

## Section 27.12: Solar Energy Systems

### 27.12.1 Statement of Intent

The purpose of this Section is to facilitate the construction, installation, and operation of Solar Energy Systems (SES) in Mills County, in a manner that promotes economic development, protects property values, and ensures the protection of health, safety, and welfare while also avoiding adverse impacts to important areas such as agricultural lands, conservation lands, and other sensitive lands.

If this Section 27.12 conflicts with any other provision of the Mills County Zoning Ordinance, this Section 27.12 shall control.

### 27.12.2 Definitions

A. **Personal Solar Energy System:** A Solar Energy System that generates electricity from solar energy primarily for use on the same site or the same land use with which the system is physically associated.

B. **Solar Energy Systems, Utility Scale:** A Solar Energy System that generates electricity from solar energy primarily for sale to an electric utility or other third-party commercial or industrial user.

### 27.12.3 Personal Solar Energy System (PSES)

#### A. Purpose and Intent

These regulations provide uniform and comprehensive standards for the installation and the use of PSES for on-site home, farm and small commercial use that are used primarily to reduce on-site consumption of utility power. The intent of these regulations is to protect the public health, safety and community welfare without unduly restricting the development of PSES.

#### B. Accessory Use

PSES shall be considered an accessory use to a principal permitted use or an approved conditional use in any zoning district.

#### C. Special Requirements

PSES shall be subject to the requirements included in this Section:

- (1) Ground Mounted PSES height. Shall not be greater than fifteen (15) feet at maximum tilt of the solar panel(s) in any zoning district.

- (2) Structure Mounted PSES height. Shall not be greater than the allowable height of any structure within the zoning district in which the PSES is to be installed.
- (3) Setbacks. The ground mounted PSES shall follow all setback requirements for the Zoning District in which the PSES is located.
- (4) Building Codes. All county, state and national construction codes shall be followed.
- (5) Use. The PSES shall provide electricity for on-site use by the owner. This does not prohibit an owner from making excess power available for net metering.
- (6) Approved Solar Components. PSES components must have an Underwriters Laboratory (UL) listing or approved equivalent.

**D. Building Permit**

Before a building permit is issued, the following shall be submitted to the Mills County Zoning Administrator for review.

- (1) Site Plan Showing:
  - a. Address, email address, and phone number of the property owner;
  - b. Parcel lines;
  - c. All existing structures with heights clearly marked;
  - d. Sanitary infrastructure (i.e. septic field);
  - e. Setback measurements;
  - f. Easements present on the property, including those for utilities;
  - g. Septic field tile location;
  - h. Floodplain location, if applicable;
  - i. Proposed Location of all solar panels and associated equipment; and
  - j. Proposed Location of the electrical disconnect for the PSES.
- (2) Evidence that the local electric utility has been informed of the customer's intent to install a customer-owned solar energy system.
- (3) Evidence that the site plan has been submitted to the local fire protection district.
- (4) Evidence that all contact information for site has been provided to Mills County Emergency Management and 911 service departments.

- (5) After a review and acceptance of site plan and required information, a letter authorizing construction shall be issued.

#### **27.12.4 Solar Energy Systems, Utility Scale**

##### **A. Purpose and Intent**

These regulations provide uniform and comprehensive standards for the installation and use of Solar Energy Systems, Utility Scale (SESUS). SESUS may include solar panels, solar support structure, inverter/transformers, energy storage technologies, wiring, and other equipment necessary for the generation, storage and delivery of electricity. The intent of these regulations is to protect the public health, safety, and community welfare while allowing development of utility-scale solar energy resources for utility, commercial and industrial purposes.

##### **B. Conditional Use Permit (CUP)**

SESUS shall require a Conditional Use Permit within the “AG” Agricultural Zoning District, the “AR” Agricultural/Residential Zoning District, “I” Industrial Zoning District. This use is prohibited in all other Zoning Districts in Mills County. This use shall be subject to the procedures and standards included in the Mills County Zoning Ordinance unless otherwise stated in Section 12. Concentrating solar power systems are prohibited.

