

# ISO-NE & Regional issues update

vermont electric power company



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# Markets committee Update

- ISO's chapter 3 fuel security
- Order 841 (Energy storage)

# Fuel Security Related Problems

- 1. Incentives and Compensation.** Market participants whose resources face production uncertainty may have inefficiently low incentives to invest in additional energy supply arrangements
- 2. Operational Uncertainty.** There may be insufficient energy available to the power system to withstand an unexpected, extended (multi-hour to multi-day) large generation or supply loss, particularly during cold weather conditions
- 3. Inefficient Schedules.** The power system may experience premature (inefficient) depletion of energy inventories for electric generation, absent a mechanism to coordinate and reward efficient preservation of limited-energy supplies over multiple days

# Fuel Security timing

- In accordance with FERC's July 2, 2018 order in EL18-182-000, the ISO must develop and file improvements to its market design to better address regional fuel security, and file by October 15, 2019

## Multi I Faceted effort addressing fuel security

- **Multi-day ahead market.** Expand the current one-day-ahead market into a multi-day ahead market, optimizing energy (including stored fuel energy) over a multi-day timeframe and producing multi-day clearing prices for market participants' energy obligations
- **New ancillary services in the day-ahead market.** Create several new, voluntary ancillary services in the day-ahead market that provide, and compensate for, the flexibility of energy 'on demand' to manage uncertainties each operating day
- **Seasonal forward market.** Conduct a voluntary, competitive forward auction that provides asset owners with both the incentive, and necessary compensation, to invest in supplemental supply arrangements for the coming winter (TBD)

# 1. Multi-Day Ahead Markets

- Optimizes limited energy inventories cost-effectively over the multi-day horizon
- Provides a forward price signal to replenish when prospective supplies are tight and influence consumption decisions
- Creates financially binding obligations for cleared quantities using the multi-day ahead clearing prices
- Should reduce (or eliminate) need for out-of-market posturing of resources for fuel

## 2. New ancillary Day-Ahead Reserve Products

- Would be integrated into the multi-day ahead optimization
- Provides a price signal to maintain a “buffer stock” of energy inventory, for technologies capable of doing so
- Re-dispatches the system to preserve these energy inventories, shifting production as needed to higher-cost resources with “use or lose it” energy
- Conceptually familiar solution approach – logic mirrors operating reserve designs

# Order 841

- FERC order allowing electric energy storage in wholesale electric markets (WEM).
  - Must have the ability to inject at least 0.1 MW and consume at least 0.1 MW
  - Must register as a generator and a dispatchable asset related demand (DARD)
  - May participate in AGC market



# Reliability Committee

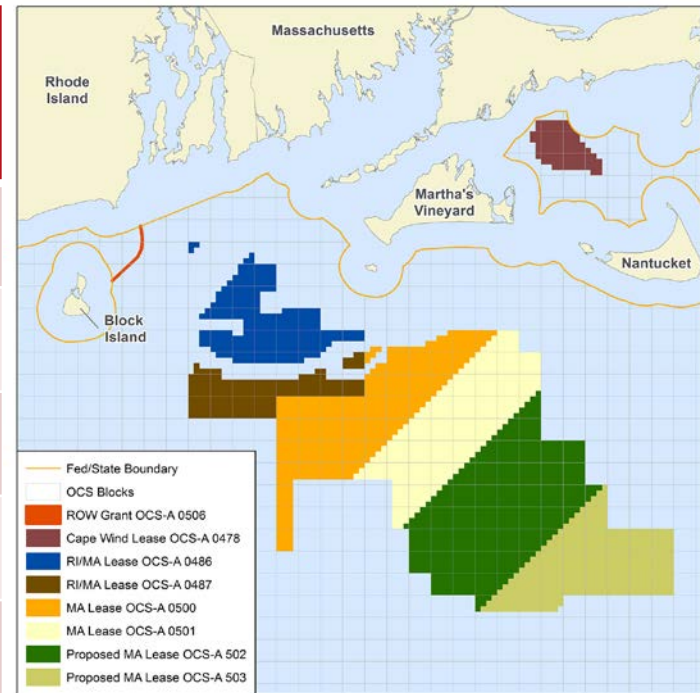
- Order 1000 (Boston)
- NESCOE Economic study request

# Greater Boston transmission needs

- ISO has conducted a transmission security analysis study for NEMA/Boston.
  - 2028 study
  - Assumed Mystic 8&9 assumed out for steady state
  - FCA13 auction generation dispatch
- Study identified transmission needs beyond 3 years. ( six 345kV lines & one 115kV line)
- In Dec 2019, ISO will issue an RFP for competitive bids for transmission.
- This will be the first Order 1000 competitive transmission process.

# NESCOE Economic Request

MW of New Offshore Wind	
By 2030	1,000
	2,000
	4,000
By 2035	5,000
	7,000



- Primary location of new resources: MA or RI/MA Wind Energy Areas (WEA) on the outer Continental Shelf
- Remaining amount of new offshore wind resources would be from a yet-to-be determined WEA in the Gulf of Maine

# NESCOE Transmission Analysis Request

- Integrate new wind resources at different points of interconnection into New England and estimate transmission upgrade costs associated with these conceptual configurations
- Consider all reasonable points of interconnection in New England, including the prospect of interconnecting southern WEAs north of Cape Cod

# Transmission committee

- IROL Critical
- Order 845/845A
- NESCOE Cost Containment for competitive transmission

# IROL Critical generators

- Generators designated as Interconnection Reliability Operating Limits (IROL) have a higher CIP requirement
- ISO proposing a tariff mechanism to allow IROL critical generators to recover CIP related costs.
- Burns & McDonnell making recommendations for formula rate to be included in new schedule 17
- TC/PC vote to occur in June.

# Order 845/845A

- FERC order allowing Interconnecting Customers (IC) the option to build
- Order suggests IC and TO negotiate an oversight cost
- NETOs propose their recovery costs should be based on actual cost of service (COS)
- ISO accepted NETOs amendment for COS (Motion failed)
- RENEW had a proposal for treatment of excess capacity. (Motion passed)

# NESCOE transmission cost containment

- Expressing strong interest in starting a conversation now on cost containment for competitive transmission.
- Looking for input, since it's a challenging problem. Some of their suggestions include:
  - Construction vs project costs (values differ)
  - Developer submit a 20 year revenue requirement
  - NPV using common discount rate
  - Evaluation of risk
  - Rank qualification factors (H/M/L)
  - Have developer absorb some risk (Permitting, env, design, inflation, land, and equipment)



# In other news

- Eversource performing a survey of how each TO calculates their Regional Network Load (RNL)
- RTO insider is now a NEPOOL participant
- Pilgrim nuclear power plant shutting down on 5/31/19 (680 MW)

