Connectivity Testing and Technical Certification

For the SA and WA Gas Retail Markets

Version: 3.6
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Version History

Version	Date	Author(s)	Changes and Comments
0.1	3/2/04	B. Eaves	1st draft of REMCo version – based on Version 1.0 of VENCorp document FRC B2B System Certification. Limited to Part One (FRC B2B System Certification) – does not include automated electronic file interface certification
0.2	5/02/04	B. Eaves	Modified version of sample e-mail to show SA/WA transactions
0.3	12/02/04	B. Eaves	Title amended to Connectivity Testing and Technical Certification. Additional section on Connectivity Testing added. Addition of reference to GBO ID and Participant ID to Section 1.2.1.and 1.2.2.
0.4	27/2/04	B. Eaves	Additional section on csv FTP certification added.
0.5	3/3/04	B. Eaves	Additional section on Low-volume interface added to section 2.
0.6	8/3/04	P. Beardmore	Contacts list added General edits and clarifications
1.0	10/3/04	P. Beardmore	Final edits and clarifications
2.0	10/5/04	B. Eaves	Further information on Low-volume interface added to section 2. FTP section amended to reflect removal of SSL.
3.0	15/11/05	REMCo	Amend section 1.3 in accordance with rule change C08/05S.
3.1	16/5/06	REMCo	Amend section 2 in accordance with rule change C11/05S.
3.11	02/05/06	REMCo	Amended sections 1.3.2 & 2.3.2 to provide for more certainty regarding the re-certification process. Restructured part of document to remove reference to the implementation of the market. Updated contact details.
3.12	12/05/06	REMCo	Updated based on feedback received from the TWG on 9 May 2006.
3.13	20/07/06	REMCo	Updated to reflect feedback from VicGas ITDF & Minor corrections.
3.2	27/03/07	REMCo	Updated to reflect approval of versions 3.11, 3.12 & 3.13 by WA Government on 9 February 2007 in accordance with rule change C08/06S.
3.3	1/10/10	T.Sheridan	Updated to reflect the relevant Market Operator requirements following the transfer of REMCo's SA retail market operations to AEMO.
3.4	1/10/13	D. McGowan	Update to include SA and WA changes • IN008/13 (SA) and C01/13S (WA) – Updated sections 1.4 and 2.5 to include notification period for new GBO ids and Hub ids.
3.5	31/10/16	D. McGowan	Update to include: WA

			• C02/16C – REMCo to AEMO transition changes. SA • IN029/16 – REMCo to AEMO transition
3.6	31/03/17	N. Datar / D. Winship	Update to include SA • IN034/16 – FRC Hub Self Service Certification Enhancement

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Introduction

This document describes the process through which organisations wishing to participate in either the SA and/or WA Gas Retail Markets can achieve technical certification from AEMO .

Technical Certification includes most activities that would be termed connectivity testing. However, some interfaces are not covered by Technical Certification. This document therefore also provides an overview of those areas of Connectivity Testing not covered by Technical Certification.

The document is in three parts:

1. The certification process relating to transactions routed via the FRC Hub;

2. The certification process relating to the automated electronic file interface (secure FTP) between market participants' gateways and the gas retail market system (GRMS) operated by AEMO for the SA and WA Gas Retail Markets; and

3. Connectivity Testing for those interfaces not addressed in Technical Certification.

1. Certification of FRC Transactions Routed via the FRC Hub

1.1. Introduction

AEMO has contracted the FRC Hub operator to administer the process for certifying that participants in the SA and WA Gas Retail Markets can satisfactorily connect to and interoperate with the FRC Hub in accordance with the interface specifications and architectural standards defined in the AEMO Specification Pack (located on AEMOs website).

This process certifies both a market participant's aseXML/ebXML gateway and the associated 'back-end' systems which generate the aseXML transactions. Any change of ownership of a certified gateway, which otherwise undergoes no infrastructure changes, will have no effect on that gateway's certification status. However, any change to the gateway itself or the back-end systems, will require recertification.

This certification is purely technical in nature. It does not imply that the applicant may participate in the SA and WA Gas Retail Markets. The applicant may not use the FRC Hub until AEMO certifies that the applicant can participate in the live SA and WA Gas Retail Markets.