##### **C. Special Requirements**

SESUS are subject to the following requirements:

- (1) Height. A solar panel shall be no less than two (2) feet (Twenty-Four inches) off the ground. A solar panel shall not exceed twenty (20) feet in height above grade at maximum tilt of the solar panel(s).
- (2) Setbacks. The front yard setbacks shall be a minimum of fifty (50) feet from the edge of the right-of-way to the closest solar panel of a SESUS project and three hundred (300) feet from a residence that is not a part of the SESUS area. If a SESUS is to be built on more than one parcel and the parcels are abutting, a zero (0) foot side or rear setback shall be permitted to the property line in common with the abutting participating parcel(s).
- (3) Submittal Requirements. The applicant shall submit all materials contained in this subsection at the time of the application for a Conditional Use Permit.
- (4) Permitting Process. The applicant shall go through the following process for Conditional Use Permit Approval.

- a. Applicant shall meet with the Zoning Administrator and submit all required documents.
  - b. Zoning Administrator will submit all documents to the Mills County Department Approval Committee. Committee shall consist of Mills County Board of Supervisors and the Zoning Administrator along with the department head or the designated employee from the following departments: Mills County Conservation, Mills County Engineer/Secondary Roads, Mills County Emergency Management, Mills County 911. All identified departments must approve with signature that all requirements pertaining to that department are met prior to moving on in the process.
  - c. Conditional Use Permit Application will be presented to the Mills County Zoning Board of Adjustment for a public hearing and decision on the Conditional Use Permit.
  - d. Mills County Board of Supervisors shall consider a decommissioning plan, decommissioning agreement (including financial security), Public Roads Damage Avoidance and Mitigation Plan and related agreement. The SESUS may not proceed to construction until the Board of Supervisors has approved these plans and the Chairperson and the applicant have executed these agreements.
  - e. The use(s) outlined in the application shall be established in accordance with the draft plans considered by the Zoning Administrator within five (5) years of approval. "Commencing Construction" is determined by disturbance of soil at project site, that is not part of a primary farming operation. Any portion of the development plan not completed within five (5) years of approval by the Zoning Administrator shall not be installed until the development has been reauthorized by the Zoning Administrator. Reauthorization shall be subject to the regulations in effect at the time reauthorization is requested.
- (5) Security Fencing. The SESUS shall be fenced with a minimum eight-foot (8') tall security fence. "Warning/No Trespassing" signs, as well as contact information for emergency purposes shall be posted within sight of all points of fence line or no greater than one hundred fifty feet (150')

apart. At the discretion of the Zoning Administrator, critical electrical and communications equipment may be fenced with the chain-link fence topped with barbed wire when such measures are deemed necessary to ensure public safety.

(6) Agricultural Impact Mitigation Plan. The applicant shall submit a plan with the permit application detailing the mitigation strategy to support agricultural use of the land. The plan will be reviewed by the Zoning Administrator and shall include, but is not limited to:

- a. Results of a soil analysis conducted and assessed by a qualified professional to determine topsoil depths as well as identify any limitations for construction and mitigation that may require special consideration.
- b. General list of project components and construction timeline.
- c. Describe best practices and methods to be used during each stage of construction for protecting and preserving topsoil. Practices and methods should address, at minimum, avoidance of removal of topsoil. However, if removal of topsoil is necessary, applicant should plan for segregation, stockpiling, replacement during backfill and respreading, grading minimization, compaction prevention and decompaction of otherwise undisturbed topsoil impact by heavy equipment or storage of materials and wet weather conditions.
- d. Describe environmental monitoring that will be used during construction to ensure adherence to the best practices contained in the plan. The monitoring should be done by an environmental professional at the expense of the developer. The monitoring results should be submitted to the County every thirty (30) days during construction.
- e. Describe the general procedures to be used for identification, avoidance and repair of any underground drainage tile lines located within the project site before, during and after construction.

(7) Soil Erosion and Sediment Control. The applicant shall conduct all roadwork and other site development work in compliance with a national pollutant discharge elimination system (NPDES) permit as required by Iowa Department of Natural Resources and comply with requirements as detailed by local jurisdictional authorities during the plan submittal. If subject to

NPDES requirements, the applicant must submit the permit to the Zoning Administrator for review and comment along with an erosion and sediment control plan before the “Commencement of Construction” which is determined by disturbance of soil at project site, not considered for a primary farming operation. The plan must include both general “best management practices” for temporary erosion and sediment control (both during and after construction) and permanent drainage and erosion control measures to prevent both damage to local roads/adjacent areas and sediment laden run-off into waterways.

(8) Vegetation Mitigation Plan.

