Energy Assurance Planning in New York State

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Overview of Presentation

- Conceptual Framework
- State Energy Profile
- Monitoring Market Dynamics
- Tabletop Exercises
- Interdependencies and Vulnerabilities
- Energy Supply Disruption Events
Goal: Improve energy supply reliability and reduce the probability and consequence of disruptions across all fuels

Development of detailed State energy and infrastructure profiles

Market monitoring tracks fuel flows, key industry stakeholders and infrastructure, trends in supply, demand, inventories, production and price

Identify and understand energy infrastructure vulnerabilities and interdependencies

Identify responses and market adaptations to energy supply disruption events by industry and government
NYS Energy Profile

- Energy Supply and Demand and Stakeholder Information
  - 2013 New York State Energy Plan
  - 2012 NYS Patterns and Trends: Annual energy statistical information
  - NYISO Gold Book: Electric sector information
  - U.S. EIA State Energy Profile: Data sets
  - NYS Energy Emergency Plan: Annual update
Market Monitoring and Supply Disruption Tracking

- Multiple levels of situational awareness
  - Real-time disruptions and response: DPS, NYSERDA, OEM, NYISO and industry stakeholders
  - Track data for inventories, production, demand, prices, and other indicators of fuel availability: DPS, NYSERDA and industry stakeholders
  - Infrastructure monitoring from US DOE, USCG, State and industry stakeholders.
**Situation:** NY depends on regional, national and global flow of petroleum products.

**Scenario:** Changing fuel specs and refinery closures in the Northeast will alter the product flow.

**Implications:** NY increasingly dependent on Gulf Coast pipeline shipments, international imports and other emerging U.S. sources.

**Energy Assurance Actions:** Maintain and build operational awareness of storage, ports, tankers, barges, pipelines, and rail capacities.
Tabletop Exercises: Preparing for Abrupt Events

- **Event**: Nov. 2011 - Petroleum, natural gas and electric industry participated in downstate exercise with local and state government representatives.

- **Objective**: Tested interplay of natural gas and petroleum distribution system during cold weather pattern, coupled with regional transportation disruption.

- **Finding**: Mutual reliance among electric generators, natural gas system and petroleum distributors
  - Limited awareness of each other’s operating requirements.
  - Petroleum relied upon as fuel of last resort for multiple sectors. Fuel inventories are a key factor.
Seek to identify our energy supply blind spots

Fuels, electricity, communications and transportation are highly interconnected and interdependent.

– Where can the loss of one system affect the others?
– Potential for cascading effects?
Interdependencies: Communications

Communications Sector Interdependencies

Key Communications Sectors
- Last Mile Wireless
- Last Mile Wireline
- Middle Mile/Long Haul Connections

On Site Backup Power Capability
- Generator Power (Oil/Nat Gas)
- Local Battery/Solar Backup

Electrical Power
- Generation → Transmission → Distribution

Raw Fuel Delivery Methods
- Pipelines
- Freight Rail
- Over the Road
- Marine

Source: ICF
Interdependencies: Transportation

Source: ICF
Energy Supply Disruption Events

- Tracking response strategies at the public and private levels
  - Government: Response and recovery
    - Federal and State roles
    - Market intelligence gathering
    - Communications protocols
    - Recovery phase
  - Industry stakeholders: Response actions and market adaptations
    - Repair and recovery of assets, mitigation, mutual aid
    - Alternative supply arrangements
    - Product delivery changes: customer curtailment programs