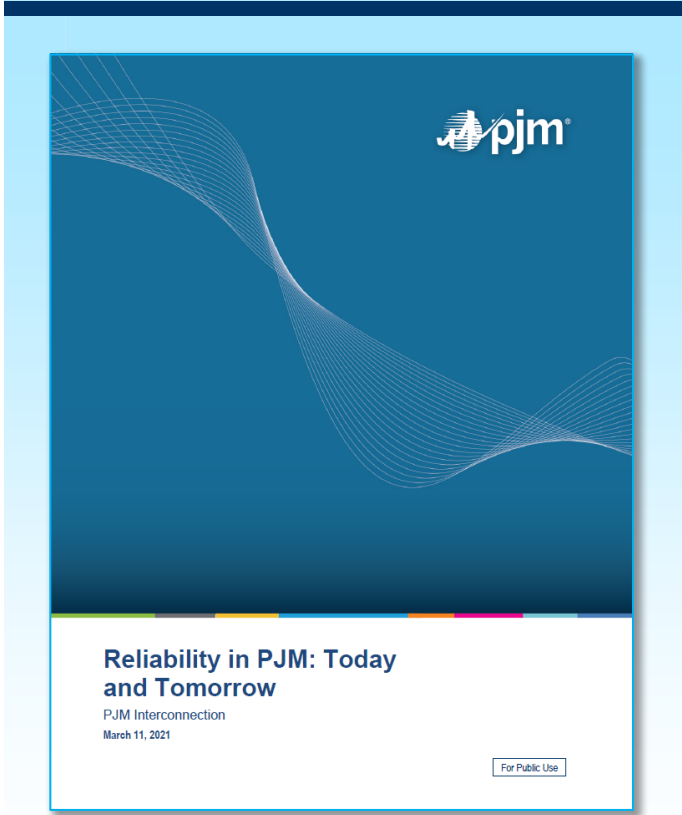
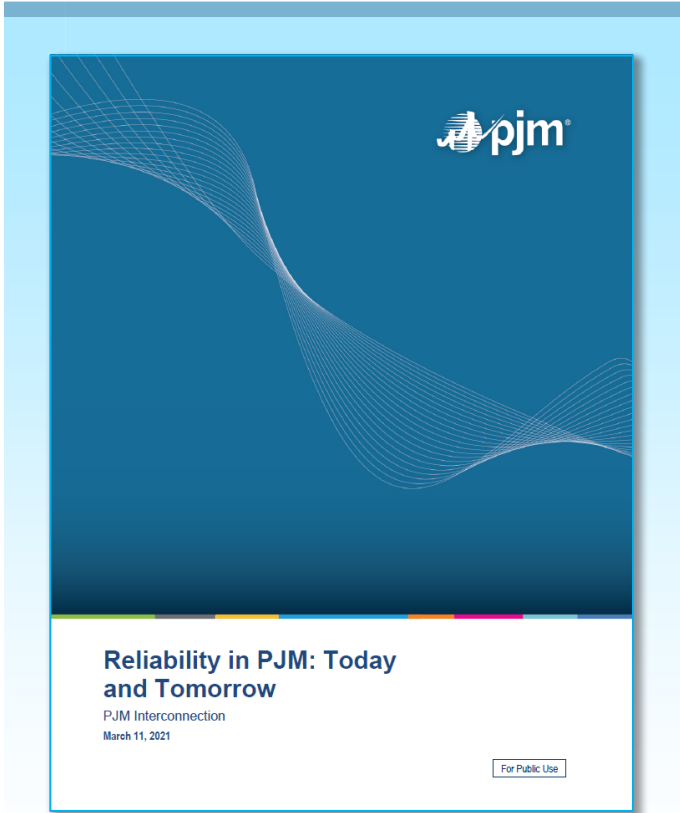