- a. A Vegetation Mitigation Plan must be provided to the Building and Zoning Department with the permit application. The Vegetation Mitigation Plan will be reviewed by the Mills County Zoning Administrator to ensure it meets the Mills County Pollination Score Card requirements meeting an adequate score.
- b. Ground under and around the solar array shall be planted with a perennial vegetated ground cover as identified in the Vegetation Mitigation Plan. The ground cover plan shall be developed in accordance with the following standards:
  - i. Avoid removal of topsoil to maximum extent possible during development and decommissioning unless part of a remediation effort.
  - ii. The area shall be planted and maintained, per the Vegetation Mitigation Plan, in perennial vegetation for the full operational life of the project to prevent erosion, manage runoff and build soil. The Ground Cover Plan must include management methods and schedules for how the vegetation will be managed on an annual basis, with the particular attention given to the establishment period of approximately three (3) years. The plan must include provisions for replacement of any required vegetation cover that fails to establish or dies during the life of the project.
  - iii. Plant materials for the ground cover area must not have been treated with systemic insecticides, particularly neonicotinoids.

- iv. The application and Vegetation Mitigation Plan shall include the proposed seed mix specifications and growth guidelines to follow.
- v. Seeding zones and their selected seed mixes should be clearly mapped on a site plan.
- vi. Seed and/or planting mixes and maintenance practices should be consistent with recommendations made by qualified natural resource professionals, such as those from a state department of natural resources, county soil and water conservation services, or natural resource conservation service.
- vii. Reporting to the County on ground cover management and maintenance activities shall be on an annual basis for a minimum of five (5) years from commercial operations after which point reduced frequency can be requested and approved at the discretion of the Zoning Administrator.
- viii. At the discretion of the Zoning Administrator, other practices such as small-scale farming, bee keeping operations or grazing may be allowed in the ground cover area.

(9) Landscaping Buffer. To mitigate potential negative effects and reduce the visual impact of the SESUS, a landscaping buffer shall be installed and maintained during the life of the array operation. Determination of screening requirements will be made by the Zoning Administrator as part of the review of the Conditional Use Permit and will be based on adjacent or nearby surrounding land uses and topography. Where the Zoning Administrator finds that a landscaping buffer is appropriate, landscaping shall be installed within a planting area around the portions of the site specific by the Zoning Administrator in accordance with the standards as of this subsection. All applications for which this subsection applies shall submit a plan for review and approval. The landscaping buffer shall use trees, shrubs, grasses and forbs that are native to Iowa or where appropriate may include naturalized and non-invasive species or a combination thereof to provide a vegetation screen in all required areas.

(10) Lighting. If lighting is provided for the SESUS, lighting shall be shielded and downcast such that the light does not project directly onto the adjacent parcels.

- (11) Noise. Noise levels caused by the SESUS measured at the residence(s) shall not exceed fifty (50) decibels (A-weighted) when located adjacent to an existing residence or residential district.
- (12) Installation and Design. The SESUS shall be designed and located to minimize glare towards any inhabited buildings on adjacent properties.
- (13) Utility Connections. Reasonable efforts shall be made to place all project collection lines within the solar installation underground, depending on appropriate soil conditions, shape and topography of the site, distance to the connection, or other conditions or requirements. High-voltage lines between the SESUS and substations may be above ground.
- (14) Outdoor Storage. Only the outdoor storage of materials vehicles, and equipment that directly support the operation and maintenance of the SESUS shall be allowed.
- (15) Endangered Species and Wetlands. Applicant shall consult with the Iowa Department of Natural Resources and provide verification to the Zoning Administrator.
- (16) Weed Control. Applicant must present an acceptable weed/grass control plan for property outside of the fenced area for the entire project. The operating company during the operation of the Solar Farm must maintain the fence and adhere to a weed control plan. The plan must be approved by Mills County Zoning Administrator, Mills County Engineer and Mills County Conservation Department.
- (17) Waste. All solid wastes, whether generated from supplies, equipment parts, packaging, operation, grazed animals, farming operation or maintenance of the SESUS shall be removed from the site and disposed of in an appropriate manner. All hazardous waste generated by the operation shall be removed from the site immediately and disposed of in a manner consistent with all local, state and federal requirements.
- (18) Maintenance, Repair, or Replacement of a Facility. Maintenance shall include, but not limited to painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to emergency response officials. Any retrofit, replacement or refurbishment of equipment shall adhere to all applicable local, state and federal requirements. Any discarded materials or construction debris will be promptly removed in a



timely manner. Said debris shall remain on the property no longer sixty (60) days.

