Distribution System Planning

Power Sector Transformation Discussion
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Distribution System Planning: Purpose

- Develop electric system plans that ensure *safe* and *reliable* service to customers at a *reasonable cost*.
# Planning Considerations

## System Factors
- **Capacity**
  - Peak Loading - Normal Conditions
  - Contingency Loading Scenarios
  - Reverse Powerflow
- **Reliability**
  - Frequency of Interruption
  - Duration of Interruption
  - Protection Coordination
- **Asset Condition**
  - Just-in-time Proactive Replacement
  - Risk Based Management
  - Safety
- **Resilience**
  - Storm Resiliency
  - Flood Resiliency
  - Climate Change
- **Voltage & Power Factor**
  - Voltage Performance & Optimization
  - Power Factor Performance

## Solution Factors
- **Operability**
  - Standard Equipment & Procedures
  - Systems Integration
  - Skills & Training
- **Cost**
  - Installation
  - Operation & Maintenance
- **Schedule**
  - Lead Time
  - Longevity
- **Project Synergies**
  - Project Implementation
  - Emerging Technologies
Smaller lower cost actions are utilized to defer major projects.

A risk based prioritization matrix is used in developing the capital budget.

The Company’s capital budget is categorized by a project’s primary driver.

Many projects will address multiple area needs.
The NY REV Evolution

The utilities have been assigned the role of DSP provider to ensure that safe and reliable service is maintained through the efficient management of an increasingly complex system.

Integrating DER with Distribution System Planning is one of the primary areas evolving as part of the Reforming the Energy Vision (REV) proceedings.

- Efficiency of DER interconnections
- Integrated Load and DER forecasting
- New planning tools and processes
- Non-wires Alternative Suitability
RI Heat Map Concept - NW RI Test Area

“Work in Progress”

- **Purpose**
  - Increase the transparency of system planning
  - Help identify potential DER/Non-wire Alternatives (NWA) opportunities

- **Concepts**
  - Geographic representation of areas of the distribution system that are approaching planning thresholds
  - Starting with loading and voltage constraints
  - Neighborhood level details
  - Evolve, refine, and advance the discussion
THANK YOU