

WHOLESALE ELECTRICITY MARKET

PROCEDURE CHANGE REPORT: AEPC_2018_03

POWER SYSTEM OPERATION PROCEDURE:
COMMUNICATIONS AND CONTROL SYSTEMS

Published: **June 2019**





© 2019 Australian Energy Market Operator Limited. The material in this publication may be used in accordance with the [copyright permissions on AEMO's website](#).



EXECUTIVE SUMMARY

Purpose

The publication of this Procedure Change Report and accompanying Power System Operation Procedure completes the Procedure Change Process conducted by AEMO to consider a proposed revised Power System Operation Procedure: Communications and Control Systems (Procedure) under the Wholesale Electricity Market Rules (WEM Rules).

Proposed amendments

The revised Procedure is required by clauses 2.35.4 and 2.36A.5 of the WEM Rules, which require AEMO to document the communications and control system requirements necessary to:

- (a) support the dispatch process [**Clause 2.35.4**]; and
- (b) enable AEMO to remotely monitor the performance of a Network [**Clause 2.36A.5**].

Consultation

A draft version of the Procedure was presented at the WEM AEMO Procedure Change Working Group (WEM APCWG) meeting held on 19 February 2018, during which minor changes were recommended by stakeholders. Details of this forum are available at: <http://aemo.com.au/Stakeholder-Consultation/Industry-forums-and-working-groups/WA-Forums/WEM-APCWG>.

AEMO published the Procedure Change Proposal (AEPC_2018_03) on the Market Web Site and issued a notice calling for submissions from stakeholders on 20 April 2018. The submission period closed on 21 May 2018, with one submission received from Western Power.

Western Power made a number of comments, one of which concerned the National Electricity Market (NEM) Data Communication Standard (DCS) referred to in the Procedure. Western Power indicated that the NEM DCS was not appropriate for the WEM. Accordingly, AEMO engaged with Western Power to develop a DCS for the WEM. AEMO then amended the Procedure to include the comments provided by Western Power and the proposed WEM DCS.

AEMO considered it prudent to allow stakeholders to review and comment on the amended Procedure. As such, AEMO published a notice of extension on 1 May 2019 calling for further submissions from stakeholders. The submission period for this extension closed on 29 May 2019. No submissions were received from stakeholders.

AEMO's decision

AEMO's decision is to accept the Procedure, as amended, following consultation. AEMO considers that the revised Procedure is consistent with the Wholesale Market Objectives, the *Electricity Industry Act*, the *Electricity Industry (Wholesale Electricity Market) Regulations 2004*, and the WEM Rules.

Next steps

The revised Power System Operation Procedure: Communications and Control Systems will commence at 8:00 am on 1 July 2019.



CONTENTS

EXECUTIVE SUMMARY	3
1. BACKGROUND	5
1.1. Regulatory requirements	5
1.2. Context for this consultation	5
1.3. Procedure Change Process and timetable	5
2. PROPOSED PROCEDURE CHANGE	5
2.1. Detail of the proposed procedure change	5
2.2. Proposed drafting	6
3. CONSULTATION PROCESS	6
3.1. Market Advisory Committee or Working Group	6
3.2. Public workshop	6
3.3. Submissions received during the first consultation period	6
3.4. Extension of consultation	6
4. AEMO'S ASSESSMENT	6
4.1. Further changes to the Procedure	6
4.2. Consistency with Electricity Industry Act, WEM Regulations, and WEM Rules	7
4.3. Consistency with Wholesale Market Objectives	7
4.4. Implementation of the Procedure	7
4.5. AEMO's decision and commencement	7
APPENDIX A. WEM DATA COMMUNICATION STANDARD	8
A.1 Data Communication Standard	8
A.2 Proposed WEM Data Communication Standard	8



1. BACKGROUND

1.1. Regulatory requirements

Clauses 2.35.4 and 2.36A.5 of the WEM Rules provide that:

2.35.4 System Management must document the communications and control system requirements necessary to support the dispatch process described in these Market Rules in the Power System Operation Procedure. System Management, Market Participants and Network Operators must comply with that documented Market Procedure in respect of communication and control system requirements.

