

# PLANNING FOR FUEL SECURITY: DEFINING THE RELIABILITY STANDARD

Maine Public Utility Commission Chairman Philip Bartlett;

New England Energy Security Solutions

Federal Energy Regulatory Commission Public Meeting, July 15, 2019

# Overview

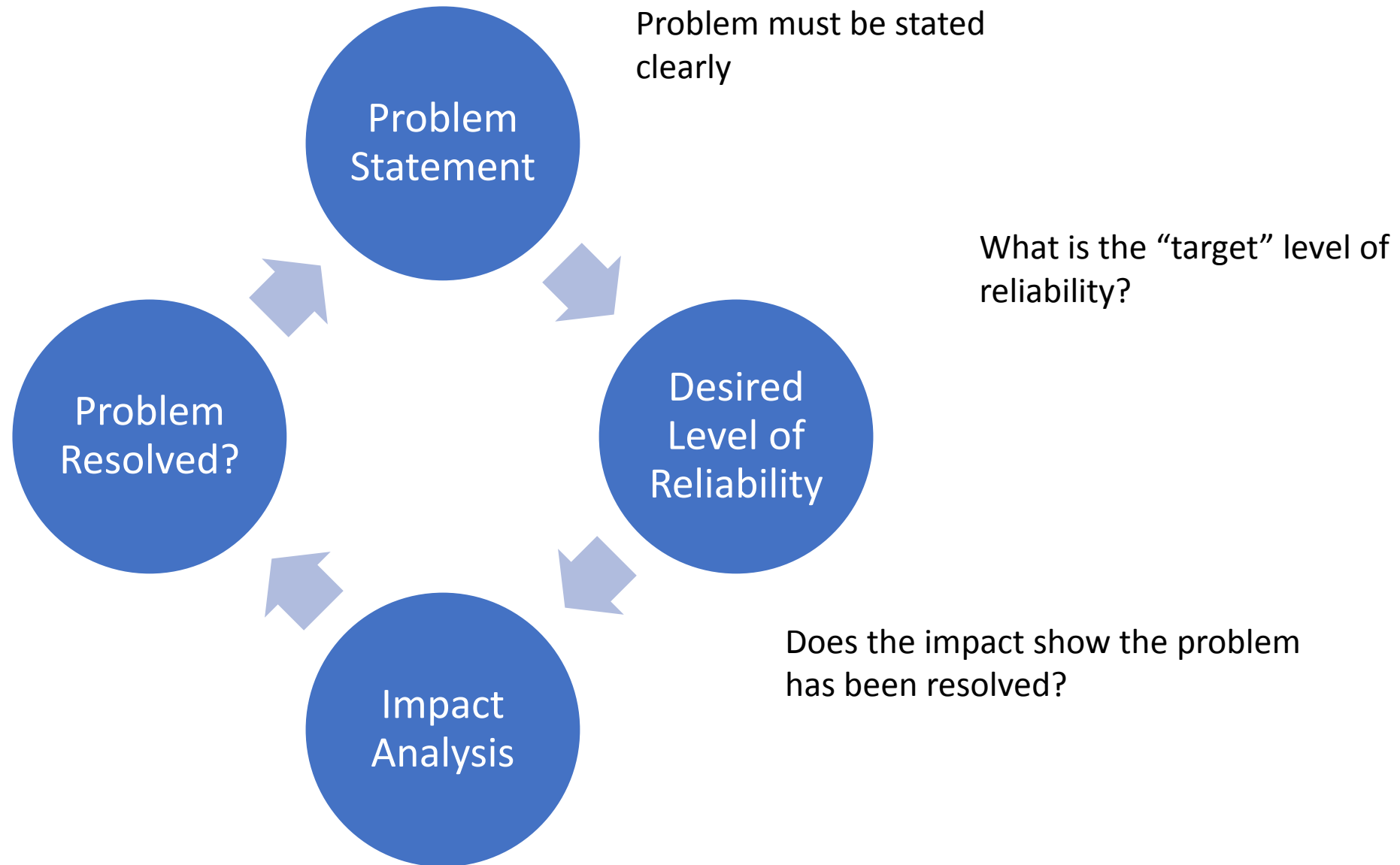
- Opinions on the Proposed market changes
- Need for guiding principles

# Opinion: ISO's Proposed Rule

- Theoretical appeal
  - Well reasoned, addresses issues highlighted by EMM for years
- Reasons for caution
  - Novel design – untried elsewhere
  - Complicated
  - Apprehensions expressed by market participants should be respected.
  - It is being rushed through in an overly aggressive timeframe
- It's a three part rule and we've really only discussed two parts.
- The Impact Analysis as designed will provide little useful information

# Guiding Principles of Design

# Principles to Guide Design



# Problem Statement is Not Specific

P1. Market participants whose resources face production uncertainty may have inefficiently low incentives to invest in additional energy supply arrangements, even though such arrangements would be **cost-effective** from society's standpoint as a means to reduce **reliability risks**.

- What does ISO mean when it says “cost effective”?
- How has “risk” been quantified?

P2. 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**.

- How “extended” – specifically
- How “large” – specifically, and
- How “cold” - specifically

P3. 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.

- What does “premature depletion” mean?

# Problem Statement is Not Specific

## **Subjective terms**

- “Cost-effective”
- “Reliability risks”
- “(multi-hour to multi-day)”
- “Large generation”
- “Cold weather conditions”
- Premature depletion of energy inventories
- Preservation of limited-energy supplies over multiple days.

## **Design Considerations**

- Define cost effective
- Quantify reliability risk ( 1 in 10?)
- Event duration
- MW quantity
- Degree day, Design year, Other?
- What does “premature depletion” mean?
- Reconcile “preservation” with “depletion”

# What Design Standard – How Reliable?

- Planning for Fuel Security is New and requires a reliability standard
  - “One-day-in-ten-years” has been accepted as a planning standard in New England.
  - ISOs EMM advocated a probabilistic approach to energy/fuel security planning along with the one-day-in-ten-years standard.
  - LDCs in New England generally plan their gas procurement to meet the one-in-thirty cold weather winter.



# ISOs Impact Analysis will not answer whether the region is more reliable

- Impact analysis is scenario analysis and not appropriate
  - Potentially thousands of scenarios – which should be chosen? Who chooses?
  - Scenario analysis may provide insight into the cost and fuel procured under particular scenarios, but will not provide expected values or reliability assessments.
- Probabilistic analysis is needed
  - Provides a one-in-something value
  - Involves greater stakeholder discussions on inputs
  - Recognizes the possibility of outages
  - Enables a discussion about costs vs. benefits
  - Recommended by EMM
  - Requested by NESCOE
- ISOs impact analysis will not tell us: how much we will buy, how reliable we will be, or how much we will pay (but we know it will be more).

# Conclusions

- This problem is about reliability, but
  - ISO problem statement is not specific.
  - ISO is not trying to reach a ‘target level of reliability.’”
  - The Impact Analysis (as we understand it) will not respond to the problem statement - Will ISOs market design “cost effectively” “Withstand multi-hour to multi-day “, supply losses and “cold weather events”?
- The Commission should direct ISO-NE to adopt a reliability standard.
- The standard should be based on a probabilistic one-day in ten level or some other specified level.
- The impact analysis should be conducted using probabilistic not scenario analysis.