

Communications and Control Systems – High- Resolution Time Synchronised Data Requirements

WRIG – 2 September 2021

Agenda

1. Recap Section 2.36A of the WEM Rules
2. WEM Procedure Obligation –
Communications and Control Systems
3. Overview of subsequent key changes
4. Next Steps

Section 2.36A of the WEM Rules – SCADA, Communication and Monitoring Equipment

- In accordance with Clause 2.36A.1, AEMO may direct a Rule Participant to install or upgrade/modify/replace communications and control systems where it considers necessary to monitor the SWIS, in accordance with the WEM Procedure.
- **Clause 2.36A.2** allows AEMO to direct the network operator to install high-resolution time synchronised data recorders or other suitable equipment for a Facility seeking ESS accreditation or where the network shows historical or may show potential instability or high fault activity.
- Equipment must be installed or repaired within a mutually agreed timeframe.
- Rule Participants must operate and maintain the equipment in order to meet the requirements of the communications standard in the WEM Procedure, and must provide data or information from the equipment to AEMO in accordance with the WEM Procedure
- **Clause 2.36A.5** sets out the HOP for the Procedure
- **Clause 2.36A.6** requires AEMO to consult in good faith with Network Operators, particularly regarding the cost-effectiveness of equipment to be installed or upgraded.

WEM Procedure: Communications and Control Systems

- This Procedure is drafted to include the High-Resolution Time Synchronised Data Recorder (HRTSDR) requirements and technical specifications to:
 - support the transitional ESS accreditation to ensure sufficient FCESS are accredited at market start;
 - assist with monitoring the performance of the SWIS that has demonstrated historical or potential instability or high fault activity and
 - investigate incidents on the SWIS that impact Power System Security or Power System Reliability
- AEMO will circulate and seek feedback on the WEM Procedure – Communications and Control Systems over the next few weeks.
- This Procedure is currently planned to take effect on 1 Oct 2021 and now covers both the current and transitional WEM Rules enacted on 1 Aug 2021.

WEM Procedure: Overview of key changes

- Updated the definition for Critical Outage to include for High-Resolution Time Synchronised Data Recorder
- Clarified the definition for Data Communication Providers (DCPs).
 - Existing definition: A provider of Dispatch Data, Power System Data or Other Data to AEMO. A provider may be the Network Operator, or a Market Participant with Registered Facilities that are not under the direct control of AEMO who maintains communication systems.
 - New definition: A provider of Operational Data to AEMO. A provider may be the Network Operator, or a Market Participant with Registered Facilities who maintains communications systems.
 - It was previously not clear if a Participant's RTU which provides information to Western Power, and then from WP to AEMO, is considered a DCP.
 - We have now clarified that a provider of Operational Data (which is all SCADA data and High-Resolution Time Synchronised Data) to AEMO is a DCP.
 - A provider may be the Network Operator or a Market Participant with Registered Facilities who maintains communications systems. For example MP's with High-Resolution Time Synchronised Data (HRTSDR) that provides Operational Data to AEMO is considered a DCP.
- New sections added to the current Procedure
 - New section 5.1 covers the determination of provision of High-Resolution Time Synchronised Data
 - New section 5.4 covers the provision of High-Resolution Time Synchronised Data Recorder by a Network Operator
 - New section 5.5 covers the provision of High-Resolution Time Synchronised Data Recorder by a Market Participant
- Updated section 6.4 to outline the process of notifying AEMO of planned activities for Data Communications Facility (DCF) that do not follow the formal Outage Plan process or agreed Operating Protocol.
 - DCPs must use reasonable endeavours to provide notification of planned activities on their communications equipment at least 10 Business Days prior to the commencement of the planned activities.

Section 5.1 – Determination of provision of High-Resolution Time Synchronised Data

- Where a HRTSRD is needed to support ESS accreditation, AEMO may choose to direct a Network Operator to install the device.
- We have sought to include clarity on the factors that AEMO will consider in making this decision in the WEM Procedure, including:
 - Whether the NO already has a HRTSDR installed that is capable of and has sufficient capacity to capture the required data in accordance with the technical specifications
 - If a MP decides to provide their own HRTSDR, whether that HRTSDR provided meets the technical specification
 - Whether the performance is best measured at a location on the NO's network
 - Consideration of additional measurements determined by AEMO that are needed on NO's network to support the monitoring of the performance of the SWIS
 - If the required measuring information cannot be measured by the NO from a location on its Network, or other factors notified to AEMO by the NO that would preclude the NO providing the required data.

