UNDERSTANDING THE LOCAL TRANSMISSION SYSTEM AND PROCESS

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Presentation Overview

Grid System
  RTOs and ISOs
  MAPP
  MISO
  NERC and MRO

State vs Federal Jurisdiction
  Def. Trans. vs Dist.

Connecting Generation Locally
  PURPA QF’s
  DG’s and Net Metering
  Larger Units
Overview of Electric Power Systems
Manitoba – Twin Cities

500 KV Transmission Line Structure
345 KV Double Circuit Lattice Tower to

Single Pole Transition
Typical 13.8KV Overhead 3-Phase Distribution Feeder
Local distribution facilities are normally in close proximity to retail customers.
Local distribution facilities are primarily radial in nature.
Power flows into distribution systems; it rarely, if ever, flows out.
Distribution Definition FERC’s 7-Factor Test

When power enters a local distribution system, it is not reconsigned or transported to some other market.

Power entering into a local distribution system is consumed in a comparatively restricted geographic area.

Meters are based at the transmission/local distribution interface to measure flows into the local distribution system.

Local distribution systems will be of reduced voltage.
Source: MISO
Key Elements

PURPA QFs
PURPA Revisions
MN Distributed Generation Law
Net Metering Limits
FERC vs. State Jurisdiction
MN Distributed Generation Law

MN Public Law Stat 216B.1611
Sets forth standards for units 10 MW or less
Clean fuel and connected at 35 KV or less
Lengthy standards to avoid utility issues from relaying to contracts to insurance
Drivers for MN DG Legislation

Uniform Reg’s for Interconnection
- Safe, Reliable Operation

Provide Cost savings and Reliability to Customers

Enhance Grid Reliability & Efficiency
- Fairness for Contracts, Procedures
MISO Interconnection Queue

Go to www.midwestiso.org

Planning
Generation Interconnect
- small
- large

Non-Network Transmission Cost
Allocated Under RECB
ALTERNATE GENERATOR LOCATIONS

ONE-LINE DIAGRAM SKETCH
Conclusions

Connection procedure based on jurisdiction, FERC vs State.

DG & PURPA reg’s protect smaller, on-site generation

MISO process complicated and lengthy

Sales to local utility and/or on-site use simplifies transmission access
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