REVIEW OF POWER SYSTEM DATA COMMUNICATIONS STANDARD

DRAFT REPORT

Published: February 2017

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

NOTICE OF SECOND STAGE CONSULTATION – REVIEW OF POWER SYSTEM DATA COMMUNICATIONS STANDARD

National Electricity Rules – Rule 8.9

Date of Notice: 17 February 2017

This notice informs all Network Service Providers (Consulted Persons) that AEMO is commencing the second stage of its consultation on its review of the Power System Data Communication Standard.

This consultation is being conducted under clauses 4.11.2 (c) of the National Electricity Rules (NER), in accordance with the Rules consultation requirements detailed in rule 8.9 of the NER.

Invitation to make Submissions

AEMO invites written submissions on this Draft Report.

Please identify any parts of your submission that you wish to remain confidential, and explain why. AEMO may still publish that information if it does not consider it to be confidential, but will consult with you before doing so.

Consulted Persons should note that material identified as confidential may be given less weight in the decision-making process than material that is published.

Closing Date and Time

Submissions in response to this Notice of Second Stage of Rules Consultation should be sent by email to Steven.Darnell@aemo.com.au, to reach AEMO by Friday 15 June 2017.

All submissions must be forwarded in electronic format (both pdf and Word). Please send any queries about this consultation to the same email address.

Submissions received after the closing date and time will not be valid, and AEMO is not obliged to consider them. Any late submissions should explain the reason for lateness and the detriment to you if AEMO does not consider your submission.

Publication

All submissions will be published on AEMO's website, other than confidential content.

EXECUTIVE SUMMARY

The publication of this Draft Report commences the second stage of the Rules consultation process conducted by AEMO to review the Power System Data Communications Standard under the National Electricity Rules (NER).

The first stage of the consultation commenced on 26 October 2016. AEMO published a proposed revised Power System Data Communication Standard for consultation[1].

The main issues raised in the first stage revolved around clarity of scope and purpose.

As a result AEMO has sought to better clarify the Standard in terms of purpose and scope and in other minor detail throughout the Standard.

This report proposes a revised Standard, published with this Draft Report, for consultation prior to a final determination[1].

[1] For documents related to this consultation use this link: http://www.aemo.com.au/Stakeholder-Consultation/Consultations/Review-Of-Standard-For-Power-System-Data-Communication

CONTENTS

1. STAKEHOLDER CONSULTATION PROCESS

AEMO is consulting on the Power System Data Communications Standard (Standard) in accordance with the Rules consultation process in rule 8.9 of the NER.

AEMO's indicative timeline for the remainder of this consultation is outlined below. Future dates may be adjusted depending on the number and complexity of issues raised in submissions. If required the consultation may extend to a third stage.

Deliverable	Indicative date
Draft Report & Notice of second stage consultation published	17 February 2017
Submissions due on Draft Report	15 June 2017
Final Determination published	27 July 2017

The publication of this Draft Report marks the commencement of the second stage of consultation.

2. BACKGROUND

2.1 NER requirements

AEMO is required to develop the Standard under clause 4.11.2 (c) of the NER. AEMO may amend The Standard in consultation with Network Service Providers.

In accordance with clause 4.11.2(a) of the NER, the Standard sets out the necessary primary communication facilities and, where nominated by AEMO, back-up facilities for control, operational metering and indication from the relevant local sites to the appropriate interfacing termination as nominated by AEMO.

Clause 4.11.1 of the NER also refers to standards and protocols to be determined and advised by AEMO relating to the requirements and standards applicable to various categories of network users and service providers under the NER.

2.2 Context for this consultation

The current Standard was published in April 2005 and has not since been reviewed. AEMO has received informal feedback over time that the Standard is difficult to understand and therefore difficult to implement.

AEMO has proposed revisions to the Standard[1] with the objectives of:

- Making it easier to read and understand.
- Removing information that has become obsolete.
- Removing ambiguity.
- Simplifying reliability requirements.
- Publicly consulting on the rewrite and content

A draft revised Standard was published as part of the first stage of this consultation.

2.3 First stage consultation

AEMO issued a Notice of First Stage Consultation on 27 October 2016 along with a draft revised Standard.