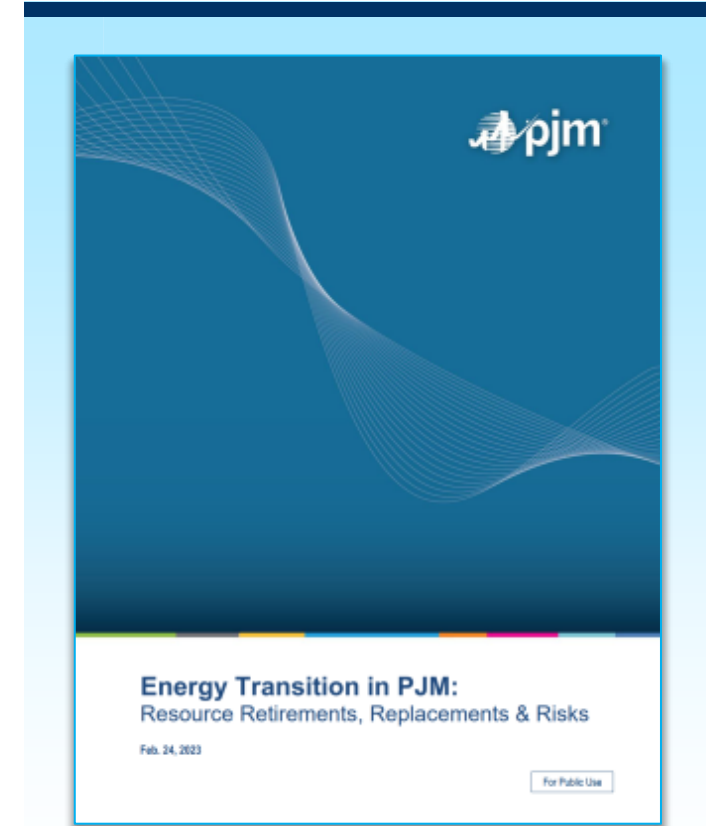
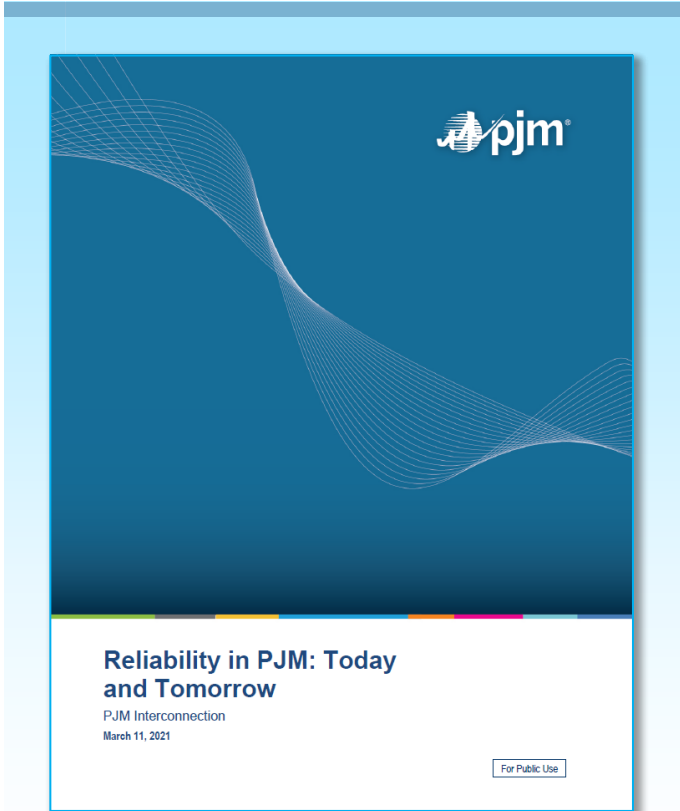


The Reliability Landscape: A Look Forward

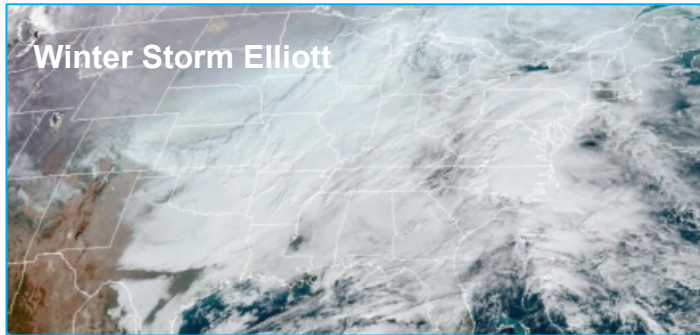
Asim Z. Haque
Vice President
State & Member Services







RELIABILITY



The PJM fleet has adequate resources and enough essential reliability services, but we need our generators to perform when called upon.



