PJM Generator Interconnection
Queue #Y2-043
Kickapoo Creek Battery
(4.5 MW Energy-only)
Combined Feasibility/System Impact Study Report

December 4, 2012

Preface

The intent of this System Impact Study is to determine a plan, with cost and construction time estimates, to connect the subject generation to the PJM network at a location specified by the Interconnection Customer. The Interconnection Customer may request the interconnection of generation as a capacity resource or as an energy-only resource. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: (1) Direct Connections, which are new facilities and/or facilities upgrades needed to connect the generator to the PJM network, and (2) Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system.

The PJM Reliability Planning Process utilizes PJM planning criteria, NERC Planning Standards, NERC Regional Council planning criteria, and the individual Transmission Owner FERC filed planning criteria. In all cases, PJM applies the most conservative of all applicable planning criteria when identifying reliability problems and determining the need for system upgrades on the PJM system. The application of the NERC Planning Standards is adapted to the specific needs of the PJM system.

In some instances an interconnection customer may not be responsible for 100% of the identified network upgrade cost because other transmission network uses, e.g. another generation interconnection or merchant transmission upgrade, may also contribute to the need for the same network reinforcement. All facilities required for interconnection of a generation interconnection project must be designed in compliance with the technical specifications (on PJM web site) for the appropriate Transmission Owner.

After the System Impact Study Agreement is executed and prior to execution of the Interconnection Service Agreement, an Interconnection Customer may modify its project to reduce the electrical output (MW) (in the case of a Generation Interconnection Request) of the proposed project by up to the larger of 20 percent of the capability considered in the System Impact Study or 50 MW.

The System Impact Study estimates do not include the feasibility, cost, or time required to obtain property rights and permits for construction of the required facilities. The project developer is responsible for the right of way, real estate, and construction permit issues. For properties currently owned by Transmission Owners, the costs may be included in the study.

General

The Interconnection Customer (Grand Ridge IV) is proposing an energy storage device to be located in Marseilles, IL, and has requested to be studied as a 4.5 MW Energy-only resource interconnecting into the ComEd area. This installation will replace an equivalent amount of wind generation associated with the N15 and P10 queue positions. The proposed in-service date is requested for December 31, 2012.

Facilities to Accommodate the Interconnection

Attachment Facilities

This project was studied as an injection into the 34.5kV collector bus constructed by Grand Ridge for the N15/P10 wind project. Therefore, this study assumes that no facilities are to be constructed by ComEd to support this installation.

The single line is shown below in **Figure 1**.

Revenue Metering and SCADA Requirements

For PJM: IC will be required to install equipment necessary to provide Revenue Metering (KWH, KVARH) and real time data (KW, KVAR) for IC's generating Resource. See PJM Manuals M-01 and M-14D, and PJM Tariff Sections 24.1 and 24.2.

Network Impacts

No thermal violations were identified as a result of this project.

Short Circuit

(Summary of impacted circuit breakers.)

No issued identified

Steady-State Voltage Requirements

(Summary of VAR requirements based upon the results of the steady-state voltage studies)

No issues identified

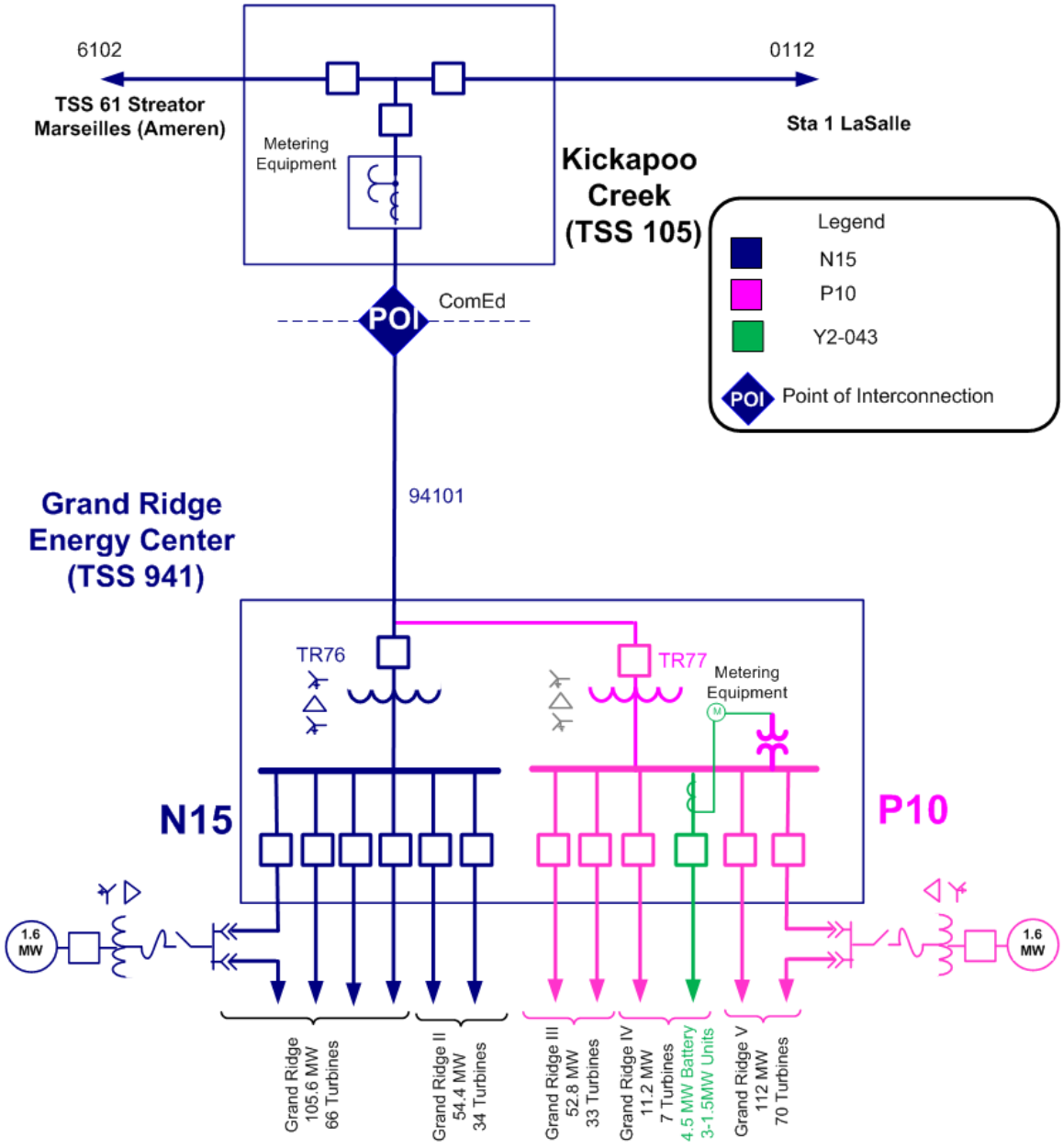

Figure 1. Interconnection Single Line Diagram