AEMO received two submissions, one from Energy Networks Australia (ENA) and the other from Energex. ENA set out various issues which are addressed in Section 3 and 4 and in more detail in Appendix A of this Draft Report. The Energex submission supported the ENA submission and also emphasised two issues which are discussed in Sections 3 and 4.

As a result of the first stage consultation AEMO held a teleconference with ENA on Thursday 12 January 2017, to clarify and discuss aspects of ENA's submission. AEMO committed to continue working with ENA to further develop the Standard prior to publishing the Final Report on this consultation.

3. SUMMARY OF MATERIAL ISSUES

The key material issues arising from the proposal and raised by Consulted Persons are summarised in the following table:

No.	Issue	Raised by
1.	Transitional arrangements in the event of changes to the existing Standard ENA – Participants should be given time to implement any changes that are material in nature. The previous Standard had transitional clauses to enable this to take place. Energy Networks Australia considers this should be covered by appropriate transitional arrangements. Energex - In the event that changes to the existing standard result in significant modifications to processes and/or systems being required, Energex requests that transitional arrangements be included within the standard to allow adequate implementation timeframes.	ENA and Energex
2.	Cyber security ENA – Cyber security strategy requires a whole-of-system approach and risk management extends beyond communication between NSPs and AEMO. Physical and cyber security relating to data collection and communication within the whole power system requires additional attention and may be best served in a separate document developed as part of the wider strategy and framework supported by Energy Networks Australia. Energy Networks Australia suggests that should AEMO wish to retain a sub-section on cyber security in this standard, it may be preferable to require defined outcomes or a range of equivalent rigorous frameworks (of which NIST is one) while recognising the need for a whole-of-system approach. For instance wording may include an obligation that registered participants must use reasonable endeavours within a recognised systematic framework to prevent, monitor and respond to unauthorised interference.	ENA
3.	Lack of clarity in purpose and scope ENA – It may be possible to further clarify the purpose and scope of the document to make more explicit the boundaries of its application and the expected reach of the standard in terms of participant obligations and types of operational data affected. Energex – Energex shares the ENA's concerns that the revision does not adequately address the existing standard's lack of clarity.	ENA and Energex
4.	A performance only section ENA – Performance criteria cited in various sections of the draft standard (i.e.2.2(f); 3.1 may be better identified and separated into a single 'Performance' section to enable clearer understanding of performance requirements of each participant.	ENA

A detailed summary of issues raised in submissions together with AEMO's responses, is contained in **Appendix A**.

4. DISCUSSION OF MATERIAL ISSUES

This section address the material issues set out in Section 3.

4.1 Transitional Arrangements

4.1.1 Issue summary and submissions

A transitional period may be required for material changes to the Standard. ENA and Energex consider that any modifications to processes or systems may take time to implement. A transitional period would therefore be required.

4.1.2 AEMO's assessment

AEMO considers that the main focus of this review is to clarify the Standard rather change specific technical requirements. AEMO agrees in principle that if any substantive changes to the requirements of the Standard are made, then a transitional period should be included.

However, based on the proposed amendments at this stage of the consultation AEMO considers that the technical requirements of the Standard remain unchanged and therefore no transitional period would be required. AEMO will be mindful of this issue in working with the ENA prior to publishing a final determination.

4.1.3 AEMO's conclusion

No transitional period is required, as no substantive material changes to the Standard are currently proposed. AEMO will keep this under review in finalising any changes.

4.2 Cyber Security

4.2.1 Issue summary and submissions

ENA considers that a separate standard should be developed to address cyber security matters. ENA proposes that this would be part of a wider strategy and framework relating to data collection and communication within the whole power system. ENA also requested that reference to specific security framework be removed

4.2.2 AEMO's assessment

AEMO agrees in principle that cyber security requirements could be developed in a separate standard, and AEMO will work with industry to that end. The development of such a document is however beyond the scope of this consultation.

Until suitable standalone cyber security requirements can be developed and published, AEMO considers that the cyber security section of the Standard needs to remain in place.

4.2.3 AEMO's conclusion

Cyber security requirements will remain in the Standard, subject to future review in consultation with Network Service Providers.

AEMO agrees that reference to specific frameworks (such as NIST) be removed from the draft.

