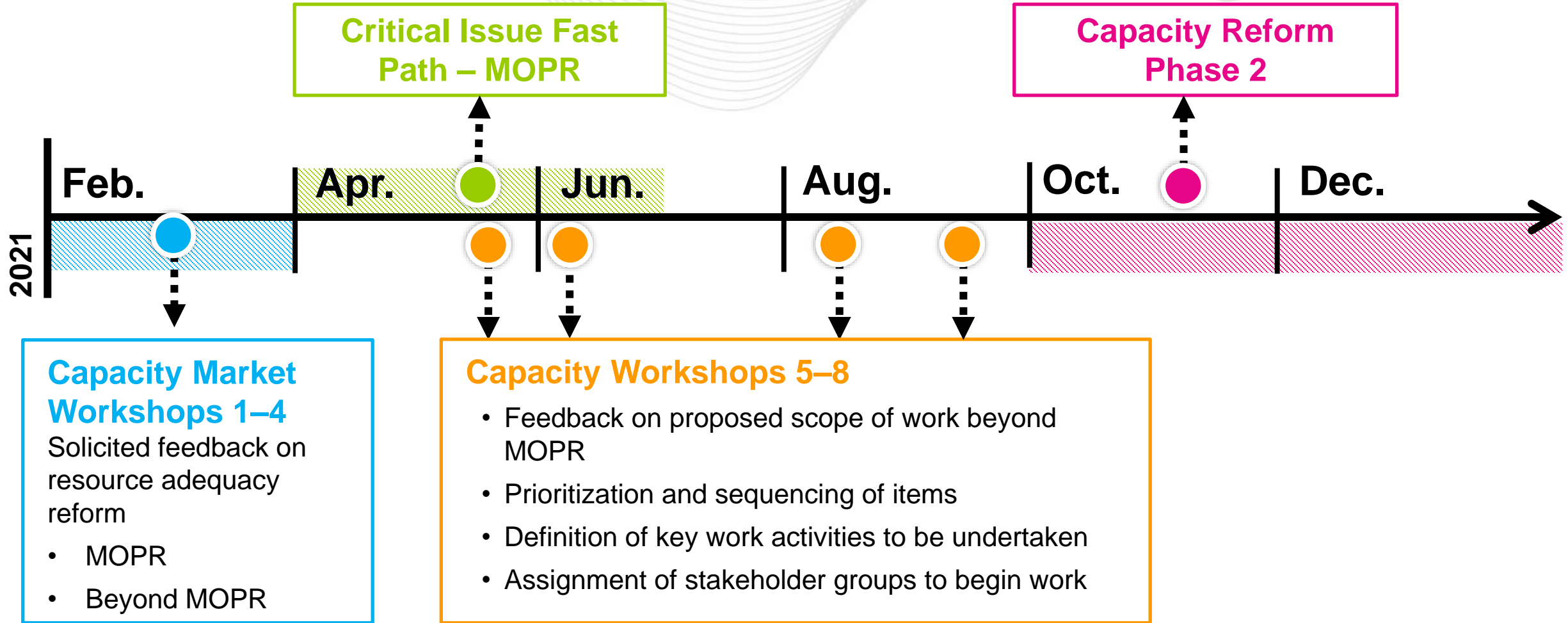


# Capacity Market Reform: Phase 2

Patrick Bruno, Sr. Lead – Market Design  
Walter Graf, Sr. Director – Economics  
Capacity Market Workshop #8  
September 17, 2021

# Capacity Market Reform Stakeholder Discussions



- Review stakeholder feedback provided in prior workshop
- Review the proposed assignment of topics in scope of Phase 2 to various stakeholder groups
- Provide a high-level view of the problems and potential problems PJM sees that are aligned with the scope from the April 6 Board letter, including thoughts on supporting analysis and sequencing of the work
- Get stakeholder feedback

- Stakeholders were largely supportive of forming a new Resource Adequacy Senior Task Force (RASTF) to work on the majority of Phase 2 topics
- Heard some concerns with delegating any of the discussions to groups outside the RASTF
- Received requests to explicitly define the problems that we are attempting to solve in the Phase 2 effort and the analysis that can be done to clarify and prioritize those problems

## STAKEHOLDER GROUPS

### Resource Adequacy Senior Task Force\*

Capacity Resource  
Qualification and  
Performance Requirements

+

Review of Annual  
Resource Adequacy Construct

+

Procurement of Clean Resource Attributes

### Operating Committee

Initial Discussions on  
Additional Reliability  
Services

### MIC Special Sessions

Quadrennial Review  
Items Including:

Reference Technology and Cost

+

Procurement Level  
Under Current Design\*\*

\* Discussions on potential reform needed to related planning studies (e.g. CETO / CETL) will likely begin at the Planning Committee (PC)

\*\* Load forecasting enhancements to be addressed in the Load Analysis Subcommittee (LAS)

Report outs between groups

## **Near-Term Issues:**

Issues to begin work on now that can be addressed in near term

- Performance assessments
- Procurement levels (under current design)

## **Long-Term Issues:**

Current and long-term issues with a longer solution horizon to be discussed together under a holistic review

- Allows for majority of remaining topics under RASTF to be discussed and addressed in a holistic manner

## **Startup Issues:**

Startup issues that require more discussion and scoping to be started in parallel

- Procurement of clean resource attributes
- Additional reliability services

Problems identified where today's market falls short of one or both of the primary objectives of the market:

- **Reliability:** Ensure adequate supply & demand response to meet the resource adequacy target
- **Efficiency:** Embrace competitive principles and send transparent price signals for efficient entry and exit

PJM proposes to begin work on issues that we expect can be addressed in the **near term**:

**Performance  
Assessments**

**Procurement Levels  
(under current design)**



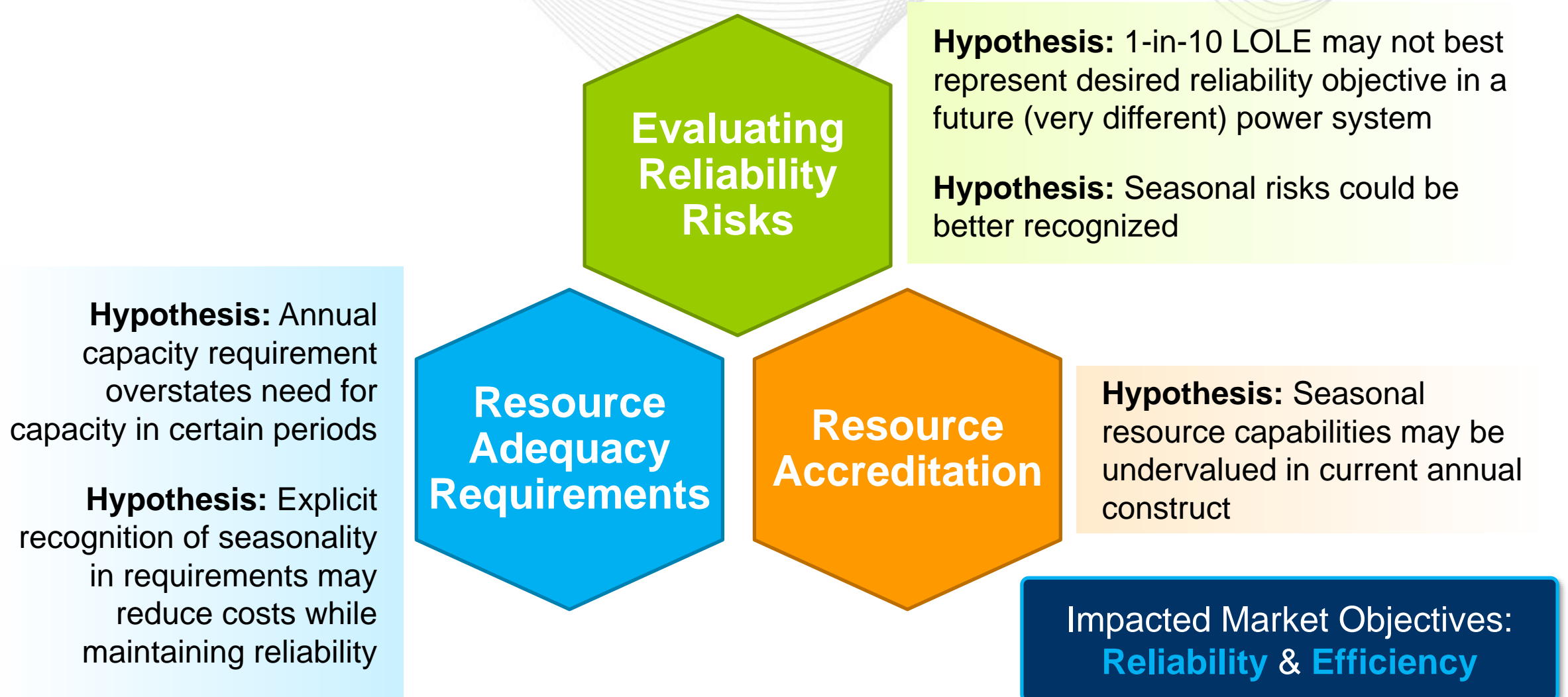
- Symptoms observed during the October 2019 PAIs that indicate a problem with the current PAI rules:
  - Approximately 80% of nonperformance was excused on Capacity Performance Resources throughout the event
  - Energy prices were relatively low throughout the event, with negative prices occurring in regions where the PAI was in effect
- The expected number of PAIs in a given year assumed in the determination of the CP penalty rate has not been observed since implementation of CP
  - i.e., 360 PAIs or 30 hours per year