1.2. Certification Pre-requisites

Applicants will need to create and register a test gateway and back end system, and connect it to the FRC Gas Test Hub to enable certification to take place. Instructions for gateway registration and connection are contained in the FRC Gas Hub Participant User Guide, available on the AEMO website at http://www.aemo.com.au/-/media/Files/Gas/IT_Systems/2016/FRC-Hub-Participant-User-Guide.pdf

1.3. Certification Processes

The certification process is described in the diagram below:
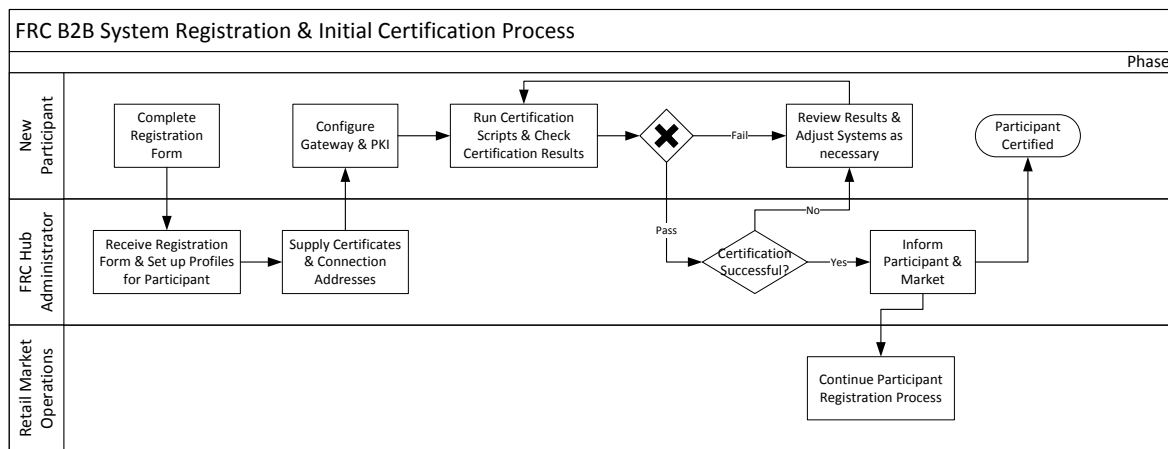
Certification shows that participants are able to:

- o Connect to the FRC Hub using SSL, either via the Internet or the Gas Industry Network;

- o Send well-formed ebXML messages (that conform to the *ebXML Message Services Specification v1.0*, and the FRC B2B-B2M Hub System Architecture and AEMO Specifications documents) via the FRC Hub to a Certification Responder which acts as a gateway; and

- o Send documents that conform to the aseXML schema and the validation rules described in current versions of the relevant documents in the AEMO Specification Pack. Validation of aseXML will include both the XML content and CSV content of the transactions.

There are a variety of scripts that an applicant must run to demonstrate that it is capable of interoperating with the FRC Hub. These fall into two categories:

- o Messaging capabilities; and

- o Transaction capabilities.

1.3.1. New Participant Certification

Applicants will follow these steps to be eligible for certification:

- o Applicants will obtain the AEMO Specification Pack and Information Pack containing process flows, interface definitions and details of system architecture from AEMO

- o Applicants will obtain an FRC Gas Hub Participant User Guide and Registration Form from AEMO;

- o Applicants connect their test gateway to the FRC PreProduction Hub. The FRC Hub Operator will make available a 'Sandpit' environment for preliminary testing prior to formal certification on the Certification Responder;

- o Two stages of formal testing will be conducted by the applicant. These stages are described as Window 1 (messaging capability) and Window 2 (transaction capability);

- o The applicant can commence certification at any time;

- o Once the applicant has completed both of the Windows (where required), <u>they must first check the certification has passed via the Certification Checker, and should note the start and end time of the certification run so transactions/messages can be analysed later;</u>

- o The Participant should then request a final review by FBSAdmin via email to Support Hub; and

- o The FRC Hub Operator will then analyse the results of the process and will issue a report to the applicant and to AEMO.

1.3.1.1. Certification Window 1 – Messaging (ebXML)

All applicants need to certify against all the components of Window 1. The scripts for these processes fall into three groups. They are

1. Applicants will establish ebXML messaging capability over SSL;

2. Applicants will establish digital signature capability on messages; and

3. Applicants will establish reliable messaging capability on messages.

Test scripts for Window 1 tests are published by the FRC Hub Operator on its certification user interface. These scripts do not provide XML for participants to run, but describe the purpose and steps of each test.

1.3.1.2. Certification Window 2 – Transactions

In Window 2, the certification processes that an applicant needs to pursue are defined according to the applicant's role in the SA and WA Gas Retail Market (e.g. Network Operators will certify against a different set of transactions to Users).