- (19) Cleaning Chemicals and Solvents. During operation of the SESUS, all chemicals or solvents used to clean photovoltaic panels shall be low in volatile organic compounds and the operator shall use recyclable or biodegradable products to the extent possible. Any on-site storage of chemicals or solvents shall be referenced on the site plan.
- (20) Storm Water Management. Prior to receiving a building permit, for the purposes of pollutant removal, stormwater and runoff management, flood reduction and associated impacts, the applicant shall provide a detailed storm water management plan with analysis of pre and post development stormwater runoff rates for review by local jurisdictional authorities.
- (21) Aviation Protection. Applicant must complete and provide with the application the results of a Solar Glare Hazard Analysis Tool or most recent version adopted by the FAA. Applicant must provide evidence of notice and no response and/or non-objection from FAA and Offutt Air Force Base that the project will not affect commercial or military flights.
- (22) Administration and Enforcement. The Zoning/Building Administrator and any necessary personnel may enter any property for which a Conditional Use or Building Permit has been issued under this ordinance to conduct an inspection to determine whether the conditions stated in the permit have been met as specified by statute, ordinance, and code. Failure to provide access by appointment within 48 hours of request shall be deemed a violation of this ordinance.

D. **Certification.** SESUS shall conform to applicable industry standards, including those from the Underwriters Laboratory (UL) and Federal Aviation Administration (FAA). All applicable county, state and national construction and electrical codes shall be followed.

E. **Safety:** All SESUS shall provide the following at all locked entrances:

- (1) A visible “High Voltage” warning sign
- (2) Name(s) and phone number(s) for the electric utility provider(s)
- (3) Name(s) and phone number(s) for the site operator(s)
- (4) The facility’s 911 address and GPS coordinates

(5) The site operator will coordinate with the local fire department, Emergency Management Agency and 911 Director to provide training on an annual basis for the first five (5) years the project is complete and in operation. Said training will commence within six (6) months prior to the completion of the project. After that, offered on an annual basis for the life of the project. All emergency responding agencies will sign off that said training was completed or offered.

F. **Repowering:** Proposals to replace more than twenty-five percent (25%) of the panels in a facility within a twelve (12) month period shall be required to submit a plan for review and approval with all associated costs assigned to the Applicant and/or the property owner(s).

G. **Roads:** The applicants, owners and their contractors shall avoid damaging public roads to the greatest practicable extent and shall be responsible for repair of damage to public roads. A Public Roads Damage Avoidance and Mitigation Plan shall be in accordance with the following standards and approved by the Board of Supervisors before the applicant commences construction:

- (1) Identification of Potential Roads Usage. The applicant shall identify, in consultation with the Mills County Engineer, all state and local public roads to be used within Mills County to transport equipment, parts and material for construction, operation or maintenance of the solar energy system and related components.
- (2) Documentation of Road Conditions. Prior to construction, decommissioning or implementation of a repowering plan, the Mills County Engineer or a third-party consultant selected by the Mills County Engineer shall document the current conditions of the roads identified for use, with all associated costs paid for by the applicant or the owners of the facility. The County Engineer shall document road conditions again thirty (30) days after the construction is complete or as weather permits with physical documents as well as video documentation.
- (3) Road Preparation and Damage. Any road preparation or maintenance necessitated by the SESUS as identified by the County Engineer or the third-party consultant shall be promptly completed at the applicant's expense. Any damage caused by the applicant, owner of the facility or its contractors during construction, decommissioning, or the implementation of a repowering plan shall promptly be repaired at the applicant or the property owner's expense and to the reasonable satisfaction of the County Engineer based on applicable standards and code.

- (4) Applicant shall demonstrate appropriate financial assurance to ensure the repair of the damaged roads. At the direction of the Board of Supervisors, the applicant or the owners of the facility may also be required to provide a financial surety instrument or bond to cover all costs of potential damage to roads at the time of permitting consideration.

