

**AGENDA  
JOINT MEETING  
NEPOOL MARKETS & RELIABILITY COMMITTEES  
TUESDAY, September 29, 2020**

**Location:** Teleconference

**Call-in Number:** 1-866-711-7475 / Access Code: 8562734

**WebEx:** [WebEx Link](#)

**WebEx Password:** nepool

<b>Item</b>	<b>Description</b>	<b>Time Allotted</b>
1*	CHAIRS' OPENING REMARKS  <i>(A) Approval of Minutes [66.67% MC vote] [66.67% RC vote]</i> <ul style="list-style-type: none"> <li>• Joint MC/RC Meeting Date: September 1, 2020</li> </ul>	9:30 - 9:45
2	INTRODUCTION OF PROJECT ADMINISTRATOR – PETER FLYNN  (Participants Committee Chair: Nancy Chafetz)	9:45 - 10:00
3*	FUTURE GRID STUDY  (Project Administrator: Peter Flynn) (6 <sup>th</sup> Joint MC/RC Mtg)  Discussion of logic and process, major areas for analysis, developing a straw proposal, and next steps.	10:00 – 12:00
	LUNCH	12:00- 12:45
3*	FUTURE GRID STUDY  (Project Administrator: Peter Flynn) (6 <sup>th</sup> Joint MC/RC Mtg)  Discussion of logic and process, major areas for analysis, developing a straw proposal, and next steps.	12:45 – 2:45
4	OTHER BUSINESS	2:45 - 2:50

\* Material distributed for this agenda item

**AGENDA ITEMS with BOLD & ITALICIZED FONT:** MC ACTION and RC ACTION Requested  
WMPP: Wholesale Markets Project Plan

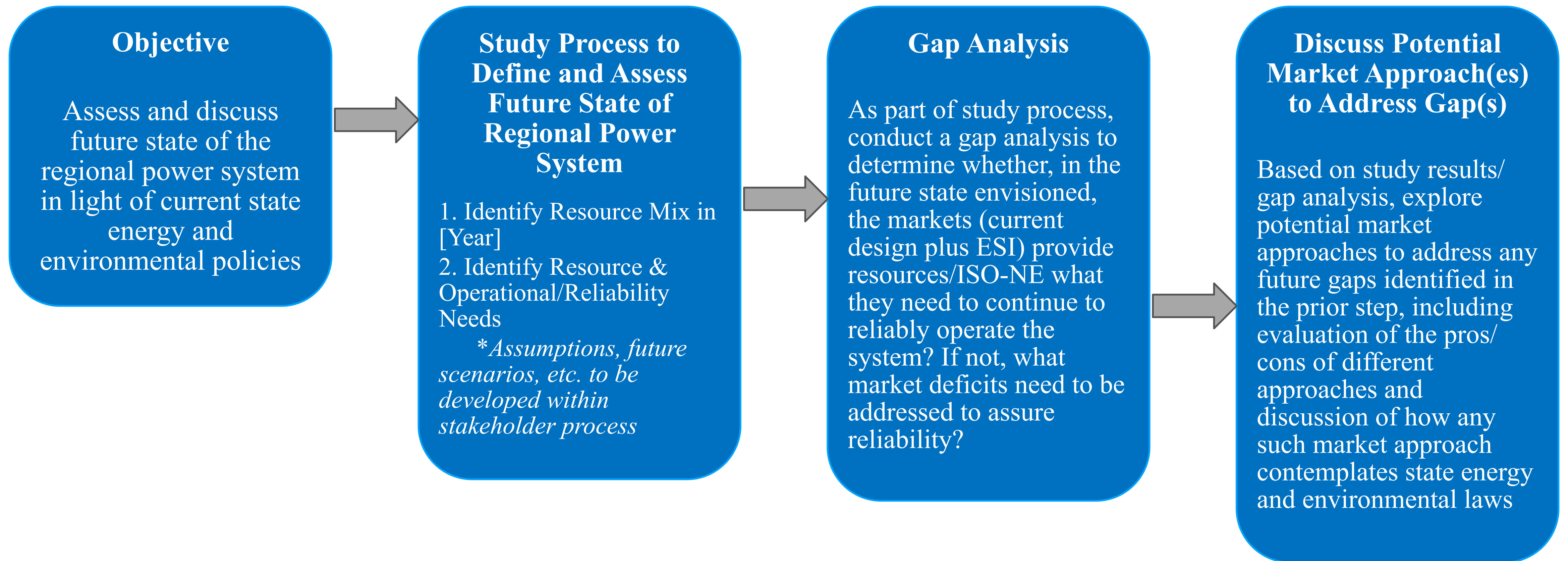
# **Future Grid Study**

**Scope, Metrics, and Developing a Straw Proposal**

**Peter Flynn - September 29, 2020**

# Future Grid Study

## Bubble Chart



# Future Grid Study

## Today's Goals:

- Achieve consensus on the scope of study and metrics
- Achieve consensus on the criteria for selecting a straw proposal
- Achieve consensus on what are the key modeling assumptions

