

IMPACT & IMPLEMENTATION REPORT (IIR)

Issue number	Package 2 – 2023 (IN001/23 IN005/23)		
Impacted jurisdiction(s)	Victoria (VIC), Queensland (QLD), New South Wales/Australian Capital Territory (NSW/ACT) and South Australia (SA)		
Proponent	See table in section 3.1 grcf@aemo.com.au	Company	N/A
Affected gas market(s)	Retail		
Industry consultative forum(s) used	GRCF	Date industry consultative forum(s) consultation concluded	Tuesday, 17 January 2023
Short description of change(s)	Allow market participants to self-manage their Transport Layer Security (TLS) Certificates that are used to connect to many AEMO electricity and gas systems; and Add SA specific details from SAWA system architecture/specification to PBP3 system architecture/specification.		
Procedure(s) or documentation impacted	See Section 2		
IIR prepared by	Nandu Datar	Approved by	Meghan Bibby
Date IIR published	30 January 2023	Date consultation concludes	27 February 2023
Email address for responses	grcf@aemo.com.au		



IMPACT & IMPLEMENTATION REPORT (IIR) – DETAILED REPORT SECTION

1. DESCRIPTION OF ISSUE

The following is a description of issues for each of the initiatives that form part of the Package 2 – 2023 consultation.

IN001/23¹

Electricity and Gas market participants connect to many of AEMO's systems securely using TLS certificates supplied by AEMO.

TLS Certificates are only required by participants for application-to-application (also known as system-to-system) communications (user Interfaces do not use AEMO-supplied TLS certificates).

The Gas Supply Hub FRC, also known as the FRC Hub² (Gas Retail B2B, and B2M, traffic using ebXML) requires the use of TLS certificates to authenticate through AEMO's network.

The eHub, also known as the Energy Hub, also requires the use of TLS certificates to authenticate through AEMO's network.

These TLS certificates must be replaced every 3 years. Today, the replacement process is manual and can take weeks. Most participant TLS certificates will start expiring from June 2023 and participants must replace expiring certificates with new ones to avoid disconnection from AEMO systems.

As part of improving market security and empowering market participants to self-manage their connections to AEMO systems, AEMO is:

- upgrading the network to allow newer and more secure TLS versions and deprecate old and less secure versions; and
- providing a better way than the current manual approach to TLS certificate management, allowing participants to self-manage their AEMO-supplied TLS certificate through a TLS Certificate Management interface.

The older technology Secured Socket Layer (SSLv3, or less), TLS v1.0 and TLS v1.1 is still in use by a few participants. AEMO will continue to accept the SSL and TLS v1.0/v1.1 connections until the changes to Technical Protocol (TP) documents being consulted become effective, which is expected to be 30 June 2023. AEMO will not accept the SSL and TLSv1.0/v1.1 connections after this date.

Technical advice about the above changes was circulated to the Gas Retail Consultative Forum (GRCF) in October 2022.

Because of the above technical changes, some of the TPs will require minor amendments in order maintain alignment with new self-managed process.

IN005/23

Add South Australian (SA) specific details from SAWA system architecture/specification to PBP3 system architecture/specification. This is a further opportunity to harmonise SA documentation with other east coast documents, like what occurred for IN006/21 whereby some SA sections of the Specification Pack (SP) moved across to Participant Build Pack (PBP)).

¹ For the avoidance of doubt the proposed changes in relation to IN001/23 are not limited to eastern states. The same changes proposed in this consultation apply in Western Australia (See IN001/23W)

² FRC Hub is the term used in the Retail Market Procedure (RMP)



Section 3 of this IIR contains further information about each of the above issues and a brief explanation of the specific changes. Attachment A of this IIR contains amendments for each of the proposed changes.

1.1. Submission instruction to this second stage consultation

Anyone wishing to make a submission for this second stage consultation stage are requested to use the response template provided in Attachment B. Submissions close COB 27 February 2023 and should be emailed to grcf@aemo.com.au.