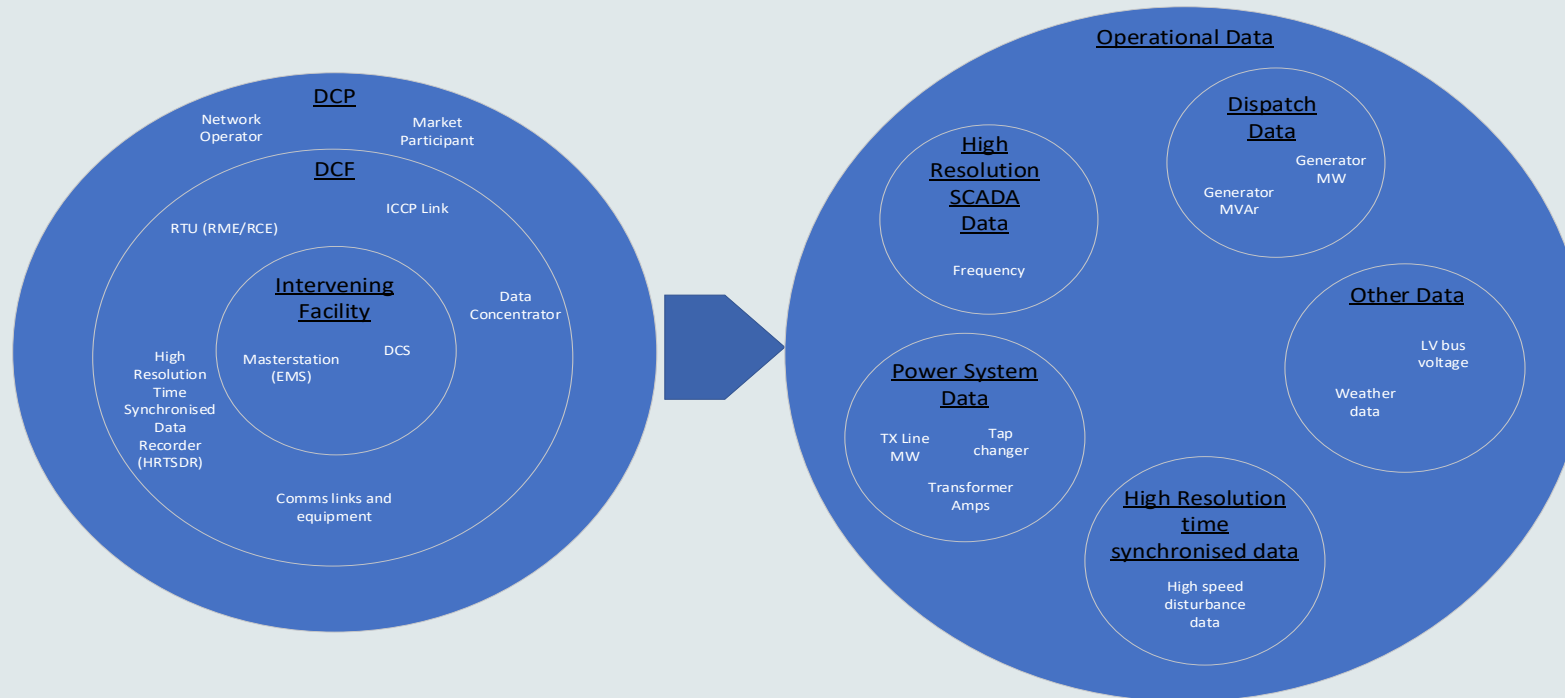
WEM Procedure: Overview of key changes

Key changes to the standard in the Appendices:

- Updated section B.3.1 (reliability requirements of Critical Outages) to reflect the **95% availability** target for each High-Resolution Time Synchronised Data Recorder.
- Updated section B.3.3 to outline the process for responding to a failure of High Resolution Time Synchronised Data Recorder.
 - 10 business days to respond and rectify the High-Resolution Time Synchronised Data Recorder or a timeframe otherwise agreed between AEMO and RP
 - If unable to rectify, RP must notify as soon as possible and provide the intended rectification plan to AEMO within 5 business days.
- Appendix B.5 covers the High-Resolution Time Synchronised Data Recorders specification
- Appendix B.5.2 covers the High-Resolution Time Synchronised Data Recorder Standard
 - Reference to IEEE/IEC 60255-118-1-2018
- Appendix C covers the general structure of DCP, DCF, Intervening Facilities and Operational Data

Appendix C – General Structure of DCP, DCF, Intervening Facilities and Operational Data

This diagram is to provide an understanding on the general structure of DCP, DCF, Intervening Facilities and Operational Data.



Next Steps and Questions

- Full Draft WEM Procedure to be provided for consultation in the next few weeks