



# **GEORGIA POWER'S SMALL POWER PRODUCERS FUNDAMENTALS**

# Distributed Resource Interconnection Procedures

- Background
  - Distributed Resources wishing to sell power must be Interconnected to the Electric Power System.
    - This applies to both IPP's and QF's, regardless of whether they wish to sell into the wholesale market or to an Electric Supplier at Avoided Cost (under PURPA).

# Distributed Resource Interconnection Procedures

- Background – (Continued)
  - Distributed Resources are energy sources which may be located anywhere on the Electric Supplier's System, as opposed to the classic large Central Power Plants which are typically interconnected at transmission voltage.
  - Distributed Resources may also be interconnected at transmission voltage.

# Distributed Resource Interconnection Procedures

- Background – (Continued)
- Multiple Names
  - Distributed Resource (DR)
    - Includes Stored Energy
  - Distributed Generation (DG)
  - Small Generator (SG)
  - Qualified Facility (QF)

# Distributed Resource Interconnection Procedures

- Background – (Continued)
- Multiple Names
  - The terms are frequently used interchangeably, but there can be differences.
    - SG's are limited to 20 MW, but QF's are not.

# Distributed Resource Interconnection Procedures

- Background – (Continued)
- Interconnections above 40-kV are FERC jurisdictional.
  - Order 2003 for LG ( $>20$ MW)
  - Order 2006 for SG ( $\leq 20$  MW)
- All Applications for Interconnections above 40-kV must be made in accordance with the Southern **OATT** (**O**pen **A**ccess **T**ransmission-**T**ariff).

# Distributed Resource Interconnection Procedures

- Background – (Continued)
- **FERC Order 2006**
  - Standardization of Small Generator Interconnection Agreements and Procedures - (Issued May 12, 2005)
    - Limited to 20 MW or less.

# Distributed Resource Interconnection Procedures

- Background – (Continued)
- **FERC Order 2006**
  - Applies only to interconnections with facilities that are already subject to the Transmission Provider's OATT at the time the Interconnection Request is made.
    - Very few GPC distribution lines are subject to FERC Order 2006.

# Distributed Resource Interconnection Procedures

- Georgia Power uses the FERC Order 2006 Small Generator Interconnection Procedures, Application, and Interconnection Agreement.
  - *With appropriate modifications for state jurisdictional QF's.*

# Distributed Resource Interconnection Procedures

- Distributed Resource Interconnection
  - Procedures
    - Defines the Process
  - Application
    - Initiates the Process
  - Interconnection Agreement
    - Formalizes the Interconnection Service Responsibilities

# Distributed Resource Interconnection Procedures

- Interconnection Procedures
  - Scoping Meeting (Optional)
    - To make sure we understand the application, share any previous applicable studies, and to determine if a feasibility study is necessary.

# Distributed Resource Interconnection Procedures

- Feasibility Study identifies the following resulting from the proposed interconnection :
  - Over stressed equipment
  - Thermal overloads
  - Voltage limit violations
  - Grounding requirements
  - Electric system protection
  - Non-binding cost estimate of facilities required to interconnect

# Distributed Resource Interconnection Procedures

- Transmission System Impact Study includes:
  - Short circuit analysis
  - Stability analysis
  - Power flow analysis
  - Voltage drop study
  - Flicker analysis
  - Protection & set point coordination studies
  - Grounding review, if necessary.

- Distribution System Impact Study Includes:
  - Distribution load flow study
  - Analysis of equipment interrupting ratings
  - Protection & coordination study
  - Voltage drop study
  - Flicker study
  - Protection & set point coordination study
  - Grounding review
  - Impact on system operations

- Facilities Study:
  - Specifies and estimates the cost of the equipment, engineering, procurement, construction, and estimated construction time necessary to implement the conclusions of the system impact studies.

- **Facilities Study** – (continued)
  - Identifies the electrical switching configuration of the equipment.
  - The nature and estimated cost of the Transmission Provider's Interconnection Facilities and upgrades necessary.
  - Estimates the time required to complete the construction and installation of such facilities.

- **Study Cost Responsibility**
  - The customer is responsible for the cost of each of the studies.
  - Costs are the Transmission Provider's actual costs.
  - Deposits are required and trued up to actuals upon after completion of the studies.

# Distributed Resource Interconnection Procedures

- Integrated Transmission System
  - Generation may interconnect to the Georgia Integrated Transmission System through any of the Georgia Integrated Transmission System participants, Dalton Utilities, Georgia Power Company (Southern Company), Georgia Transmission Corporation or MEAG Power.

# Distributed Resource Interconnection Procedures

- Exporting generators wishing to interconnect with Georgia Power (Southern Company) should contact:  
**Terry Coggins at 205-257-5514.**
- All requests for generation interconnection service with Georgia Power (Southern Company) must go through the Southern Company OASIS system at (<http://www.weboasis.com/>).
- Terry will guide you through the process.

# Distributed Resource Interconnection Procedures

- Questions?