2. REFERENCE DOCUMENTATION

- Participant Build Pack 3 – System Architecture v3.2
- Participant Build Pack 3 – System Specification v3.1
- FRC B2M – B2B Hub System Architecture v3.6
- FRC B2M – B2B Hub System Specifications v3.9
- Gas FRC B2B Connectivity Testing and Sys Certification v1.10
- FRC HUB Operational Terms and Conditions v9.0
- Gas Interface Protocol (Victoria) v26.0
- Gas Interface Protocol (Queensland) v24.0
- Specification Pack Usage Guide v8.5

3. OVERVIEW OF CHANGES

As outlined in Section 1, this IIR is made up of two existing initiatives, each having their own specific change as described in Attachment A. It is AEMO's view that none of these changes significantly alter any of the existing obligations placed on participants. It is envisaged that the above should contribute to improving the user experience in accessing AEMO's systems and provide further clarity towards participating in eastern states retail gas market.

AEMO is targeting to have the formal consultation processes concluded in the first half of 2023 with the proposed effective date of 30 June 2023.

3.1. Proposed changes

The following table indicates which initiative affect which Procedures. The clauses of each document that have been updated have had a colour-coded comment applied to them indicating which initiative is related to which change of drafting.

Change ID	Title	Proponent	Documents affected
IN001/23	Participant Certificate Automation	AEMO	Participant Build Pack 3 – System Architecture Participant Build Pack 3 – System Specification FRC B2M – B2B Hub System Architecture FRC B2M – B2B Hub System Specifications Gas FRC B2B Connectivity Testing and Sys Certification FRC HUB Operational Terms and Conditions Gas Interface Protocol (Victoria) Gas Interface Protocol (Queensland)



Change ID	Title	Proponent	Documents affected
IN005/23	Add SA specific details from SAWA system architecture/specification to PBP3 system architecture/specification	AEMO	Participant Build Pack 3 – System Architecture Participant Build Pack 3 – System Specification Specification Pack Usage Guide

The proposed changes are:

Participant Certificate Automation (IN001/23).

- Replacing SSL, TLSv1.0 and TLS v1.1 to TLS v1.2 and encryption from 128 to 2048 where applicable in the documents mentioned above.
- Include a new clause in FRC HUB Operational Terms and Conditions that requires Subscribers to ensure the currency of their AEMO-issued digital certificates and request AEMO for re-issues and renewals when required.
- A new interface for Participants to self-manage their AEMO-supplied TLS certificates. Market participants will be required to ensure their own TLS certificate currency and self-manage their TLS certificates,
 - The solution will allow participants to retrieve their existing AEMO-supplied TLS certificates, create new TLS certificates, and renew, reissue or revoke existing certificates
 - The solution will send notifications to Participants prior to the expiry of the TLS certificate to remind them to replace their soon-to-expire certificate.
 - AEMO will monitor the replacement of expiring certificates to ensure participants are self-managing the replacement of their TLS certificates prior to expiry.

Add SA specific details from SAWA system architecture/specification to PBP3 system architecture/specification (IN005/23).

- The changes are just documentation changes. None of the existing obligations are changing (i.e. no obligations added and no obligations removed).

See Attachment A for further information about these changes.

4. LIKELY IMPLEMENTATION REQUIREMENTS AND EFFECTS

IN001/23

Subscribers will be required to ensure the currency of their AEMO-issued digital certificates and request AEMO for re-issues and renewals when required.

Subscribers using the SSLv3, TLS v1.0 or TLS v1.1 to connect with AEMO will be required to transition over to using TLSv1.2.

IN005/23

SA participants now need to refer to Participant Build Pack 3 documents. This will therefore result in consistency between the regulatory frameworks for all east coast retail gas markets.

5. OVERALL COSTS AND BENEFITS

AEMO expects there will be negligible implementation costs since none of the changes proposed in this IIR require substantial process changes.

Implementation of Participant Certification Automation is expected to deliver the following benefits:

- Empowers the participants self-manage their connection and TLS Certificates to AEMO systems.



- TLS technology uses 2048 bits encryption and a higher TLS version, making the connection more secure.
- Reduces the risk of participants being disconnected from MTLS-authenticated systems due to expired certificates.

AEMO considers this initiative will require minor process change for the Subscribers to use the self-managed TLS Certificate Management solution for managing their TLS certificates used for TLS connection to AEMO systems.

