South Dixon Solar Farm

Drainage Repair and Remediation Plan

WHEREAS, Section E.1(h) of Lee County's Ordinance Regulating Development of Solar Energy Systems, enacted as Resolution 12-17-002 ("**Ordinance**"), requires an applicant seeking a Special Use Permit for a Solar Energy System to identify surface water drainage patterns and field tile lines in a site plan, and Section E.9 of the Ordinance requires an applicant to commit to repair and restore drainage tiles damaged during construction of the Solar Energy System;

WHEREAS, Duke Energy Renewables Solar, LLC ("Duke Solar") has submitted an application to Lee County seeking a Special Use Permit to construct and operate the South Dixon Solar Energy System ("Project");

THEREFORE, Duke Energy Renewables Solar, LLC submits the following Drainage Repair and Remediation Plan to the Lee County Engineer for consideration pursuant to Sections E.1(h) and E.9 of the Ordinance.

1. Definitions

All capitalized terms used in this Drainage Repair and Remediation Plan ("**Plan**") shall have the definition used for them in the Agricultural Impact Mitigation Agreement ("**AIMA**") entered into between Duke Solar and the Illinois Department of Agriculture on _____. Definitions of certain of those terms used in the Plan are provided below:

"**Best Efforts**" – Diligent, good faith, and commercially reasonable efforts to achieve a given objective or obligation.

"**Commercial Solar Energy Facility**" – A solar energy conversion facility of equal or greater than 500 kilowatts in total nameplate generating capacity.

"**Construction**" – The installation, preparation for installation and/or repair of a Commercial Solar Energy Facility.

"**Deconstruction**" – The removal of a Commercial Solar Energy Facility from the property of a Landowner and the restoration of that property as provided in the AIMA.

"**Landowner**" – Any person with an ownership interest in property that is used for agricultural purposes and that is a party to an Underlying Agreement.

"**Professional Engineer**" – An engineer licensed to practice engineering in the State of Illinois, and who is determined to be qualified to perform the work described herein by mutual agreement of the County and the Commercial Solar Energy Facility Owner.

"**Lee County Soil and Water Conservation District**" – A local unit of government that provides technical and financial assistance to eligible landowners for the conservation of soil and water resources.

"**Underlying Agreement**" – The written agreement with a Landowner(s) including, but not limited to, an easement, option, lease, or license under the terms of which another person has constructed, constructs, or intends to construct a Commercial Solar Energy Facility on the property of the Landowner.

"**Underground Cable**" – Electrical power lines installed below grade to be utilized for conveyance of power from the Commercial Solar Energy Facility to the facility's electric substation or inverters.

2. Pre-Construction Activities

A. **Identify Tile Lines**.

(i) Prior to the commencement of Construction, Duke Solar will work with the Landowners, using Best Efforts, to identify drainage tile lines traversing the property included within the Underlying Agreement.

(ii) Duke Solar will record, via Global Positioning Systems (GPA) Technology, the location of drainage tile lines identified by Duke Solar that are located adjacent to or within the footprint of the Facility.

(iii) To ensure all drainage tiles have been located, reasonable measures should be made to locate all existing tile in the vicinity of the private access roads by exploratory trench or other appropriate methods.

B. **Pre-Construction Plans**

(i) Drainage and tile lines identified by Duke Solar in connection with the pre-construction search for drainage tile lines shall be shown on the Construction and Deconstruction Site Plans.

(ii) To the extent practicable, there will be a minimum of one foot of separation between the tile line and the Underground Cable whether the Underground Cable passes over or under a tile line, and such separation will be shown on the Site Plans.

3. Construction/Deconstruction Phase

A. **Tile Line Repair Standards**

(i) If underground drainage tile is damaged by Construction or

Deconstruction activities, it shall be repaired in a manner that assures the drainage tile's proper operation at the point of repair, or, if new drainage tile lines are installed, they shall be of comparable quality to the original. Any new tile lines installed may be located outside of, but adjacent to, the perimeter of the Facility. Disrupted adjacent drainage tile lines shall be attached thereto to provide an adequate outlet for the disrupted adjacent tile lines.

(ii) Where tile lines are severed by an excavation trench, repairs shall be made using the Department's Drain Tile Repairs, Figures 1 and 2. Copies of Figures 1 and 2 are attached hereto.