4.3 Lack of clarity in purpose and scope

4.3.1 Issue summary and submissions

ENA and Energex consider that further clarification is required to make more explicit the boundaries of the Standard's application and its intended reach in terms of participant obligations and types of operational data affected.

The ENA also provided detailed feedback in the appendix to its submission to assist AEMO to help better clarify the Standard.

4.3.2 AEMO's assessment

AEMO agrees that the purpose and scope of the Standard should be expressed more clearly.

In the revised draft Standard published with this Draft Report, AEMO has proposed a new term: Data Communication Providers (DCP), that specifies which parts of the Standard apply to particular categories of NEM participants.

The term DCP generally replaces the NER defined term *Registered Participants* (as used in the current Standard). This was potentially misleading because the Standard does not apply to all *Registered Participants*.

The scope of the draft Standard (Section 1.2) now identifies the Data Communication Providers and the NER clause that requires each group of providers to comply with relevant requirements of the Standard.

Appendix A of this document sets out AEMO's responses to the ENA's detailed feedback.

AEMO would appreciate any further feedback from ENA on the scope of the Standard, in particular on new or emerging technologies and equipment that may not be captured by the NER defined terms RME (Remote Monitoring Equipment) and RCE (Remote Control Equipment).

4.3.3 AEMO's conclusion

AEMO has modified the draft Standard to clarify the purpose and scope of the Standard. AEMO has also made numerous amendments to reflect the detailed feedback provided by the ENA.

4.4 A performance only section

4.4.1 Issue summary and submissions

ENA considers that performance criteria may be better identified and separated into a single Performance section to enable clearer understanding of performance requirements of each participant.

4.4.2 AEMO's assessment

AEMO agrees that a performance only section is useful. AEMO notes that Section 2 is wholly about performance, and the term Capacity in the title of Section 2 therefore has no relevance.

4.4.3 AEMO's conclusion

AEMO has renamed Section 2 Performance of Operational Data to clarify that this section deals only with performance.

5. DRAFT DETERMINATION

Having considered the matters raised in submissions AEMO's draft determination is to amend the **Standard** in the form published with this Draft Report, in accordance with clause 4.11.2 (c) of the NER.

APPENDIX A - SUMMARY OF SUBMISSIONS AND AEMO RESPONSES

No.	Consulted persons	Issue	AEMO response
1.	ENA	1.1 Purpose and Scope The document could more clearly identify which participants and data communication facilities (DCF) this Standard will apply to. DCF refers to RME and RCE within the Glossary, with no descriptive definition provided for these two acronyms. ENA understands that DCFs will include DNSP facilities that provide control and data necessary for TSNPs to be able to meet the standard. Facilities that provide data and control that are not necessary for AEMO to meet its requirements are understood to be exempt from needing to adhere to the standard. Clarification within the Standard on this matter is recommended.	NER definitions of RME and RCE added to glossary DCFs not necessary for AEMO to meet its requirements are not captured by this Standard. Clarified in Section 1.1
2.	ENA	1.2.1 Glossary Clarity is requested on whether RME or RCE in relation to 'Critical Outage' includes Var Dispatch System (VDS) advice issued by AEMO via ICCP to NSPs.	VDS is Dispatch Data – Dispatch Data definition amended
3.	ENA	1.2.1 Glossary Part of the 'Intervening Facility' definition is obscured, and clarity is required regarding whether an NSP is an intervening facility.	Definition clarified In intervening facility is generally an NSP as traditionally NSPs transmits data from remote sites to AEMO. AEMO's understanding is that this does not necessarily have to be a NSP
4.	ENA	1.2.1 Glossary ENA suggests definitions for 'Market Customer Substation' and Interconnection Substation' are added.	References to Market Customer and Interconnector Substation have been removed.
5.	ENA	1.3 General Structure of DCFs While Energy Networks Australia members appreciated the positive intent of the diagram, it is suggested that it could be revised to more accurately define relationships.	AEMO has made a minor modification to the diagram However, AEMO would appreciate further discussion on ENA's suggestions to improve the diagram
6.	ENA	2. Capacity and Performance of Operational Data Energy Networks Australia recommends that this section is revised to focus on performance criteria. For example, the term 'capacity' infers a maximum or minimum service level, and is better described as 'performance' in regards to requirements during all operating circumstances.	This section renamed Performance of Operational Data See section 4.4
7.	ENA	3.1 Reliability requirements Energy Networks Australia recommends AEMO consider alignment of time periods listed in Table 5 with the Spot Market Suspension (SO_OP_3706 - V31 - section 9.2).	Agree – item in Table 5 revised to 30 mins in draft Standard