Inclusion of SA specific details from SAWA to PBP3 means more uniform TPs across all jurisdictions which will reduce the complexities normally associated with entering gas retail markets, particularly for those retailers wanting to operate in more than one jurisdiction.

6. MAGNITUDE OF THE CHANGES

AEMO considers the order of magnitude of this change is 'non-material'.

7. CONSISTENCY WITH NATIONAL GAS RULES (NGR) AND NATIONAL GAS OBJECTIVE (NGO)

Regarding these changes, AEMO's preliminary assessment of the proposal's consistency with the NGR and NGO is:

Consistency with National Gas Law (NGL) and NGR	AEMO's view is that the proposed change is consistent with the NGL and NGR because the proposed changes properly reflects operational practices and promotes consistency across the jurisdictions.
National Gas Objective	As outlined in Section 6, it is AEMO's view that this change removes any costs associated with unnecessary differences in process and procedures and is in the long-term interests of consumers as it promotes clarity and consistency for gas retail market participants.
Any applicable access arrangements	AEMO's view is that the proposed change is not in conflict with existing Access Arrangements.

If any participant believes that any of the above AEMO views are contentious, this feedback needs to be included in the Attachment B response template.



8. CONSULTATION OUTCOMES

The PPC was issued on 13 December 2022 and submissions in response to it were due by COB 17 January 2023. Submissions were received from the following organisations, AGL, AGIG, Jemena, Origin Energy and Red/Lumo. All except Red/Lumo supported the proposed changes.

Regarding IN001/23, AEMO interacted with Red/Lumo representative and noted that the proposed process and solution is still being developed and when completed it will address their issues.

Regarding IN005/23, AEMO noted that the SA specific text has been transferred to Participant Build Pack 3 – System Specification. AEMO considers the issues raised by Red/Lumo not in current scope of IN005/23 and will be added to the Issue/Change Register for future consideration.

Other participant feedback suggested typographical edits to some of the documents. This feedback and AEMO's response thereto are provided in Attachment C.

9. SUPPORTING DOCUMENTATION

Attachment A Proposed Changes to Technical Protocol documents

Attachment B IIR Response Template



IMPACT & IMPLEMENTATION REPORT – RECOMMENDATION(S)

10. SHOULD THE PROPOSED PROCEDURES BE MADE?

AEMO recommends making the changes proposed in Attachment A.

11. PROPOSED TIMELINES

Subject to all necessary approvals, AEMO proposes the following timeframe:

- Issue IIR on 30 January 2023.
- IIR feedback due 27 February 2023.
- AEMO decision targeted for 22 March 2023.

The target effective date for these changes is 30 June 2023.



ATTACHMENT A – MARKED UP CHANGES (SEE SECTION 3)

Draft versions of the RMPs showing tracked changes between the current version and the proposed changes are attached separately to this document. Blue underline means addition and ~~red-strikeout~~ means delete.

- Participant Build Pack 3 – System Architecture
- Participant Build Pack 3 – System Specification
- FRC B2M – B2B Hub System Architecture
- FRC B2M – B2B Hub System Specifications
- Gas FRC B2B Connectivity Testing and Sys Certification
- FRC HUB Operational Terms and Conditions
- Gas Interface Protocol (Victoria)
- Gas Interface Protocol (Queensland)
- Specification Pack Usage Guide

ATTACHMENT B – IIR RESPONSE TEMPLATE

The IIR response template has been attached separately to this document. There are two sections in the template:

- Section 1 seeks feedback on AEMO's examination of the proposal in Sections 1–9 (i.e., whether AEMO has correctly captured the requirements and surrounding context of the proposal)
- Section 2 seeks feedback on the proposed changes listed in attachment A.

Anyone wishing to make a submission to this IIR consultation are to use this response template. Submissions close COB 27 February 2023 and should be emailed to grcf@aemo.com.au.



ATTACHMENT C – GENERAL FEEDBACK GIVEN TO PPC

Section 1 - General Comments on the Proposed Procedure Change

Sections 1 to 8 of the PPC sets out details of the proposal.

Does your organisation support AEMO's assessment of the proposal?

If no, please specify areas in which your organisation disputes AEMO's assessment (include PPC section reference number) of the proposal and include information that supports your organisation's rationale for not supporting AEMO's assessment.

