# General

The Interconnection Customer (IC) has proposed a 20 MW wind power generating facility to be located approximately 3 miles offshore in the Atlantic Ocean between Atlantic City and Ocean City, New Jersey. The project was evaluated for compliance with reliability criteria for summer peak conditions in 2012. The proposed in-service date for the project is the second quarter of 2011.

**Point of Interconnection:** U2-044 will interconnect with the Atlantic City Electric's (ACE) transmission system at the Lewis 138kV substation.

## Direct Connection Requirements

### Transmission Owner Scope of Direct Connection Work

The scope of work and estimated costs for the direct connection facilities is as follows:

Lewis Substation

Since U2-044 will utilize the same existing terminal position as U1-056, there is no scope of interconnection work provided for this project.

### Interconnection Customer Scope of Direct Connection Work

The IC's off-shore facility is comprised of an array of wind turbine generators and a 30 kV collection substation. The collection substation will be connected to the ACE's Lewis 138kV substation via a submarine/underground or overhead cable. Prior to connecting to the Lewis substation the voltage will be stepped up to 138kV. The developer assumes full responsibility for design and construction of all facilities associated with the U2-044 generating station and the 138 kV direct connection line on the IC side of the POI. Site preparation including grading and an access road, as necessary, is assumed to be by the developer. Route selection, line design, right-of-way acquisition and construction of lines will be entirely the responsibility of the IC.

The IC will be required to install metering and telemetry equipment to provide revenue metering and real-time telemetry data to PJM. The requirements for this equipment are listed in Appendix 2, Section 8 of Attachment O to the PJM Tariff, as well as PJM Manuals 01 and 14D. Protective relaying and metering design and installation must comply with Atlantic City Electric Applicable Standards.

### Cost and Timing Summary

While the information in this transmittal is reasonable for the scope of work defined, it should however be noted that the cost figures are conceptual in nature at this stage, as an engineering team has not been assigned to the project. Obviously, any change to the scope of work will require that the estimates be revisited. The costs are a best estimate, but the developer will be charged for actual costs. Any under-runs or over-runs will be reconciled at the conclusion of the project.

## Network Impacts

### Generator Deliverability

*(Single or N-1 contingencies for the **Capacity** portion only of the interconnection)*

No problems identified.

### Multiple Facility Contingency

*(Double Circuit Tower Line contingencies only for the **full energy** output. Stuck breaker and bus fault contingencies will be performed for the System Impact Study)*

No problems identified.

### Short Circuit

Not Required

### Contribution to Previously Identified Overloads

*(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)*

None

### Stability and Reactive Power Requirements

To be performed during the U2-044 System Impact Study.

### New System Reinforcements

*(Upgrades required to mitigate reliability criteria violations, i.e. "Network Impacts", initially caused by the addition of this project generation)*

None

### Contribution to Previously Identified System Reinforcements

*(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project. This project may have a % allocation cost responsibility which will be calculated and reported for the System Impact Study)*

None

**Delivery of Energy Portion of Interconnection Request**

*(PJM also studied the delivery of the full energy portion of this Interconnection Request. Any problems identified below are likely to result in operational restrictions to the project under study. The developer can proceed with Network Upgrades to eliminate the operational restriction at their discretion by submitting a Transmission Interconnection Request. Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full delivery of energy for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which shall study all overload conditions associated with the overloaded element(s) identified.* ***These are not required reinforcements.***

1. The LEWIS #1-LEWIS #2 138kV (AE) line (from bus 7902 to bus 7945 circuit #1) loads from 102.1% to 103.9% (DC power flow) of its emergency rating (287 MVA) for the single line contingency outage (U_queue_reinforcement_48). This project contributes approximately 5.3 MW to the thermal congestion.