local, state or federal law.

#### 2. Definitions

**Solar energy System (SES)** – the components and subsystems required to convert solar energy into electric or thermal energy suitable for use. The area of the system includes all the land inside the perimeter of the system, which extends to any fencing. The term applies, but is not limited to, solar photovoltaic (PV) systems, solar thermal systems, and solar hot water systems. A system fits into one of three system types: Level 1 SES, Level 2 SES, and Level 3 SES.

**Level 1 Solar Energy System** - Level 1 SESs include the following:

- i.* Roof-mounted on any code-compliant structure.
- ii.* Ground-mounted on an area of up to 50% of the footprint of the primary structure on the parcel but no more than 1 acre.
- iii.* Covering permanent parking lot and other hardscape areas.
- iv.* Building integrated solar (i.e., shingle, hanging solar, canopy, etc.).

**Level 2 Solar Energy System** – Level 2 SESs are ground-mounted systems not included in Level 1 that meet the area restriction listed below:

- v.* A-1: SES  $\leq$  ½ acres
- vi.* AR-30: SES  $\leq$  ½ acres
- vii.* R-30: SES  $\leq$  ½ acres
- viii.* R20: SES  $\leq$  ½ acres

- ix.* O/I: SES <= 10 acres
- x.* M-1: SES of any size
- xi.* M-2: SES of any size
- xii.* B-1: SES <=10 acres
- xiii.* B-2 SES <=10 acres

**Level 3 Solar Energy System** – Level 3 SESs are systems that do not satisfy the parameters for a Level 1 or Level 2 Solar Energy System.

### **3. Applicability**

- a. This ordinance applies to the construction of any new SES within the jurisdiction of Edgecombe County.
- b. An SES established prior to the effective date of this ordinance shall remain exempt:
  - i. Exception: Modifications to an existing SES that increases the SES area by more than 5% of the original footprint or changes the solar panel type (e.g. photovoltaic to solar thermal) shall be subjected to this ordinance.
- c. Maintenance and repair are not subject to this ordinance.
- d. This ordinance does not supersede regulations from local, state, or federal agencies. Some important examples of such regulations include, but are not limited to:
  - i. Building/Electrical permits required

Nothing in this ordinance modifies already established building standards required to construct a SES.
  - ii. Onsite Wastewater System Avoidance

Nothing in this ordinance modifies already established Department of Health and Human Services requirements. A SES shall not be constructed over onsite waste water systems (e.g. septic systems) unless approved by the Department of Health and Human Services.
  - iii. Stormwater Permit Required

Stormwater permit approval is required prior to Special Use Permit application submittal. Nothing in this ordinance modifies the requirements or exempts any SES of complying with the various stormwater jurisdictions and regulations established by the Department of Environmental and Natural Resources. North Carolina statute requires the

acquisition of stormwater permits for construction projects that impact stormwater runoff.

iv. Historic Districts

Nothing in this ordinance modifies already established State Historic Preservation Office requirements. May require additional permitting (certificates of appropriateness to install solar in Historic Districts)

### 4. Permits Required

The type of permit required for an SES is displayed in Table 1: Permit Requirements.

Types of Permits Required: P=Permitted use; D=Development Standards; SUP=Special Use Permit										
Zoning District	A1	AR-30	R-30	R-20	R-10	OI	B-1	B-2	M-1	M-2
<b>Solar Energy Facilities</b>										
Roof-Mounted, Parking lot cover, or building integrated (level 1)	P	P	P	P	P	P	P	P	P	P
Ground-Mounted:										
Up to 50% of the footprint of the primary structure (level 1)	P	P	P	P	P	P	P	P	P	P
<= ½ acre (Level 2)	SUP	SUP	SUP	SUP	SUP	D	D	D	D	D
<=10 acres (level 2 or 3)	SUP	SUP	SUP	SUP	SUP	D	D	D	D	D
>10 acres(Level 2 or 3)	SUP	SUP	SUP	SUP	SUP	SUP	D	D	SUP	SUP

### 5. Parcel Line Setbacks

The following table provides the Parcel Line setback to ground mounted SES equipment, excluding any security fencing, poles, and wires necessary to connect to the facilities of the electric utility.