IN#	Ref #	Company	Response	AEMO Response (AEMO only)
IN001/23	1	AGL	AGL supports AEMO's assessment of this matter.	AEMO notes AGL's support for the changes.
	2	Origin Energy	Origin supports AEMO's PPC assessment.	AEMO notes Origin Energy's support for the changes.
	3	AGIG	Yes	AEMO notes AGIG's support for the changes.
	4	Jemena	Jemena supports the proposal.	AEMO notes Jemena's support for the changes.
	5	Red/Lumo	Red Energy and Lumo Energy (Red and Lumo) do not support AEMO's assessment of the benefits of IN001/23. At this stage there is insufficient documentation of AEMO's process or intended actions to mitigate the risk of participants failing to self-manage the replacement of their TLS certificates prior to expiry. Red and Lumo are concerned that failing to outline this could have a significant impact across the market.	AEMO notes Red/Lumo's comment. AEMO is currently developing the proposed process, new self-certification module and the accompanying user guides. AEMO noted that it will address issues raised by Red/Lumo.
IN005/23	6	AGL	AGL supports AEMO's assessment of this matter.	AEMO notes AGL's support for the changes.
	7	AGIG	Yes	AEMO notes AGIG's support for the changes.



	8	Jemena	Not applicable	
	9	Red/Lumo	<p>Red and Lumo do not support AEMO's proposal to insert section 1.3A into Participant Build Pack 3 FRC B2B System Architecture. Placing these definitions here will add unnecessary complexity and impede the ability to update terminology and referencing in the future.</p> <p>Red and Lumo propose that the entries for BAR and GRMS should be added to Participant Build Pack 2 - Glossary.</p> <p>Red and Lumo are also concerned that AEMO have not provided the finalised mappings to indicate MSH responses to ebXML messages as referred to in PBP3 FRC B2B System Specifications cl 4.1</p> <p>Should AEMO address the above concerns and provide the relevant mapping and information Red and Lumo would be supportive of AEMO's assessment of IN005/23.</p>	<p>AEMO notes Red/Lumo's comment. AEMO has transferred existing SA specific details from FRC B2M B2B System Specification to Participant Build Pack 3 – System Specification. AEMO considers the issues raised are not in the current scope and will add them to the Issue/Change Register so that they can be addressed in the future.</p>



Section 2 - Feedback on the documentation changes.

Participant Build Pack 3 - System Architecture					
Ref #	Organisation	Clause #	Issue / Comment	Proposed text Red-strikeout means delete and <u>blue underline</u> means insert	AEMO Response (AEMO only)
10	AGL	1.1 Audience	Unclear following deletion The text reads overall business endeavour of the Gas Retail Market and with It is now not clear what this document applies to - ie one Retail Market or multiple markets, East Coast markets etc.		AEMO notes AGL's comment and has amended the clause to include the text 'East Coast' before 'Gas Retail Market'.
11	AGL	6 Security	Grammar – lack of commas	<i>Place commas after used and transaction: Other message transport methods used, for example for BAR transactions, may not</i>	AEMO agrees with AGL's suggestion as it adds clarity to the Title.
12	AGIG	TOC	Second level TOC section number 1.1 repeated.	Update TOC numbering for all second level sections within chapter 1.0 (Introduction).	AEMO agrees with AGIG's comment and has corrected the repeating the section number.
13	AGIG	1.3	Txt missing from PBP3 "This will apply to both B2B and B2M transactions." From 1 st paragraph.		AEMO notes AGIG's comment and is unable to determine where the missing text was from. AEMO requests further feedback in the IIR.
14	AGIG	?	Section 2.4.4. 'Critical Time Requirements' from FRC B2M-B2B Hub System Architecture		AEMO agrees with AGIG's comment and has included the missing clause.