Applicants can nominate the aseXML transactions that they wish to be certified against, by using the certification user interface. The interface groups the transactions according to aseXML transaction groups but does not force an applicant to certify for an entire group. Individual transactions can be selected within groups.

Scripts for transaction tests have not been published. Each transaction test takes the same format:

- o The initiator (either the applicant or the Certification Responder) sends the transaction;

- o The receiver sends an ebXML acknowledgement;

- o The receiver sends an aseXML transaction acknowledgement; and

- o The initiator sends an ebXML acknowledgement.

1.3.1.3. Certification Notification

When these procedures have been completed, the applicant will check the certification has passed by utilising the Certification Checker. The applicant will then advise the FRC Hub Operator, which will review the results of the certification process. When an applicant has been successful, the FRC Hub Operator will produce a report advising the applicant and AEMO of the results of the certification process.

1.3.2. Re-certification of a participant

AEMO requires that if any of the following occurs an applicant must complete the re-certification process as outlined under section 1.3 of this document.

- o Relocation of the applicant's gateway MSH;

- o A change to the hardware or software platform on which the applicant's gateway MSH is deployed;

- o Any major changes are made to application services behind the gateway; and

- o Any other changes that might reasonably be considered to render the applicant's current certification invalid.

Ultimately it is up to each certified participant to ensure that its certification remains valid after any configuration changes, such as those above.

AEMO may request re-certification on any part of the certification process by participants in the event of:

- o FRC Hub changes;

- o FRC B2B-B2M Hub System Specification changes;

- o aseXML schema changes;

- o X.509 certificate revocations; and

- o A participant reconnecting to the FRC Hub after its connection has been 'blocked' by AEMO.

Should a Participant be required to re-certify for any reason an application will need to be made to AEMO which outlines the basis for re-certification. If a Participant considers that it should be exempt from part of the re-certification process, details of the basis for this claim, including the impact of these changes on the Participant's messaging and transaction capabilities, must be provided to AEMO for consideration and approval.

Re-certification must be successfully completed prior to the release of any changes to the production environment. The release of changes to a Participants production environment should be notified to the market at least one week prior to their release.

1.3.3. Certification User Interface

The FRC Hub provides a browser-based user interface to assist market participants in their certification.

For detailed instructions on the use of this interface, participants should refer to the FRC Hub Participant User Guide.

1.4. Authorise Participants to use the FRC Hub

If AEMO is satisfied with the outcomes of the certification process and the Participant has met their other regulatory and market requirements enabling them to communicate with the FRC Hub and actively participate in the retail market, AEMO will then:

1. If relevant - advise other Participants that a New Participant is certified to use the FRC Hub and provide the new Participants ID. New Participants should allow ten business days for other Participant's systems to be updated; and

2. Issue an authorisation for the Participant to actively send transactions through the FRC Hub.

2. Certification of FRC Transactions routed via the GRMS FTP Gateway

2.1. Introduction

The FTP Certification process is operated by AEMO. This certification is purely technical in nature. It does not imply that the applicant may participate in either the SA or the WA Gas Retail Market. The applicant may not use the GRMS operated by AEMO until AEMO certifies that the applicant can participate in the live SA and WA Gas Retail Market.

This process certifies both a participant's FTP interface and any associated 'back-end' systems which generate the .csv files. Any change of ownership of this interface and systems that does not involve infrastructure changes will have no effect on the interface and system's certification status. However, any change to the interface and systems, will require recertification.

If an organisation is to use more than one interface for connection to the FTP interface, then each of those interfaces will need to be separately certified by this process.

For detailed instructions on the use of the FTP Interface, participants should refer to the GRMS FTP User Guide contained in the Information Pack.

2.2. Registration

To establish a Virtual Private Network (VPN) connection so that they can use the FTP interface, participants should follow the process defined in the GRMS FTP User Guide.

2.3. Certification Processes

Certification of the FTP Interface confirms that the participants are able to:

- o   Connect to the FTP Interface; and

- o   Send .csv files that conform to the specifications defined in the CSV Data Format Specification and the B2M Interface Control Definition documents.

2.3.1. New Participant Certification

To be eligible for certification, applicants will:

- o   Implement a VPN connection between the applicant's systems and the GRMS;

- o   Connect to the FTP interface via a VPN connection. AEMO will make available a 'Sandpit' environment for preliminary testing prior to formal certification;

- o   Send to a defined 'in directory' a complete set of the transactions that they would be required to send to the FTP interface in an operational market for them to comply with the *Retail Market Procedures* and AEMO's Specification Pack; and

     ○   Inform AEMO that they have completed the certification process.