No.	Consulted persons	Issue	AEMO response
8.	ENA and Energex	3.1 Reliability requirements Energy Networks Australia recommends AEMO consider whether excluding 'Other Data' from Sections 3.1 and 3.2 aligns with the definition used for 'Critical Outage' within the Glossary. Energy Networks Australia interprets the current draft Standard as not setting conformance criteria for DNSPs in relation to reliability of data communication for critical outages.	Agree – other data included
9.	ENA	3.1 Reliability requirements Energy Networks Australia recommends AEMO consider in the event that transmission of all SCADA information from multiple NSPs failed for 4 hours or more, whether AEMO's State Estimator and RTCA would still be able to perform system security analysis and dispatch.	Agree – item in Table 5 revised to 1 hour
10.	ENA	4.1 Physical security and computer network security The document could benefit from greater clarity in scope, in particular what devices or locations are to be considered 'DCF sites' and what constitutes 'Operational Data', to understand the exact implications for the requirements of this section. As read, this Section contains prescriptive requirements which could potentially be disproportionately responsive to the potential physical security risk. The wording used in the section may need to be revised to be outcomes-focussed or better defined; suitable wording could include 'Registered participants' must use reasonable endeavours to prevent, monitor and respond to unauthorised interference'.	Clarity and scope address in Section 1 Reasonable endeavours substituted for must. See section 4.3
11.	ENA	4.1(d) Energy Networks Australia recommends further description of 'confidential' is provided within the Glossary or within the proposed separate document. 'Confidential' ratings carry varying levels of security controls, depending on the classification system used.	Added footnote to define confidential to the NER meaning of *confidential information*
12.	ENA	5.2 Data communication protocols Energy Networks Australia seeks clarification on whether NSPs must use the ICCP TASE.2 protocol for all operational data communication, when the legacy non-secure ICCP connections will continue to be supported. If all communication must meet ICCP TASE.2 requirements, suggest greater clarification on why and how long the legacy format will continue to be accepted.	Included time limit - 1 Jan 2020
13.		6. Maintenance Energy Networks Australia recommends the terms 'dispatch or power system security' are used more consistently throughout the document, to ensure maximum effectiveness	Agree, AEMO has review the Standard for consistency of terminology
14.	ENA	6.3 Data management and co-ordination Energy Networks Australia has been advised that at least one NSP has existing agreement with AEMO to supply all SCADA and model changes at least 28 days prior to AEMO's load dates, which are every 14 days. Clarification is sought whether the requirements of the Standard will supersede existing arrangements with NSPs.	Added: Unless agreed separately between AEMO and the NSP
15.	ENA	6.4 Testing to confirm compliance Energy Networks Australia recommends greater clarification on responsibilities relating to compliance reporting and remedial actions are provided within the Standard. An example could be used to better describe these responsibilities. As read, testing of 'Other Data' provided by DNSPs is potentially unnecessarily onerous on DNSPs, TNSPs and AEMO	Removed Other Data from this requirement. Now applicable to Dispatch and Power System Data only

No.	Consulted persons	Issue	AEMO response
16.	ENA and Energex	ENA – Participants should be given time to implement any changes that are material in nature. The previous Standard had transitional clauses to enable this to take place. Energy Networks Australia considers this should be covered by appropriate transitional arrangements. Energex - In the event that changes to the existing standard result in significant modifications to processes and/or systems being required, Energex requests that transitional arrangements be included within the standard to allow adequate implementation timeframes.	AEMO agrees in principle that if any substantive changes to the requirements of the Standard are made, then a transitional period should be included. However, based on the proposed amendments at this stage of the consultation AEMO considers that the technical requirements of the Standard remain unchanged and therefore no transitional period would be required. AEMO will be mindful of this issue in working with the ENA prior to publishing a final determination.