Generation retirements may outpace new entry with a simultaneous likelihood of load increasing, thereby creating resource adequacy concerns.



We will continue to need some amount of thermal generation to provide certain essential reliability services until a replacement technology is deployable at scale.

The Immediate Concern



Support
Resource
Performance

The Near-Term Concern



Ensure
Resource
Adequacy

The Upcoming Concern



Maintain & Attract
Essential Reliability
Services

CIFP/RASTF
Priorities

Reserve
Certainty

Load Following/
Dispatchability

Short-Term
Forecasting

Proactive Planning:
LTRTP

Proactive Planning:
Resilience

Proactive Planning:
Interregional

LDA
Modeling

RMR
Improvements

Policy Reliability
Safety Measures

Continued Queue
Improvements

Energy
Assurance

Gas/Electric
Coordination

***Elliott
Placeholder***

Support Excellence in Grid Performance

- CIFP/RASTF Priorities
- Reserve Certainty
- Load Following/Dispatchability
- Short-Term Forecasting
- Gas/Electric Coordination
- Proactive Planning: LTRTP
- Proactive Planning: Resilience
- *Elliott Placeholder*

Ensure Resource Adequacy

- CIFP/RASTF Priorities
- LDA Modeling
- Gas/Electric Coordination
- RMR Improvements
- Policy Reliability Safety Measures
- Continued Queue Improvements
- Proactive Planning: LTRTP
- Proactive Planning: Interregional
- *Elliott Placeholder*

Maintain and Attract Essential Reliability Services

- CIFP/RASTF Priorities
- Reserve Certainty
- Energy Assurance
- Gas/Electric Coordination
- RMR Improvements
- Policy Reliability Safety Measures
- Proactive Planning: LTRTP
- *Elliott Placeholder*