H. **Decommissioning and Reclamation Plan:** The applicant shall submit a Decommissioning and Reclamation Plan to the Mills County Zoning Administrator with the conditional use permit application. The Zoning Administrator shall review the plan for completeness and refer it to the Mills County Board of Adjustment for review in conjunction with the conditional use permit and the Mills County Board of Supervisors for final consideration and approval prior to the applicant commencing construction. The plan shall include:

- (1) A description of the life of the SESUS; the anticipated manner which the project will be decommissioned, including any plans to recycle components; the anticipated site restoration actions; the estimated decommissioning costs in current dollars and the method for ensuring that funds will be available for decommissioning and restoration.
- (2) Estimates for the total cost for decommissioning at the current value at site as determined by a Licensed Engineer. Decommissioning costs shall take salvage value into account.
- (3) A description of the plan to remove the SESUS and restore the land to its previous use upon the end of the project's life, as stated in the Conditional Use Permit or as stated in the Mills County Zoning Ordinance.
- (4) Provisions for the removal of structures, debris and associated equipment on the surface and to a level of not less than four (4) feet below the surface, and the timeline/sequence in which removal is expected to occur.
- (5) Referencing the Agricultural Mitigation Section of Chapter 27, Section 12, provisions for the restoration of the soil, vegetation, and disturbed earth, which shall be graded and reseeded and /or the property may be returned to agricultural use. Avoidance of removal of topsoil is preferred. The mitigation plan shall include environmental monitoring at the cost of the developer to be used in returning the project area back to agricultural use. Environmental monitoring will include best practices to address at minimum invasive species prevention, erosion, sediment control and debris removal.

- (6) A provision that the terms of the Decommissioning and Reclamation Plan shall be binding upon the owner or operator and any of their successors, assigns or heirs and that the landowner has granted permission for access and easements of the property for decommissioning. Verification of the same must be stated in the lease and provided to the Mills County Zoning Administrator.
- (7) Financial Surety. After the tenth (10th) year of operation, the applicant, facility owner or site operator shall provide a financial surety instrument to cover the cost of decommissioning in accordance with the following:
- i. Decommissioning funds or financial surety shall be in an amount equal to the net cost for decommissioning the site, plus a ten percent (10%) contingency.
  - ii. The financial security fund shall be maintained in the form of cash, certificate of deposit, performance bond, escrow account, surety bond, letter of credit, corporate guarantee or other form of financial assurance acceptable to the Mills County Board of Supervisors. Any document evidencing the maintenance of the financial surety shall include provisions for releasing the funds to the County in the event decommissioning is not completed in a timely manner.
  - iii. Financial security shall be maintained for the life of the project.
  - iv. Every five (5) years, the facility owner or operator shall retain an independent Licensed Engineer to re-estimate the total cost of decommissioning and attest that the value of the financial surety instrument is appropriate. This report shall be filed with the County Zoning Department and the Mills County Auditor. The decommissioning funds shall match the re-estimated cost of decommissioning. Within ninety (90) days of filing the re-estimation report with the County, the facility owner or operator shall cause the fund balance of the financial surety instrument to be adjusted to ensure that it matches the re-estimated decomposition costs. The applicant shall file the approved decommissioning agreement and roads agreement with Mills County Register of Deeds prior to commencing construction.
  - v. Release of Financial Security. Financial security shall only be released by the Zoning Administrator after inspection that all conditions of the decommissioning plan have been met.

- I. **Indemnification and Liability:** The applicant, owner and/or operator of the SESUS project shall defend, indemnify, and hold harmless the County of Mills and its officials from and against any and all claims, demands, losses, suits, causes of action, damages, injuries, costs, expenses, and liabilities whatsoever, including attorney's fees, without limitation, arising out of acts or omissions of the applicant, owner, and/or operator associated with the construction and/or operations of the Solar Energy System project.
  
- J. **Cessation of Operations:** Any SESUS provided for in this ordinance that has not been in operation and producing electricity for at least one hundred and eighty (180) consecutive days, excluding a natural catastrophic event, shall be removed. The Mills County Zoning Administrator shall notify the owner to remove the system. Within ninety (90) days, the owner shall either submit evidence showing that the system has been operating and producing electricity or remove it. If the owner fails to or refuses to remove the solar energy system, the violation shall be referred to the Mills County Attorney. In the case of a natural catastrophic event, a detailed restoration plan to return to operational status must be provided to the Zoning Administrator.
  
- K. **Violations & Penalties:** Violations and penalties of this Section are set forth in Chapter 5 of the Mills County Zoning Ordinances.
  
- L. **Related Rules and Regulations:** Each SESUS shall comply with all applicable local, state and federal requirements.
  
- M. **Severability:** The provisions of this ordinance are severable, and the invalidity of any section, subdivision, paragraph, or other part of this ordinance shall not affect the validity or effectiveness of the remainder of the ordinance.
  
- N. **Conditional Use Permit Fee(s) for Solar Energy Systems, Utility Scale:** The Conditional Use Permit fee(s) will be approved and adopted by Resolution through the County Board of Supervisors under Zoning Permit Fees.