

Manual 01 Revision 34



1. Section 5, 5.2.1.4, Tie Line telemetry scan rate requirements for Internal Special Cases & Transformer Tie Lines changed from 4 seconds to 10 seconds or less.
2. Attachment A, Information Access Matrix, redressed as Data Specification and Collection to meet IRO-010-2 and TOP-003-3.
3. Attachment A, Part B, B.14, AVR/PSS Excitation Control via eDart, Required Service moved from Transmission Owner to Generating Entity to correct error.

Before:

Meter	Accuracy	Scan Freq.	Telemetry
Primary	+/- 2%	4 sec. or less between scans (2 sec. preferred)	The meter telemeters to the owning TO/BA and other end TO/BA. Both TOs or the other BA telemeter to PJM.

After:

Meter	Accuracy	Scan Freq.	Telemetry
Primary	+/- 2%	10 sec. or less between scans (2 sec. preferred)	The meter telemeters to the owning TO/BA and other end TO/BA. Both TOs or the other BA telemeter to PJM.

IRO-010-2: To prevent instability, uncontrolled separation, or Cascading outages that adversely impact reliability, by ensuring the Reliability Coordinator has the data it needs to monitor and assess the operation of its Reliability Coordinator Area.

TOP-003-3: To ensure that the Transmission Operator and Balancing Authority have data needed to fulfill their operational and planning responsibilities.

R3: Each Reliability Coordinator, Balancing Authority, Generator Owner, Generator Operator, Load-Serving Entity, Transmission Operator, Transmission Owner, and Distribution Provider **receiving a data specification in Requirement R2*** shall satisfy the obligations of the documented specifications using:

- 3.1 A mutually agreeable format
- 3.2 A mutually agreeable process for resolving data conflicts
- 3.3 A mutually agreeable security protocol

R2*: The Reliability Coordinator shall distribute its data specification to entities that have data required by the Reliability Coordinator's Operational Planning Analyses, Realtime monitoring, and Real-time Assessments.

R5: Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Load-Serving Entity, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3* or R4* shall satisfy the obligations of the documented specifications using:

- 5.1. A mutually agreeable format
- 5.2. A mutually agreeable process for resolving data conflicts
- 5.3. A mutually agreeable security protocol

R3*: Each Transmission Operator shall distribute its data specification to entities that have data required by the Transmission Operator's Operational Planning Analyses, Realtime monitoring, and Real-time Assessment.

R4*: Each Balancing Authority shall distribute its data specification to entities that have data required by the Balancing Authority's analysis functions and Real-time monitoring.

- M01 Attachment A amended with language to specify it is the data specification and method as called out in IRO and TOP, including the mutually agreeable format and security protocol.

- AVR/PSS Excitation Control via eDart, Required Service moved from Transmission Owner to Generating Entity to correct error.



B: EMS Services						
	Information Services	PJM Member Regional Transmission Owner	PJM Member Generating Entity	PJM Member Load Serving Entity	PJM Member Marketer	Neighboring Control Areas
B.11	Generation Dispatch [relayed ≤ 10s, or manually] via SCADA, ICCP		X			
B.12	Generation Regulation Control [relayed ≤ 10s] via SCADA, ICCP		7			
B.13	Real-time Telemetry (status & analog values) [relayed to other CCs] via SCADA, ICCP	X	X	6		4
B.14	AVR/PSS Excitation Control via eDART		X			

Key:
 X – Required Service
 O – Optional Service
 1 – Mandatory For All Generation Within the PJM RTO
 2 – Mandatory For Unit Specific Generation Bidding
 3 – Mandatory For All Capacity Resources
 4 – System Reliability Information Only
 5 – Mandatory For Joint-Owned Unit Owners
 6 – Mandatory If Not Attainable From Existing Telemetry
 7 – Mandatory For Generators Offering Regulation

Exhibit 3: EMS Services

- OC and MRC 1st reads in January, 2017
- OC and MRC 2nd reads in February, 2017. Final endorsement at MRC on February 25th.

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