(iii) If the tile line was damaged as part of the excavation for installation of an Underground Cable, the Underground Cable will be installed with a minimum one foot clearance below or over the tile line to be repaired or otherwise to the extent practicable.

(iv) The original tile line alignment and gradient shall be maintained to the greatest extent possible. If the tile needs to be relocated, the installation angle may vary due to site specific conditions and Landowner recommendations. A laser transit shall be used to ensure the proper gradient is maintained. A laser operated tiling machine shall be used to install or replace tiling segments of 100 linear feet or more.

B. **Tile Line Repair Procedures**

(i) Duke Solar will comply with the following procedures when repairing damages caused to drainage tiles:

(1) (a) record the date that the damage occurred, if observed by Duke Solar, and the date the damage was reported, if reported by a Landowner; (b) record the Global Positioning Systems (GPS) coordinates of broken tile; (c) complete an inspection form indicating that the tile has been damaged; and (d) log the form.

(2) Take a "before" photograph of the broken tile.

(3) Make repairs to the tile using methods prescribed by this Plan (to be determined on a case by case basis).

(4) Take an "after" photograph of the repaired tile.

(5) Provide all photographs and forms to Duke Solar's Operations and Maintenance facility.

(6) Upon request, information about the tile repair will be provided to

the impacted Landowner and Lee County.

C. **Tile Line Repair Process and Schedule**

(i) Tile lines that are damaged, cut, or removed shall be staked or flagged with stakes or flags placed in such a manner they will remain visible until the permanent repairs are completed.

(ii) If water is flowing through any damaged tile line, Duke Solar shall utilize Best Efforts to immediately, upon discovery or notification, repair the tile line in a temporary manner until such time as Duke Solar can make permanent repairs.

(iii) All permanent tile line repairs must be made within 14 days of identification or notification of the damage; provided, however, if the tile lines are dry and water is not flowing, temporary repairs may be made if the permanent repairs cannot be completed within 14 days due to weather or soil conditions. As soon as practical, exposed tile lines will be screened or otherwise protected to prevent the entry of foreign materials or animals into the tile lines.

4. Post-Construction Phase

A. **Restoration and Tile Line Repair Obligations**

(i) Following Construction and/or Deconstruction activities, Duke Solar will utilize Best Efforts to restore the drainage in the area to the condition it was in before commencement of the Construction/Deconstruction activities.

(ii) Following completion of the work, Duke Solar will be responsible for correcting all tile line repairs that fail due to Construction and/or Deconstruction activities, provided those repairs were made by Duke Solar, for a period of one year following the completion of Construction and/or Deconstruction.

(iii) Notwithstanding Sections 4(A)(i) and (ii), for those Landowners that request to perform the tile line repairs themselves, Duke Solar shall offer the Landowners the area commercial rate for their machinery and labor costs and Duke Solar will not be responsible for such tile line repairs.

B. **Dispute Resolution**

(i) If the Landowner and Duke Solar cannot agree upon a reasonable method of permanent tile line repair, Duke Solar may – but is not required to – implement the recommendations of the Lee County Soil and Water

Conservation District and such implementation will be deemed to have resolved the dispute. If Duke Solar chooses not to implement the recommendations of the Lee County Soil and Water Conservation District, it shall engage a Professional Engineer acceptable to Landowner and at Duke Solar's sole cost and expense to inspect the site and recommend a method of repair in accordance with the specifications set forth in this Plan. The Professional Engineer's recommendation shall be binding on Duke Solar and the Landowner, and shall be implemented by Duke Solar.

C. **Final Site Plans**

(i) Duke Solar shall update the Site Plans with any underground field drainage tiles encountered during Construction and not previously included in the Site Plans.

(ii) Duke Solar will provide such updated Site Plans to Lee County at any time during Construction upon reasonable request, and shall deliver to Lee County the final Site Plans after completion of Construction. In addition, following completion of Construction, Duke Solar will provide all affected Landowners with a copy of the portion of updated Site Plans showing tile repairs on their property with GPS coordinates identified as the electric cable crosses said property.

(iii) Within 60 days after Construction is complete, in accordance with the AIMA, Duke Solar will provide the Landowner and the Lee County Soil and Water Conservation District with "as built" drawings (strip maps) showing the location of all tile lines by survey station encountered during Construction, including any tile line repair location(s), and any Underground Cable installed as part of the Facility.