Discussion

Reserve Certainty | Reliability Backstop | IMM Perspective

Mike Bryson
Sr. Vice President, Operations

Adam Keech
Vice President, Market Design & Economics

Joe Bowring
President, Monitoring Analytics



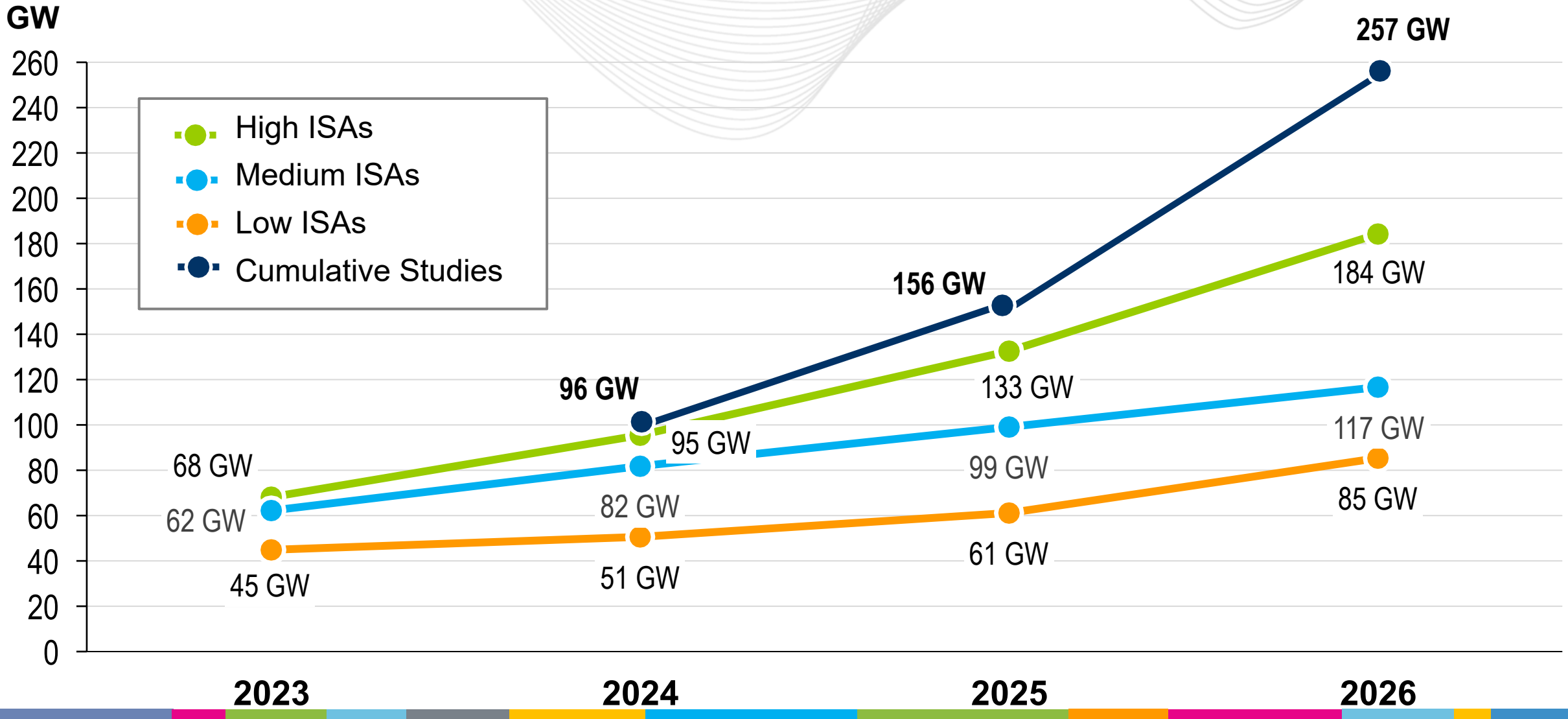
Interconnection Progression Forecast & Long-Term Transmission Reforms

