Step-By-Step Interconnection
Introduction

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Step-By-Step-Interconnection
Introduction Outline

• FERC Order 2003 lays out standard procedure
• Step-By-Step Pro-Forma LGIP
• Interconnection backlogs form across nation
• FERC technical conference on queuing practice leads to individualized queue reform
• Metrics report on current status
FERC Order 2003

• Put in place a standard large generator interconnection procedure (LGIP)
• Also put in place a standard large generator interconnection agreement
Step-By-Step LGIP

• Interconnection Request
• Entry into Interconnection Queue
• Scoping Meeting
• Studies done serially in queue order
  – Feasibility Study
  – System Impact Study
  – Facility Study
Step-By-Step LGIP

• Determination of required upgrades and cost responsibility
• Interconnection Agreement
• Construction
Interconnection Backlogs Form

• Surge in interconnection requests causes backlogs across the country
  – Particularly from wind, significant portion of requests
    • Wind turbine model availability
    • Control interactions
    • Upgrades required to connect remote wind
  – Most pronounced in organized markets
    • ISO’s and RTO’s
Wind Power in Queues As of March 2010 (MW)

Total 297,808 MW

Source: AWEA
• Required all RTO’s and ISO’s to file status reports on efforts to improve queue processing

• Allowed RTO’s and ISO’s to propose tailored solutions rather than imposing a single, standard queue reform
Metrics Report

• First annual ISO/RTO metrics report submitted to FERC December 2010
• Includes metrics related to interconnection
• Gov’t Accountability Office has suggested similar metrics be developed/reported for non-RTO’s/ISO’s
Metrics Report
Queue Reform

- CAISO, MISO, NYISO, PJM moved from a serial process to a cluster or group study process.
- MISO, SPP, (NYISO) moved from a first-come-first-served process to a first-ready-first-served process.
- ISO-NE has increased deposit levels throughout interconnection process.
Metrics Report
Number of Study Requests

- Study requests increased rapidly through 2008 then sharply declined
Metrics Report
Interconnection Processing Times

- Average processing time about 500 days
- Range from about 100-800 days
Metrics Report
Average Study Duration

- Average time to complete a single study just under a year (blend of Feasibility, System Impact, and Facility Study durations)
• Ranges from about $2,500 to $72,000

* MISO gave average for all study types without differentiating between Feasibility, System Impact, and Facility Studies
• Ranges from about $10,000 to $99,000

* MISO gave average for all study types without differentiating between Feasibility, System Impact, and Facility Studies
Metrics Report

Facility Study Costs

• Ranges from about $5,000 to $125,000

* MISO gave average for all study types without differentiating between Feasibility, System Impact, and Facility Studies
** ISO-NE costs were based on a single study each year
Differing Incentives to Enter Queue
All Dealing With Same Process

- **Project viability known**: wants to move fast
- **Project viability unknown**, wants to reduce uncertainty surrounding interconnection or lock in early queue position: wants to get feasibility study answers then move slow
- **Project not viable** due to transmission constraints, wants to be counted for long term planning or public policy discussions: wants to be in queue while moving as slow as possible
Ways To Save Money and Time In Interconnection Process

• Make project design decisions before starting interconnection process
  – project size
  – project one-line
  – plan for access to point of interconnection in unconstrained part of system
  – turbine selected with all required data from manufacturer

• Provide study data and execute agreements quickly

• Communicate desire to move quickly

• Skip optional study phases where applicable (Feasibility Study, Facility Study)
References

• 2010 ISO/RTO Metrics Report, December 6, 2010. FERC Docket AD10-5-000

• Interconnection Queuing Practices Technical Conference held December 11, 2007. FERC Docket AD08-2-000

• Standardization of Generator Interconnection Agreements and Procedures, Order 2003, issued July 24, 2003. FERC Docket RM02-1

• FERC Docket Search: http://elibrary.ferc.gov/idmws/docket_search.asp