CITY OF CONCORD ELECTRIC UTILITIES
Concord, North Carolina

Photovoltaic (PV) Interface Criteria

City of Concord Electric Utilities (COC) supports the development of renewable resources for generation of electric power. In order to maintain current levels of safety and power quality for the general public, electric system employees and customers certain criteria must be applied to all alternative sources of electric power. Specific criteria applying to photovoltaic solar panel (PV) installations are as follows:

- All PV installations must be connected to COC's electric system through a separate meter with only the PV system connected to the source side of the PV interconnection meter. See attached installation illustration and single-line diagram.

- All PV equipment must comply with the requirements of and be labeled under Underwriters Laboratories Standard 1741 "Inverters, Converters, Controllers, and Interconnection Systems Equipment for Use With Distributed Energy Resources".

- All PV installations must comply with IEEE Standard 929 "IEEE Recommended Practice for Utility Interface of Photovoltaic (PV) Systems".

- All PV systems must comply with IEEE Standard 1547 "IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems".

- All PV systems must comply with IEEE Standard 1547.1 "IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems".

- All PV installations shall be made in accordance with the National Electrical Code (NFPA 70). Installations shall be inspected and approved by the local Authority Having Jurisdiction.

- All PV installations shall have a service disconnect installed immediately adjacent to the meter for the PV system. The disconnect shall be fully accessible to and operable by COC's personnel at all times. The disconnect shall include provisions for locking in the open position. The disconnect shall be labeled in accordance with applicable NEC code requirements.

- All PV installations are subject to review and testing by COC prior to connection and at subsequent times of their choosing.

- All interconnected PV systems shall be non-islanding. Systems found to produce voltage when disconnected from the electric distribution system will be disconnected without notice and will remain disconnected until installations are brought into compliance with specified standards.

- PV systems shall not interfere with the power quality of any customer of COC's distribution system. PV systems found to interfere with utility industry-accepted power quality standards will be disconnected from the system.

- COC will design and install reasonable and practical modifications to the electric distribution system to allow the interconnection of PV resources which would otherwise interfere with power quality delivered to other connections. In such cases, the PV system owner shall make an advance payment to COC in an amount equal to the costs of the required facility modifications.

- Residential PV shall be limited to 20 kW maximum ac output. Non-residential PV shall be limited to 100 kW maximum ac output.

- Owners of PV shall obtain and retain in effect, for as long as the PV is interconnected with the Company's system, liability insurance which protects the insured from claims for bodily injury and/or property damage. For a non-residential system the minimum coverage shall be comprehensive general liability insurance with coverage at least $300,000 per occurrence and for a residential system the minimum coverage shall be standard homeowner's insurance policy with liability coverage in the amount of at least $100,000 per occurrence. This insurance shall be primary for all purposes. The owner shall provide certificates evidencing this coverage as required by the City of Concord initially and annually thereafter. City of Concord reserves the right to refuse to establish, or continue the interconnection of the PV system with the Company's system if such insurance is not in effect.

Information available subsequent to this writing may result in changes by City of Concord in order to protect the safety of the public and City of Concord's employees; as well as to maintain appropriate levels of power quality for all electric customers.