			has not been transferred to PBP3 System Architecture document. Please clarify.		
Participant Build Pack 3 – System Specification					
Ref #	Organisation	Clause #	Issue / Comment	Proposed text Red strikeout means delete and <u>blue underline</u> means insert	AEMO Response (AEMO only)
15	AGL	4.1 Services and Actions	<p>The addition has the following statement:</p> <p><u>Details about these mappings will be forthcoming when they are finalised.</u></p> <p>There is no information as to where or when this information will be provided and should this information be included in this specification ?</p>		AEMO notes AGL's comment. AEMO notes that as part of the initiative to transfer SA specific details, an existing paragraph was copied from FRC B2M B2B System Specification to Participant Build Pack 3 – System Specification without making any changes. AEMO considers any changes to this paragraph outside the scope of current Package 2. The statement itself is very likely to be something that the then market operator (REMC0) wanted to flag. AEMO is unclear as to what the detailed mapping relates too therefore AEMO will add a new item to the issue/change register for consideration in the future.
16	AGL	5.2 Obtaining Certificates	The document indicates that the user should follow an online instruction – but does not specify where that online instruction may be located.		AEMO notes AGL's comment. AEMO is currently in the process of finalising the online instructions specification. AEMO will include a placeholder and it will be updated with the link for online instructions prior to publishing AEMO's decision.
17	AGIG	1.1	The following text appears in the FRC B2M-B2M Hub System Specifications in section 1.1.		AEMO does not support adding the text suggested by AGIG. The PBP3 document has been operating without such a reference since 2003 and with no issue



			<p>"As both B2M and B2B transactions will use the same architecture, the term 'B2B' has been used to apply to both transactions between participants and also transactions to the Market System."</p> <p>Should this be included in the PBP 3 System Specification in corresponding section 1.1?</p>		therefore AEMO believes the text isn't required.
18	AGIG	3.1.1	Section 3.1.1 to 3.1.1 should be second level headings i.e., 3.1 to 3.8		AEMO does not support AGIG's suggestion. Changing the heading level may have other unintended referential consequences in this document or other Build Packs.
19	AGIG	4.2.2	Remove time "00:05" displayed incorrectly in heading . Time value should be at the end of the previous section paragraph.. Currently displaying as follows "4.2.2. 00:05retries parameter".		AEMO agrees with AGIG's comment and has amended the text as suggested.
20	Red/Lumo	4.1. Services and actions	Red and Lumo question when industry participants will be provided with finalised mappings referred to in this clause?	<p>For SA in the event that an action is associated with the wrong service in an ebXML message, the receiving MSH will reject this ebXML message. Details about these mappings will be forthcoming when they are finalised. They are dependent on agreement on assigning priorities to Transaction groups.</p>	AEMO notes Red/Lumo's comment and refers to its response in ref #15.
FRC B2M – B2B Hub System Architecture					
Ref #	Organisation	Clause #	Issue / Comment	Proposed text Red strikeout means delete and <u>blue underline</u> means insert	AEMO Response (AEMO only)
21	AGL	Title	Document Title Grammar and singular market.	Document Title should be	AEMO agrees with AGL's suggestion as it adds clarity to the Title.



				B2M-B2B Hub System Architecture for the SA and WA Gas Retail Markets	
22	AGL	Document page header	The page header includes both the SA and WA Market	Delete the following: <i>FRC B2M-B2B Hub System Architecture for the SA and WA Gas Retail Markets</i>	AEMO notes that this is the feature of Microsoft Word application where deleted text is not shown as tracked change and will not appear when the changes are accepted. AEMO agrees to remove 's' in 'Markets'.
23	AGL	Purpose	Grammar	Markets is now singular: used in the South Australian and Western Australian Gas Retail Markets	AEMO agrees with AGL's suggestion as it adds clarity to the sentence.
24	AGL	General	Grammar change resulting from the removal of the SA market from the document (ie from 2 markets to 1 market).	Throughout document – change plurals (eg markets) to singular (market).	AEMO agrees with AGL's suggestion as it adds clarity to the text.
25	AGL	Definitions FRC Hub	Grammar	Change Australian to Australia. including South Australian and Western Australia n .	AEMO agrees with AGL's suggestion as it adds clarity to the definition.
26	AGL	CI 2.4.3.	Typos	Remove additional 's' in procedures. All other t2 times are governed by the <i>Retail Market Procedures</i> s and will be policed by audit. t3 is the maximum time duration before a transaction response is received. The t3 times are governed by the <i>Retail Market Procedures</i> s and will be policed by audit.	AEMO agrees with AGL's suggestion as it adds clarity to the clause.