2.36A.5 System Management must document in the Power System Operation Procedure the communications and control system requirements necessary to enable it to remotely monitor the performance of a Network described in these Market Rules. System Management, Market Participants and Network Operators must comply with that documented Market Procedure in respect of communications and control system requirements.

1.2. Context for this consultation

As part of the amalgamation of System Management and AEMO, the Power System Operation Procedures are being revised and updated. In general, AEMO is revising the Market Procedures to:

- (a) remove any Power System Operation Procedures not required by WEM Rules;
- (b) update all Power System Operation Procedures to current AEMO standards;
- (c) ensure Power System Operation Procedures comply with obligations; and
- (d) ensure content in Market Procedures is included where a WEM Rule requirement exists to include detail or process or AEMO requires an obligation on itself or Participants.

The Power System Operation Procedure will be the third version of this Procedure.

1.3. Procedure Change Process and timetable

On 20 April 2018, AEMO published a Procedure Change Proposal (AEPC_2018_03) for the Procedure and issued a call for submissions, with submissions required by 21 May 2018. On 1 May 2019, AEMO issued a notice of extension and an updated call for submissions, with submissions required by 29 May 2019. The proposal was progressed using the Procedure Change Process specified in clause 2.10 of the WEM Rules. These documents are available at: http://www.aemo.com.au/Stakeholder-Consultation/Consultations/AEPC_2018_03.

2. PROPOSED PROCEDURE CHANGE

This section details the changes that AEMO proposed when the initial call for submissions was published.

2.1. Detail of the proposed procedure change

AEMO proposed to:

- migrate content from the IMS Interface Market Procedure to fulfil the requirements of WEM Rule 2.36A.5;
- refer to the Technical Specifications for Operational Data Points; and
- reflect updated processes including the AEMO Standard for Power Systems Data Communications and the Automatic Balancing Control (ABC) and Automatic Generation Control (AGC) Interface Requirements.



2.2. Proposed drafting

AEMO published a draft of the proposed Procedure, which is available at: http://www.aemo.com.au/Stakeholder-Consultation/Consultations/AEPC_2018_03. AEMO also provided a marked-up version of the revised Procedure.

3. CONSULTATION PROCESS

3.1. Market Advisory Committee or Working Group

The Market Advisory Committee (MAC) has delegated its advisory role with respect to AEMO Procedure Change Proposals to the AEMO Procedure Change Working Group (APCWG), in accordance with clause 2.3.17(a) of the WEM Rules. Accordingly, the MAC did not review the Procedure Change Proposal.

A draft version of the Procedure was presented at the WEM AEMO Procedure Change Working Group (WEM APCWG) meeting held on 19 February 2018, during which minor changes were recommended by stakeholders.

AEMO notified the MAC once the Procedure Change Proposal was published and noted that the Rule Change Panel would convene a meeting of the MAC should two or more members request it in accordance with clause 2.10.9 of the WEM Rules.

3.2. Public workshop

No public workshops were held in relation to this Procedure Change Proposal.

3.3. Submissions received during the first consultation period

AEMO published the Procedure Change Proposal (AEPC_2018_03) on the Market Web Site and issued a notice calling for submissions from stakeholders on 20 April 2018. The submission period closed on 21 May 2018, with one submission received from Western Power.

Western Power commented that:

- (a) for voice communications, the Procedure did not specify obligations regarding confidentiality and retention of historical records
- (b) the National Electricity Market (NEM) Data Communication Standard (DCS), referred to in the Procedure, was not appropriate for the WEM.

AEMO amended the Procedure to specify obligations regarding confidentiality and retention of historical records for voice communications, and engaged with Western Power to develop a DCS for the WEM. Details of the WEM DCS are available in Appendix A.

3.4. Extension of consultation

Following the development of a WEM DCS with Western Power, AEMO considered it prudent to allow stakeholders to review and comment on the amended Procedure. As such, AEMO published a notice of extension on 1 May 2019 calling for further submissions from stakeholders. The submission period for this extension closed on 29 May 2019. No submissions were received from stakeholders.

