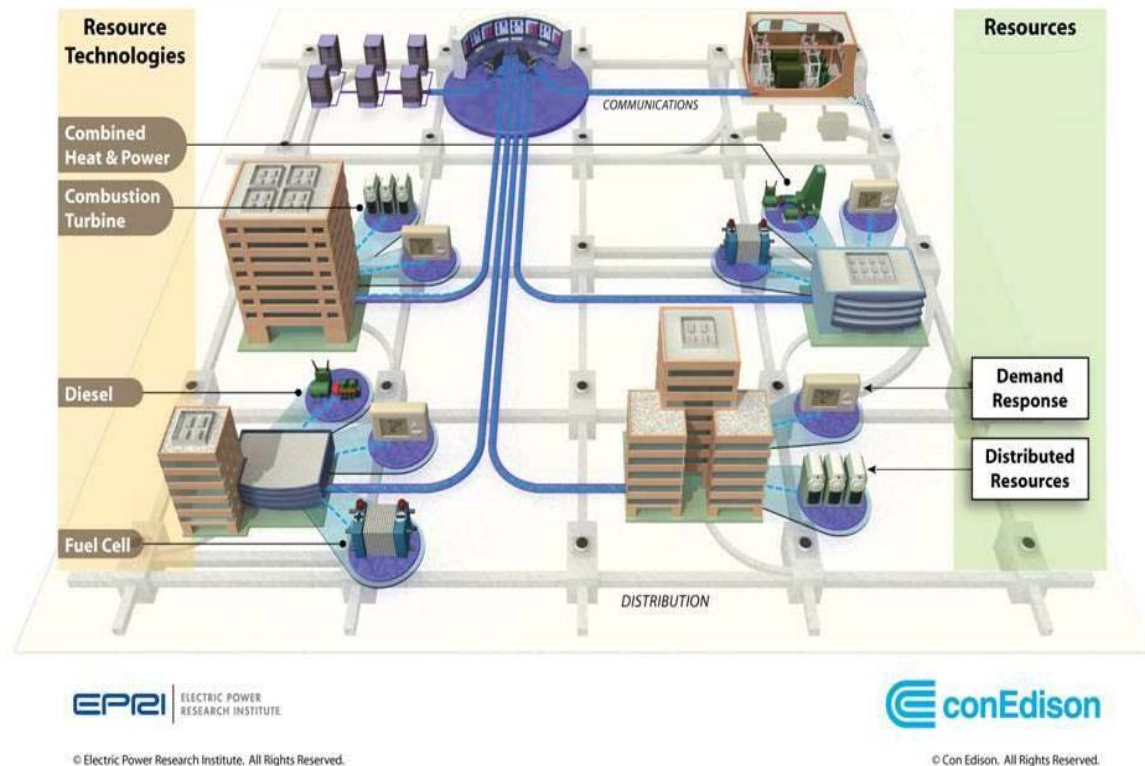


# Smart Grid Peer Review

November 2, 2010

# Interoperability of Demand Response Resources Demonstration in NY

- Background
- Participants
- Objective
- Goals
- Technologies
- Challenges
- Schedule



# Background

In New York City, backup generators are estimated to comprise ~1,300MW

But only approximately 140 MW currently participate in demand response programs.

# Project Objective

Development of interoperability techniques to leverage customer owned distributed generation and demand response resources.

# Project Participants

- Con Edison
- Innovative Power
- Verizon
- Infotility

# Project Goals

- Develop enhanced interoperability
- Integrate distributed resources in to distribution network operations
- Aggregate demand response resources to supply market-based activities
- Extend data gathering and visualization into ‘customer domain’
- Develop decision tools and response aids
- Defer capital investments

# Technology

- GridAgents' distributed computing technology
- Secure communications between DRCC and buildings
- Local controllers at resources to support remote control and feedback
- Predictive algorithms for demand and demand response

# Demand Response Command Center

- Gateway between Network Operators, Demand Response Aggregators, and Demand Response Resources
- Remote dispatch of Demand Response Resources
- “Virtual Generation” and response to activation signals:
  - ISO
  - Distribution Network Operators
  - Transmission Operators



# Demand Response Command Center

- Interoperable open protocols and standards
- Multiple Demand Response aggregator participation
- Verification of Control Actions and Responses (Auditable)
- Facilitates additional devices and futures systems

# Distribution Control Center

- Added visibility into Customer Domain
- Additional capabilities for distributed resources
- Enable treatment of Distributed Energy Resources as Virtual Generation
- Planned API integration with next generation systems

# Schedule

- **Interoperability of Demand Response Resources Demonstration in New York**

Phase 1 – Requirements Gathering and Feasibility Studies

- Completion 2010

Phase 2 – Detailed Design and Construction

- January 2011 – September 2012

Phase 3 – Operation and Performance Measurement

- October 2012 - September 2013

# Challenges

- Cost of Renewable Energy Resources
- Integration into Existing Infrastructure
  - Network Protectors
- Participation of Commercial Customers

For additional information on  
Con Edison's Smart Grid Initiative:

<http://www.coned.com/publicissues/smartgrid.asp>