Zoning District	Level 1	Level 2	Level 3		
			Front	Side	Rear
A-1	Per Zoning District**,***		30’*	12’*	25’*
AR-30			30’*	12’*	25’*
R-30			50’*	50’*	50’*
R-20			Per Zoning District*		
R-10					
OI			30’*	15’*	25’*
B-1			30’*	15’*	25’*
B-2			Per Zoning District*,**		
M-1			30’*	15’*	25’*
M-2			30’*	15’*	25’*
*100’ setback for SES equipment, excluding any security fencing, to any residential dwelling unit. If the SES is on a working farm where the primary residential structure of the farm is on an adjacent lot then this 100’ setback will not apply to this primary residential structure.					
**Ground-mounted SES must comply with district front yard limitations and setbacks, or otherwise not impair sight distance for safe access to or from the property or other properties in the vicinity					
*** Level 1 SESs are not subject to screening requirements typically applied to accessory utility systems (HVAC, dumpsters, etc.)					

## 6. Height Limitations

The height of systems will be measured from the highest natural grade below each solar panel.

Level 1: 20’ in all districts

Level 2 & 3: 25’ in all districts

## 7. Aviation Notification

The requirements below apply only to Level 1, 2 & 3 systems over half (½) an acre in size:

- a. A map analysis showing a radius of five (5) nautical miles from the center of the SES with any airport operations within this area highlighted shall be submitted with permit application.
- b. For consideration of potential impacts to low altitude military flight paths, notification of intent to construct the SES shall be sent to the NC Commanders Council at least 30 days before the SUP hearing for level 3 SESs and at least 45 days before starting construction for applicable Level 1 & Level 2 SESs. Notification shall include location of SES (i.e. a map, coordinates, address, or parcel ID), technology (i.e. roof-mounted PV, ground-mounted fixed PV, tracked

PV, solar thermal, etc.), and the area of system (e.g. 5 acres). Proof of delivery of notification and date of delivery shall be submitted with permit application.

- c. The latest version of the Solar Glare Hazard Analysis Tool (SGHAT) shall be used per its user's manual to evaluate the solar glare aviation hazard. The full report for each flight path and observation point, as well as the contact information for the zoning administrator, shall be sent to the authority indicated below at least 30 days before the SUP hearing for level 3 SESs and at least 45 days before construction for Level 1 & Level 2 SESs. Proof of delivery of notification and date of delivery shall be submitted with permit application.
  - i. Airport operations at the airport in the National Plan of Integrated Airport Systems (NPIAS) within 5 nautical miles of the center of SES: provide required information to the Federal Aviation Administration's (FAA) Airport District Office (ADO) with oversight of North Carolina.
  - ii. Airport operations at airport *not* in the NPIAS, including military airports, within 5 nautical miles of the center of SES: provide required information to the NC Commanders Council for military airports and to the management of the airport for non-military airports

Any applicable SES design changes (e.g. module tilt, module reflectivity, etc.) after initial submittal shall be rerun in the SGHAT tool and the new full report shall be sent without undue delay to the contact specified in 7.b.i and 7.b.ii above for accurate records of the as-built system.

## **8. Level 1 Solar Energy System Requirements**

Level 1 SESs are a permitted use provided they meet the applicable height, setback, aviation notification and related district standards.

## **9. Levels 2 & 3 Solar Energy System Requirements**

These requirements are in addition to height, setback, aviation notification and applicable district standards.