4. AEMO'S ASSESSMENT

4.1. Further changes to the Procedure

Other than editorial matters, AEMO has not made any further changes to the Procedure.



4.2. Consistency with Electricity Industry Act, WEM Regulations, and WEM Rules

The revised Procedure has been reviewed as a whole by AEMO to ensure compliance with the relevant provisions in the:

- *Electricity Industry Act 2004*.
- *Electricity Industry (Wholesale Electricity Market) Regulations 2004* (WEM Regulations).
- WEM Rules.

4.3. Consistency with Wholesale Market Objectives

AEMO considers that the steps are drafted in a way that is consistent with the objectives of the WEM Rules. As a result, AEMO considers that the revised Procedure, as a whole, is consistent with the Wholesale Market Objectives.

4.4. Implementation of the Procedure

The Procedure was developed in accordance with clauses 2.35.4 and 2.36A.5 of the WEM Rules.

This Procedure does not require system changes by AEMO.

The Procedure will not require Rule Participants to implement any procedural or system amendments before commencement.

Consequently, AEMO considers that commencement at 8:00 am on 1 July 2019 will allow Rule Participants sufficient time from the date of publication of this Procedure Change Report to ensure compliance.

4.5. AEMO's decision and commencement

AEMO's decision is to accept the Procedure, as amended, following the consultation periods. The new Power System Operation Procedure: Communications and Control Systems will commence at 8:00 am on 1 July 2019.

AEMO has made this decision on the basis that the new Procedure:

- is consistent with the Wholesale Market Objectives;
- is consistent with the Electricity Industry Act, WEM Regulations, and WEM Rules;
- has the support of the Network Operator; and
- has the support of stakeholders, as no submissions were received during the second consultation period.

The revised Power System Operation Procedure: Communications and Control Systems is available at: http://www.aemo.com.au/Stakeholder-Consultation/Consultations/AEPC_2018_03.



APPENDIX A. WEM DATA COMMUNICATION STANDARD

A.1 Data Communication Standard (DCS)

WEM Rule 2.35.4 requires AEMO to document the communications and control system requirements necessary to support the dispatch process. As a result of the transfer of System Management functions from Western Power to AEMO, a WEM DCS is now needed to cover communication equipment such as SCADA and ICCP.

A DCS details the requirements for communications infrastructure used to operate the Power System, including:

1. Performance:
 - a) Quantity of data;
 - b) Representation of data;
 - c) Age of data;
 - d) Control command delay; and
2. Reliability:
 - a) Reliability requirements;
 - b) Redundant elements; and
3. Interfacing:
 - a) Physical and logical interfaces
 - b) Data communications protocols; and
4. Maintenance, such as response to failures, outage co-ordination, data management and testing.

A.2 Proposed WEM Data Communication Standard

The proposed WEM DCS applies to AEMO and Data Communications Providers (DCPs). At present, the only DCP is Western Power, but Rule Participants can perform the function.

The proposed WEM DCS is based on the NEM DCS. It retains the NEM DCS performance standards, which are effectively industry standards, and covers the following types of information:

1. Power System Data - data concerning all equipment within and Registered Facilities directly connected to a Substation containing equipment that operates at a nominal voltage of at least 66kV unless otherwise agreed by AEMO for specified locations.
2. Dispatch Data - data that represents:
 - a) the dispatch of Registered Facilities, including Dispatch Instructions and reactive power;
 - b) the status, or the amount, of Ancillary Services; or
 - c) other data used in the dispatch process.
3. High Resolution Data - Measurements of system frequency and electrical time
4. Other Data - data that represents:
 - a) status indications;
 - b) discrete values;
 - c) analogue values;



- d) control commands; or
- e) any other data which is not Dispatch Data, High Resolution Data or Power System Data.

While the WEM DCS applies to all communications equipment, AEMO has the ability to agree exemptions to performance requirements. AEMO can also agree on a path to compliance where equipment does not meet the WEM DCS.

The proposed WEM DCS does not require action by, and will not impose costs on, Market Participants.