Ken Seiler
Vice President, Planning



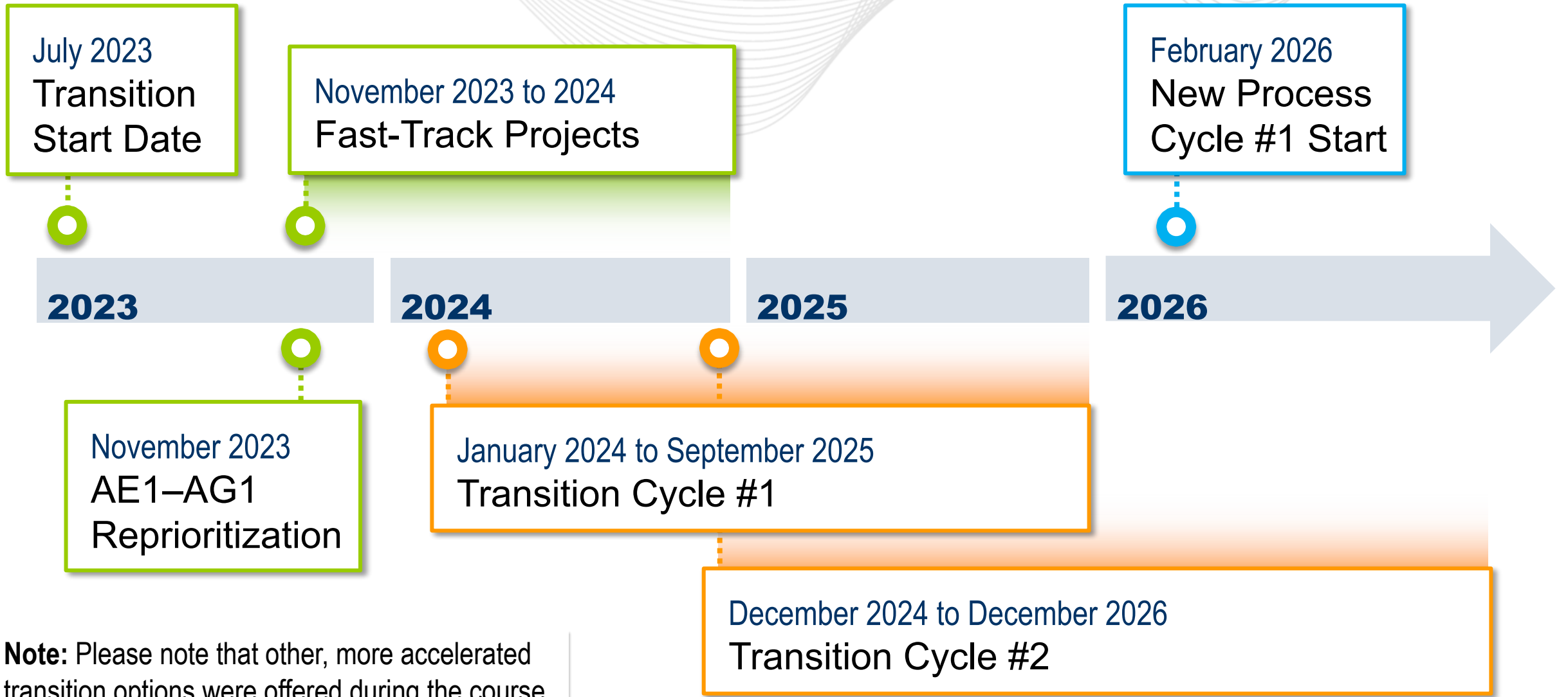
Interconnection Request Data as of March 20, 2023

Phase	Number of Projects	Nameplate (GW)	Capacity (GW)
Fully Executed Agreements	540	38.1	25.1
Out for Execution	45	5.7	2.2
AD2 and Prior (Pre-Transition)	None – All Complete or Out for Execution		
AE1 – AG1 (Fast Track and TC #1)	824	94.3	54.1
AG2 – AH1 (TC #2)	1,204	100.9	68.7
AH2 & Beyond (New Process Cycle #1)	997	62.4	66.9
Total for All Phases	3,610	301.4	217.0



Several stakeholders expressed interest in pursuing a parallel process to the queue for deactivating resource owners to transfer their CIRs to replacement resources.

- Problem Statement/Issue Charge (PS/IC) to be presented at the May Planning Committee.
- Process would allow these requests to be studied on an expedited basis in advance of all queued projects.
- Opportunity to expedite a narrow set of projects with limited transmission impacts to bring more generation on line



Note: Please note that other, more accelerated transition options were offered during the course of the IPRTF but were rejected by stakeholders.

External Variables Affecting Build-Out:

Local Opposition	Cost of Capital	Supply Chain Issues	Siting & Permitting	Market Signals
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Transition Risks:

- Outside processes impacting interconnections (ELCC TRR)
- Customer requests and complaints
- New stakeholder processes

Note: Transitional Resource Request (TRR)

OBJECTIVE:

The long-term planning framework will develop plausible future changing resource mix and load growth scenarios that identify needs that may require long-lead transmission solutions and/or result in more robust or expandable short-term transmission solutions.

Formed a new Scenario Analysis & Special Studies Department

Lead long-term planning studies/scenarios/sensitivities/benefits

Developing a long-term planning framework and will engage in stakeholder discussion in Q3 2023

Note:

- Early 2022, PJM facilitated Long-Term Planning Reform Workshops resulting in the Enhanced 15-Year Long-Term Planning (Master Plan) White Paper ([enhanced-long-term-planning-discussion-document.ashx \(pjm.com\)](https://www.pjm.com/enhanced-long-term-planning-discussion-document.ashx))
- Basis for PJM's response to the LTRTP Notice of Proposed Rulemaking Docket No. RM21-17