### **a. Site Plan**

- i. A site plan shall be submitted to the Zoning Administrator demonstrating compliance with:

1. Setback and height limitations established in section 5 and 6.
2. Applicable zoning district requirements such as lot coverage,
3. Applicable solar requirements per this ordinance
4. Notification of intent to relevant utility.

**b. Visibility**

- i. SESs shall be constructed with buffering as required by the applicable zoning district or development standards
- ii. Public signage (i.e. advertising, educational, etc.) as permitted by local signage ordinance, including appropriate or required security and safety signage.
- iii. If lighting is provided at site, lighting shall be shielded and downcast such that the light does not spill onto the adjacent parcel or the night sky. Motion sensor control is preferred.

**c. Decommissioning**

- i. A decommissioning plan signed by the party responsible for decommissioning and the landowner (if different) addressing the following shall be submitted with permit application.
  1. Defined conditions upon which decommissioning will be initiated (i.e. end of land lease, no power production for 12 months, etc.)
  2. Removal of all non-utility owned equipment, conduit, structures, fencing, roads and foundations
  3. Restoration of property to condition prior to development of the SES.
  4. The timeframe for completion of decommissioning activities.
  5. Description of any agreement (e.g. lease) with landowner regarding decommissioning.
  6. The party currently responsible for decommissioning.
  7. Plans for updating this decommissioning plan.
- ii. Before final electrical inspection, provide evidence that the decommissioning plan was recorded with the register of deeds.
- iii. Prior to the issuance of a building permit, the owner of a solar energy system shall provide a bond or irrevocable letter of credit in favor of Edgecombe County in an amount equal to the estimated removal cost of the solar collectors, cabling, electrical components, and any other associated facilities, less the salvage value of the equipment prior to dismantling, unless it can be shown that the salvage value will exceed the estimated removal cost. If the solar energy system owner elects to use a

letter of credit, it shall be issued by a federally chartered bank with a branch office located in Edgecombe County. The bond or letter of credit shall remain in full force and effect until any necessary site restoration is completed to restore the site to a condition comparable to that which existed prior to its construction.

**d. Abandonment**

A SES that ceases to produce any energy on a continuous basis for 12 months will be considered abandoned unless the current responsible party (or parties) with ownership interests in the SES provides substantial evidence (updated every 6 months after 12 months of no energy production) to the Zoning Administrator of the intent to maintain and reinstate the operation of that facility. It is the responsibility of the responsible party (or parties) to remove all equipment and facilities and restore the Parcel to its condition prior to development of the SES

1. Upon determination of abandonment, the Zoning Administrator shall notify the party (or parties) responsible they must remove the SES and restore the site to its condition prior to the development of the SES within one hundred and twenty (120) days of notice by the Zoning Administrator.
2. If the responsible party (or parties) fails to comply, the Zoning Administrator may remove the SES, sell any removed materials, and initiate judicial proceedings or take any other steps legally authorized against the responsible parties to recover the costs required to remove the SES and restore the site to a non-hazardous condition.

**e. Vegetative Buffer**

A solar energy system that will be within 100 feet of a lot which is used for residential purpose or which is zoned for residential use, shall have a continuous evergreen vegetative buffer present and maintained at all times along the perimeter of the exterior of the fencing adjacent to that lot. If a solar energy system is visible from the road, a continuous evergreen vegetative buffer must be present and maintained along the entire length of road frontage. Nothing contained herein shall be construed so as to require such continuous evergreen vegetative buffering to block reasonable access to the solar energy system.

The evergreen vegetative buffer shall be composed of a type which at planting shall be a minimum of 18" in height and shall be maintained at maturity at a height of not less than 36" in height. The evergreen vegetative buffer shall be spaced no more than four feet apart.

The evergreen vegetative buffer shall be carefully planted and shall be maintained in good condition. Failure to maintain the evergreen buffer shall constitute a violation of this ordinance.

The evergreen vegetative buffer shall be maintained until the solar energy system is decommissioned and removed from the parcel or parcels of land which it is constructed.