Energy & Technology

E2Tech Forum
February 3, 2016
Outline

1. AVANGRID
2. Environment & Energy Technology
3. Smart Energy Technology
   • AMI
   • Automation
   • Control Center
4. Future Energy Vision
5. Getting Connected
… We seek to provide clean energy through sustainable sources and are committed to reducing our corporate carbon footprint…

• Reduced Emissions
  • Recent capital improvements at our NY hydroelectric stations avoided 408,000 tons of CO2, 2,100 tons of sulfur dioxide (SO2) and 570 tons of nitrogen oxides (NOX).

  • AMI at CMP avoids an estimated 1,050 tons of CO2 exhaust emissions. The Maine AMI enables gains in efficiency and energy conservation that reduce the need for extra generation and eliminate an estimated 42,000 tons of CO2, 46 tons of NOX, and 107 tons of SO2 emissions annually.
Advanced Metering Infrastructure (AMI)

- Consists of smart meters and the associated communication network.
- Provide more detailed usage and power quality information (e.g., outages, voltage).
- Facilitates real-time monitoring and controlling the grid.
- Provides more consumer information and control.
Automation

• Is real-time monitoring, metering, and control of grid equipment (e.g., transformers, breakers, voltage regulators).
• Automation allows greater penetration of distributed resources.
  • Enables real-time grid ‘tuning’ and configuration changes.
  • Allows communication with resources for coordinated control.
Control Center

• The control center is where the grid and grid resources are operated.
• Increased automation removes ‘blind spots.’
• We are making upgrades to our control system to prepare for a future of increased distributed resources.
  • SCADA\EMS\DMS\OMS…
Future Energy Vision

Utility as DSP

Integrated System Planning
- Integrated System Plan
- DER Forecast
- DER Alternatives Modeling
- DER Heat Map
- Interconnect Standards
- Measurement & Verification

Market Operations
- Customers & Community
  - Community Energy Plan
  - Customer Engagement
  - Online Portal
- Joint Partnership Development
- Electric Vehicle Charging Stations
- Remote Building Audits
- Targeted Solar

Market Development
- Behavior Based Demand Response
- Solar Aggregation
- Bundled Energy Efficiency
- Marketplace Products & Services

Grid Operations
- Grid Automation & Communications
- Volt/VAR Optimization
- AMI
- Smart Inverters
- Energy Storage

Legend:
- IUSA Networks Scope
- Partner Scope
- Shared Scope
small generator interconnection procedures

The Maine Public Utilities Commission has issued rules and procedures for Small Generator Interconnections under Chapter 324. These rules and procedures establish statewide standards for the interconnection of small renewable energy facilities to the energy grid. The purpose of these rules and procedures is to increase the efficiency of the interconnection process, encourage the increased use of renewable energy and distributed generation. We have provided a link to the forms and agreements that need to be completed in order to begin the process.

Click here to view Chapter 324 Rules and click here to access the entire packet of Forms and Agreements (MS Word). Please note that this will link directly to the MPUC web site which still lists the old application fee of $20 instead of $50.

or you can access individual documents below in order to begin the process:

- Forms and Agreements 1: Definitions
  For commercial customers submitting applications, please provide your tax id number.

- Forms and Agreements 2 - Level 1: Application for Certified, Inverter-Based Generating Facilities not greater than 10 kW

- Forms and Agreements 3 - Level 1: Interconnection Agreement

- Forms and Agreements 4 - Levels 2, 3 & 4: Interconnection Application

- Forms and Agreements 5 - Levels 2, 3, & 4: Interconnection Agreement

- Forms and Agreements 6: Certificate of Completion

- Forms and Agreements 7: Feasibility, Impact and Facilities Study Agreements

- Forms and Agreements 8: Interconnection System Impact Study Agreement

- Forms and Agreements 9: Interconnection Facilities Study Agreement

As required by order of the Maine Public Utilities Commission, Small Generator Interconnection Applications will be evaluated under applicable screening criteria based on the overall AC generation capacity of the customer-generation facility at the point of interconnection.
Thank you!

Questions?