27	AGIG	5,3	A second level heading has been changed to standard text for heading name "FRC Hub Security Services" on page 23. Currently in markup document section 5.3 is showing as "TLS" and should be showing as section 5.4. The section heading "FRC Hub Security Services" should show as 5.3. Chapter 5 second levels headings need to be renumbered.		AEMO agrees with AGIG's comment and has amended the heading level as suggested.
28	Red/Lumo	1.3A Definitions and Acronyms	<p>Adding these definitions here adds unnecessary complexity to future updates of terminology and referencing.</p> <p>Red and Lumo propose that these terms should instead be entered into PBP2 - Glossary.</p>	<p>See Participant Build Pack 2 - Glossary. The following are specific SA terminology: BAR & GRMS</p> <p>BAR - Balancing, Allocation and Reconciliation. Functionality associated with the SA GRMS systems.</p> <p>GRMS - Gas Retail Market Service or System (depends on context)</p>	AEMO notes Red/Lumo's comment and refers to its response in Section 1 Ref #9.
FRC B2M – B2B Hub System Specification					
Ref #	Organisation	Clause #	Issue / Comment	Proposed text Red strikeout means delete and <u>blue underline</u> means insert	AEMO Response (AEMO only)
29	AGL	Title	Document Title Grammar and singular market.	Document Title should be B2M-B2B Hub System Architecture for the SA and WA Gas Retail Markets	AEMO agrees with AGL's suggestion as it adds clarity to the Title.
30	AGL	Document page header	The page header includes both the SA and WA Market	<p>Delete the following:</p> <p><i>FRC B2M-B2B Hub System Architecture for the</i> <i>SA and WA Gas Retail Markets</i></p>	AEMO notes that this is the feature of Microsoft Word application where deleted text is not shown as tracked change and will not appear when the changes are accepted. AEMO agrees to remove 's' in 'Markets'.



31	AGL	General	Grammar change resulting from the removal of the SA market from the document (ie from 2 markets to 1 market).	Throughout document – change plurals (eg markets) to singular (market).	AEMO agrees with AGL's suggestion as it adds clarity to the text.
32	AGL	5.2 Obtaining Certificates	The document indicates that the user should follow an online instruction – but does not specify where that online instruction may be located.		AEMO notes AGL's comment and refers to its response in ref #7
FRC HUB Operational Terms and Conditions					
Ref #	Organisation	Clause #	Issue / Comment	Proposed text Red-strikeout means delete and <u>blue underline</u> means insert	AEMO Response (AEMO only)
33	AGL	Current version	Typo - 2048 bit encryotion	Change to 'encryption'	AEMO agrees with AGL's suggestion as it adds clarity to the text.
34	AGL	4.1.12	<p>AEMO advice (5/1) is that the sentence should read:</p> <p>4.1.12. Subscribers will ensure the currency of their AEMO-issued digital certificates and request AEMO for re-issues and renewals when required</p> <p>AGL has no issues with the proposed text.</p>		AEMO agrees with AGL's suggestion as it adds clarity to the text.
35	AGIG	4.1.12	<p>Sentence not complete</p> <p>"4.1.11.4.1.12. Subscribers will ensure the currency of their AEMO-issued digital certificates and request AEMO for re-issues and re?????"</p>		AEMO notes that the truncation has been rectified as per suggestion by AGL in ref #25 above.
Gas FRC B2B Connectivity Testing and SysCertification					



Ref #	Organisation	Clause #	Issue / Comment	Proposed text Red strikeout means delete and <u>blue underline</u> means insert	AEMO Response (AEMO only)
	AGL		No comment		
Specification Pack Usage Guide					
Ref #	Organisation	Clause #	Issue / Comment	Proposed text Red strikeout means delete and <u>blue underline</u> means insert	AEMO Response (AEMO only)
	AGL		No Comment – Changes Supported		
Gas Interface Protocol (Victoria)					
Ref #	Organisation	Clause #	Issue / Comment	Proposed text Red strikeout means delete and <u>blue underline</u> means insert	AEMO Response (AEMO only)
36	AGIG	Version Release History	Row version # 15. Spelling error '2efinition'.		AEMO agrees with AGIG's comment and has corrected the spelling.