AEMO will then analyse the results of the process and will issue a report to the applicant.

2.3.2. Requesting Re-certification of a participant

AEMO requires that if any of the following occurs, an applicant must complete the re-certification process as outlined under section 2.3 of this document.

     ○   Any major changes are made to back-end systems which generate the .csv files; and

     ○   Any other changes that might reasonably be considered to render the applicant's current certification invalid.

Ultimately it is up to each certified participant to ensure that its certification remains valid after any configuration changes, such as those above.

AEMO may request re-certification on any part of the certification process by participants in the event of:

     ○   VPN configuration changes; and

     ○   FTP system changes; and

     ○   CSV file format changes.

Should a Participant be required to re-certify for any reason an application will need to be made to AEMO which outlines the basis for re-certification. If a Participant considers that it should be exempt from part of the re-certification process, details of the basis for this claim, including the impact of these changes on the Participant's messaging and transaction capabilities, must be provided to AEMO for consideration and approval.

Re-certification must be successfully completed prior to the release of any changes to the production environment. The release of changes to a Participants production environment should be notified to the market at least one week prior to their release.

2.4. Certification of FRC Transactions routed via AEMO Low Volume Interface

The low volume interface is based on the GRMS FTP Gateway. Therefore, certification of the Low Volume Interface will follow the same process as described in this document for the GRMS FTP Gateway. However, instead of sending a set of csv files to the GRMS FTP Gateway (as described in section 2.3), the applicant will send the full set of aseXML transactions that it will use in the operational market. These transactions should have the Participant ID of the FRC Hub Certification Responder in the 'to' field of the transaction and the applicant's own Participant ID (GBO ID) in the 'from' field.

Full details of file names, compression formats, suffixes etc. are provided in section 3.6 of the Interface Control Document (ICD).

To 'certify' that the applicant can transmit a set of valid aseXML transactions that complies with the Specification, the applicant should send a full set of aseXML transactions to the GRMS FTP Gateway as outlined above. AEMO , once notified by the participant that the files are ready, will then manually transfer a copy of the aseXML transactions from the applicant's FTP inbox to the FRC Hub Operator for processing in the Certification Responder to ensure that the transactions are fully aseXML compliant.

To certify that users of the Low Volume Interface can correctly receive and process transactions, a complete set of transactions that will be received by the applicant will be placed in the applicant's FTP outbox. Upon notification from AEMO, the applicant should then process these transactions and generate the appropriate acknowledgements.

As an alternative to the approach outlined above using the FTP Gateway, AEMO may arrange for users of the Low Volume Interface to have access to a web-based interface which will allow users to send aseXML transactions directly to the Certification responder.

2.5 Authorise Participants to use the GRMS FTP Gateway

If AEMO is satisfied with the outcomes of the certification process and the Participant has met their other regulatory and market requirements enabling them to communicate with the GRMS FTP Gateway and actively participate in the retail market, AEMO will then:

1. If relevant - advise other Participants that a New Participant is certified to use the GRMS FTP Gateway and provide the new Participants GBO ID. New Participants should allow ten business days for other Participant's systems to be updated; and

2. Issue an authorisation for the Participant to actively send transactions through the GRMS FTP Gateway.

3. Other Connectivity Testing

3.1 Network Operators

For participants who are not using the Low Volume Interface, the only area of connectivity testing that is not already covered by Technical Certification is the operation of secure web sites by Network Operators to provide Users with Interval Meter Data.

This area will be covered by a series of tests to ensure that:

- o Network Operators can place correctly-formatted .csv files in the relevant User directories using the appropriate naming conventions etc;
- o Retailers can connect to the Network Operator's secure web site; and
- o Retailers can download the files from the Network Operator's secure web site.

4. Contact Information

Below are the contact details for AEMO for matters in relation to:

- Certification of FRC Transactions routed via the FRC
- Certification of FRC Transactions routed via the GRMS FTP Gateway
- Certification of FRC Transactions routed via AEMO GRMS Low Volume Interface

For South Australia and Western Australia

AEMO Contact

Gas Retail Market Operations

Email: supporthub@aemo.com.au

Ph: 1300 236 600

Hub Operator Contact

AEMO FBS Administration
Email: support.hub@aemo.com.au

Ph: 1300 236 600