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Updates to IESO Monitoring Requirements: Synchrophasor Data

IESO May Stakeholder Engagement Session

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Purpose

- Introduction and Background
- Market Rules and Market Manual
- Implementation Schedule
- Market Rule Updates Under Consideration

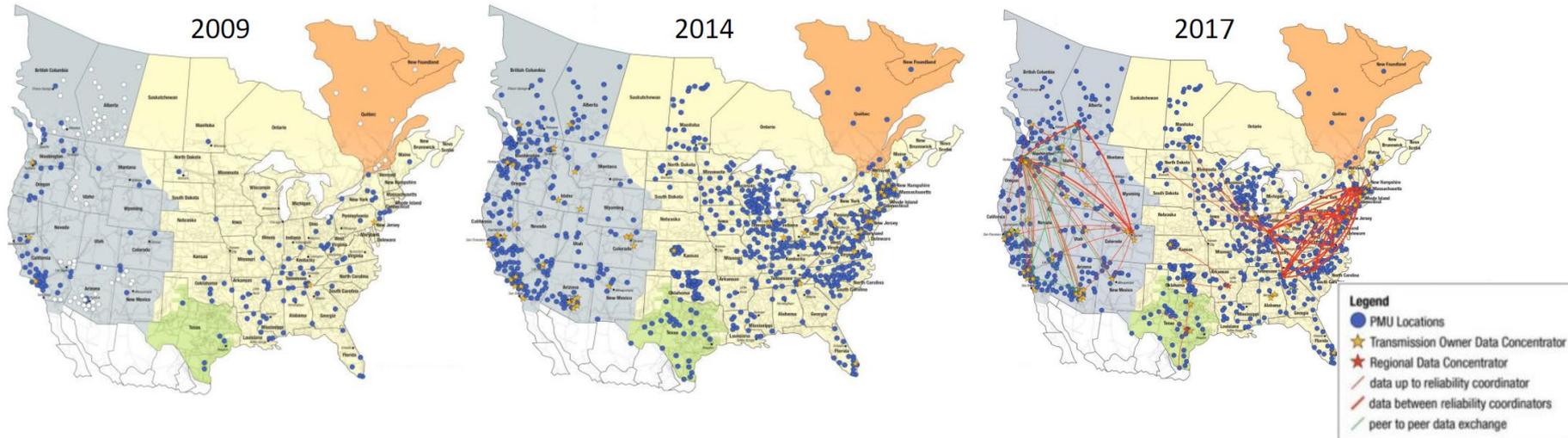
Introduction and Background

PMUs in the Broader Context

- Enhances the IESO's situational awareness – critical to maintaining reliability and resiliency with an increasingly dynamic power system
 - Increasing applications of phasor measurement unit (PMU) data in off-line, near-term and real-time systems
- Facilitates sharing and viewing wider portion of the interconnected grid for both Ontario & neighbouring jurisdictions - more accurately and consistently
- Improves IESO's ability to demonstrate reliability standards compliance
 - NERC reliability guideline for PMU placement published, future PMU related reliability standard anticipated

Introduction and Background

Growth of PMU Deployments in North America



Source: [North American Synchrophasor Initiative \(NASPI\)](#)

Introduction and Background

Market Rules Amendment and Requirements

- Market Rule amendment [MR-00471-R00](#) (effective December 31, 2024)
 - Appendix 4.15 – IESO Monitoring Requirements: Generators
 - Appendix 4.16 – IESO Monitoring Requirements: Transmitters
- Will require Transmitters and Generators provide synchrophasor data to the IESO for operational and planning purposes

Implementation Plan

- Facilities connected to the IESO-controlled grid prior to December 31, 2024
 - Market Participants having one facility, provide data on or before **Dec 31, 2024**
 - Market Participants having multiple facilities, provide data via mutually agreed staged implementation plan
- Facilities connecting to the IESO-controlled grid after December 31, 2024⁽¹⁾:
 - Provide data on latter of the time of connection or **Dec 31, 2024**

(1) Any exceptions will be managed on a case-by-case basis

Future Updates: Increased Phasor Reporting Rate Requirement

- Due to the sector-wide shift towards Invert Based Resources (IBRs) and the increased penetration of renewables on the grid, there is a growing need for capabilities to detect and mitigate higher frequency oscillations on the grid.
- The IESO plans to increase the minimum reporting rate within the Market Manual to **60 samples per second**.
- The anticipated timeframe for meeting this revised technical requirement is end of 2026. We are looking for feedback from Market Participants on meeting this timeframe.

Future Updates: NERC CIP Compliance

- Initially, the IESO will use the synchrophasor data for non-CIP related activities, such as supporting validation of system models and for post-event analysis.
- In the future, the PMU information will be used to support real-time system operations, and as such, meeting applicable CIP requirements will eventually become a requirement.
- More information will be provided in future engagements.

Future Updates: Electricity Storage Participants

- The IESO is considering changes to Market Rules to extend PMU monitoring requirements to include electricity storage facilities.
- More information will be provided in future engagements.

Additional Support

- Market Participants are encouraged to reach out to the IESO if they require support.

Thank You