Impacted Market Objective:  
**Reliability**

- Procurement levels seen by some as too high in PJM. Indicators of a potential problem include:
  - Load forecast has systematically exceeded realized load (historically), particularly the forecast used at the time of the BRA
  - Capacity procured has been above the target IRM, and prices have been low even as merchant entry continues
- Addressing this problem:
  - Continue exploring load forecast enhancements in the LAS
  - Revisit the demand curve shape and reference technology in Quadrennial Review

Impacted Market Objectives:  
**Reliability & Efficiency**

- Propose working the remaining RASTF issues that have **longer-term solution** horizons together in the task force
- Many of these are largely interrelated issues that require discussion on seasonality, including:
  - Exploring reliability metrics beyond LOLE
  - Consideration of seasonal risk and variation in seasonal capacity needs
  - Review of capacity resource accreditation and seasonal capabilities
  - Potential for a sub-annual market construct





To test these seasonality-related hypotheses, we propose to conduct the following initial analyses:

- Calculate LOLE, EUE and other metrics for the PJM system in the future under different assumptions
- Calculate seasonal UCAP historically and into the future using seasonal EFORd/ELCC
- Estimate historical under-accredited seasonal UCAP under current annual construct
- Evaluate seasonal reliability targets under different assumptions

**What additional analysis could help inform these questions?**

**Stated concerns:** Expectations and obligations of a capacity resource are unclear or inconsistent

- Potential need for consistent energy market must offer requirements for all?
- Potential need to clarify requirements for flexibility for capacity resources?
  - When must resources maintain 24/7 staffing?
  - When must resources operate to PLS parameters 24/7?
- Others?

Impacted Market Objectives:  
**Reliability & Efficiency**

## Value of clean energy attributes incompletely recognized in markets

- Today, the primary signal for value of clean energy comes from out of market – RECs, state RPS, state procurements
- But those signals are not particularly well aligned with the ultimate policy goals (primarily decarbonization) nor integrated into the PJM markets

PJM believes a regional procurement of clean resource attributes can add value by promoting competition to achieve decarbonization goals. Competition in this area creates opportunities for suppliers and reduces costs for consumers.

- Begin discussion at RASTF as solution may have a forward procurement component (whether integrated with capacity market or not)

Impacted Market Objective:  
**Efficiency**

Flexibility, ramping, etc. are expected to be more valuable in the future with a changing resource mix

- Requires supporting analysis to help determine what and when these services may be needed in the markets (e.g., Renewable Integration Study 2.0 underway)
- Requires discussion on the appropriate place to compensate these services
  - Is there a need for additional flexible *capacity*, or should flexibility be primarily compensated in the operating time frame to better utilize flexible capability already on the system?

Initial proposal is to begin the discussion and scoping on this issue in parallel to kicking off the RASTF

Impacted Market Objectives:  
**Reliability & Efficiency**



Facilitator:  
Jen Tribulski  
[Jennifer.Tribulski@pjm.com](mailto:Jennifer.Tribulski@pjm.com)

Secretary:  
Alex Scheirer  
[Alexandra.Scheirer@pjm.com](mailto:Alexandra.Scheirer@pjm.com)

SME:  
Pat Bruno  
[Patrick.Bruno@pjm.com](mailto:Patrick.Bruno@pjm.com)

Walter Graf  
[Walter.Graf@pjm.com](mailto:Walter.Graf@pjm.com)

### Capacity Market Workshop - Session 8



### Member Hotline

(610) 666 – 8980

(866) 400 – 8980

[custsvc@pjm.com](mailto:custsvc@pjm.com)