# Future Grid Study

Administrator will consult with NESCOE and NEPOOL to prepare for the November Joint MC/RC meeting

- Analysis comparing past and ongoing studies/proposals based on criteria and key assumptions
- A straw proposal
  - Sensitivities can be performed to the straw proposal to understand the impacts of changing certain assumptions

# Future Grid Study

## November Joint RC/MC Meeting

- Review and respond to a straw proposal
- Discuss what resource or operational/reliability needs might be missed by the straw proposal that different assumptions might illuminate
- Discuss possible additional scenarios or methodologies to illuminate those needs
- Avoid complexity that is unlikely to shed light on resource or operational/reliability needs

# Scope of Study and Metrics

## Major Areas for Analysis

- Production cost (energy market)
- FCM pricing
- Reliability/resource adequacy
- Ancillary services
- Transmission

# Scope of Study and Metrics

## Production Cost (Energy Market)

GridView (or similar model)

- Systemwide energy production
- Systemwide production cost
- Load serving entity energy expense + uplift
- Congestion costs by interface
- Average LMPs
- Native New England CO2 emissions
- Spillage by resource

**Consensus Point:** Do stakeholders agree that these are the energy market metrics we want to study?



# Scope of Study and Metrics

## FCM Pricing

- FCM clearing prices, revenues and costs
- ISO recommends hiring a consultant for modeling

**Consensus Point:** Do stakeholders agree that the study should include FCM? If yes, do stakeholders agree to hiring a consultant?

Are there other revenue sufficiency analyses that should be done besides FCM and energy market revenues?

# Scope of Study and Metrics

- What about probabilistic reliability/resource adequacy? - GE MARS or similar model
  - Loss of Load Expectation of one day in 10 years
  - What about energy security (Loss of Load Probability, Loss of Load Hours, Expected Unserved Energy during the winter and shoulder seasons)?

**Consensus Point:** Do stakeholders agree that the study should include a probabilistic reliability/resource adequacy assessment? Which of the above metrics should be studied?

# Scope of Study and Metrics

Ancillary services (ramping, regulation and reserves) - EPECS or similar model

- Simulated operating reserves: load following, ramping and curtailment performance
- Simulated interface and tie-line performance
- Simulated regulation performance
- Simulated balancing performance
- Time-series data outputs on a granular time-scale for each type of assessed reserve

**Consensus Point:** Do stakeholders agree that ancillary services should be studied? Is there anything else about ancillary services that should be studied not covered above?

# Scope of Study and Metrics

## Transmission Assessment

- What about transmission stability?
  - Example: Evaluate impact of high renewables in the shoulder months
- What about transmission expansion analysis?
  - Costs of transmission upgrades?
  - If yes for costs, ISO recommends hiring a consultant
- What are the effects of non-transmission alternatives?

**Consensus Point:** Do stakeholders agree that the study should include a transmission assessment? Which of the above should be studied?

# Proposed Criteria for Selecting a Straw Proposal

- Start from a past or ongoing study/proposal
- Time to complete study
- ISO modeling preferred to retaining contractors
- Data availability
- Data compatibility with different models (Maintain information policy protections consistent with past practice)
- Economy-wide environmental compliance
- Includes interim and end-state cases
- Data for at least 2 years from 2030 to 2040
- Complete data sets for key assumptions
- Key assumption values within range of other studies/proposals and not outliers
- Feedback?

# Key Modeling Assumptions

## Load-Related

- Net energy for load
- Peak and off-peak demand
- Traditional load
- Electrification of heating and transportation load
- Energy efficiency
- BTM resources

**Consensus Point:** Do Stakeholders agree that these are the key load-related modeling assumptions to consider in selecting a straw proposal?

# Key Modeling Assumptions

## Supply-Related

- System capacity
- Resource Mix
  - Gas
  - Hydro
  - Nuclear
  - Offshore wind
  - Onshore wind
  - PV
  - Storage
- System topology
- Other

**Consensus Point:** Do Stakeholders agree that these are the key supply-related modeling assumptions to consider in selecting a straw proposal?

# Next Steps

## By October 9

- Please submit any written feedback on today's discussion
  - study scope and metrics
  - proposed criteria for selecting a straw proposal
  - key assumptions for selecting a straw proposal
- Please submit to: Erin Wasik-Gutierrez, at [ewasik-gutierrez@iso-ne.com](mailto:ewasik-gutierrez@iso-ne.com)  
Submissions will be posted.



# Next Steps

## At the November Joint MC/RC Meeting

- Review and respond to straw proposal
- Discuss what resource or operational/reliability needs might be missed by the straw proposal that different assumptions would illuminate
- Discuss possible additional scenarios to illuminate those needs