



## Delaware Engineering, D.P.C.

28 Madison Avenue Extension  
Albany, New York 12203

Tel: 518.452.1290  
Fax: 518.452.1335

January 10, 2017

Mr. Terry Zieres, Chairman  
Town of Delaware Planning Board  
104 Main St.  
Hortonville, NY 12745

Re: Hospital Road Solar Farm

Dear Mr. Zieres,

Delaware Engineering has reviewed the Delaware River Solar (Applicant) submittals for the Hospital Road Solar Farm and the public comments received on the project. The intent of this letter is to serve as guidance for the Town in the review of solar project applications.

The electromagnetic field (EMF) produced by power lines is non-ionizing, meaning it doesn't have enough energy to ionize atoms or molecules. The EMF from solar panels is low in strength and the levels drop off significantly at short distances from the solar field. The Applicant performed a study at a similar installation (SUNY Sullivan) which demonstrated that the resulting EMF was relatively low 10 feet from the installation and was 0mG when measured 20 feet from the installation. The EMF at the Hospital Road site property line should be impacted minimally by the solar array. The Applicant has performed a pre-installation audit of the site and agrees to perform an audit upon completion of the installation which will confirm the effect of the solar project on the EMF near the property line.

While there has been much discussion about health concerns and electromagnetic fields, the Environmental Protection Agency's (EPA) position is that there are no known health risks associated with EMF. The EPA website states "There is no clear scientific evidence that electromagnetic fields affect health." Furthermore, in the United States there are no federal standards limiting the amount of EMF produced by power lines. Delaware's opinion is that there will be no increased health risk to the community than from the existing power lines.

Delaware also looked at the cost of decommissioning the solar farm. Through studies on similar projects we have concluded that the cost of decommissioning and restoration is approximately \$10,000 per acre. The proposed solar field will be approximately 10 acres which would equate to \$100,000 in decommissioning and restoration costs. We are attaching a NYSERDA decommissioning fact sheet that estimates the cost of decommissioning a 2-MW facility as \$98,900 after 20 years. The Applicant should submit to the Town results of the Toxicity Characteristics Leach Procedure test (TCLP) to prove the equipment is non toxic. If the equipment is found to be toxic the resulting costs of decommissioning could be significantly increased.

Sincerely,

Ablen Amrod, P.E.  
Project Manager



## Delaware Engineering, D.P.C.

---

28 Madison Avenue Extension  
Albany, New York 12203

Tel: 518.452.1290  
Fax: 518.452.1335

January 24, 2017

Mr. Terry Zieres, Chairman  
Town of Delaware Planning Board  
104 Main St.  
Hortonville, NY 12745

Re: Hospital Road Solar Farm

Dear Mr. Zieres,

Delaware Engineering has reviewed the letter and information submitted by Angela Page to the Town Planning Board. Ms. Page's letter references concerns with harmonics, noise and grounding in photovoltaic (PV) systems. While there is noise and harmonics generated in the inverters used in PV systems it can be mitigated through use of filters. As referenced in the Solectria white paper submitted, PV inverters should meet the guidelines set forth in the Institute of Electronics Engineers (IEEE) 1547, and Underwriters Laboratories (UL) 1741. These standards set the guidelines to control harmonics and Electro Magnetic Interference (EMI) in the inverter. The inverters that Delaware River Solar call out in the DRS Full Project Summary for Hospital Rd are manufactured by Power Electronics and have model number HEC-UL PLUS FS1750CU15 1.75MW. The submission states the Power Electronic HEC inverters meet IEEE 1547 and UL 1741.

The filters are built into the electronics of the inverter and the noise and harmonics reduction is completed prior to leaving the inverter cabinet. The utility specifies the total harmonic distortion (THD) allowed to connect to the grid and it is in the utilities best interest that THD is minimal. The utility will regulate and monitor the THD to ensure the solar array is not sending high frequency harmonics and distortion to the grid.

The grounding of the installation shall be done in accordance with National Electrical Code (NEC) 2014 and the National Electrical Safety Code (NESC) 2012. These codes will ensure that standard practices are used to ground the PV system.

Sincerely,

Ablen Amrod, P.E.  
Project Manager