



MARKET PROCEDURE: Data and IT Interface
Requirements
VERSION 2

ELECTRICITY INDUSTRY ACT 2004

ELECTRICITY INDUSTRY (WHOLESALE ELECTRICITY MARKET) REGULATIONS 2004

WHOLESALE ELECTRICITY MARKET RULES

COMMENCEMENT:

This Market Procedure took effect from 8:00am (WST) on the same date as the Wholesale Electricity Market Rules took effect.

VERSION HISTORY

VERSION	EFFECTIVE DATE	NOTES
1	21 September 2006	Market Procedure for Data and IT Interface Requirements
2	1 July 2011	Amendments to Market Procedure resulting from PC_2011_02

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1 PROCEDURE OVERVIEW

1.1 Relationship with the Market Rules

1.1.1 This Data and IT Interface Requirements Market Procedure (Procedure) should be read in conjunction with clause 2.36.5 of the Wholesale Electricity Market (WEM) Rules (Market Rules).

1.1.2 Reference to particular Market Rules within the Procedure in bold and square brackets **[MR XX]** are current as of 1 February 2011. These references are included for convenience only, and are not part of this Procedure.

1.2 Purpose

1.2.1 The Procedure specifies the necessary technical details and standards, software and hardware specifications, and security standards required for Market Participants to operate in the WEM.

1.3 Application

1.3.1 This Procedure applies to the IMO and Market Participants.

1.4 Associated Market Procedures and User Guides

1.4.1 The following IMO Market Procedures are associated with this Procedure:

- a) Notices and Communications;
- b) Participant Registration and De-Registration;
- c) Facility Registration, De-Registration and Transfer;
- d) Individual Reserve Capacity Requirements;
- e) Settlement; and
- f) Meter Data Submissions.

1.4.2 The following User Guides are available on the IMO website (www.imowa.com.au) to assist Market Participant in setting up a user interface with WEMS and navigating the system:

- a) User Interface Setup;
- b) Market Participant Registration;
- c) Market Participant Interface;
- d) Settlement:

- i) Volume 1 – POMAX Settlement;
- ii) Volume 2 – Weblink;
- iii) Volume 3 – Dispute Resolution.

1.5 Interpretation

1.5.1 In this Procedure the conventions specified in clauses 1.3- 1.5 of the Market Rules apply.

2 SYSTEM OVERVIEW

Generally the Wholesale Electricity Market Systems (WEMS) provides the following functions in support of the administration of the WEM:

- a) Market Participant and Facility registration;
- b) to receive information on bilateral contracts, bids, resource plans;
- c) to clear the STEM;
- d) to interface with System Management;
- e) to interface with Metering Systems;
- f) Settlements and commercial reconciliations;
- g) to publish reports and information as required;
- h) to facilitate the Reserve Capacity Mechanism.

3 WEMS COMPONENTS

The following summarises the main components of the WEMS, including the relevant interfaces for Market Participants.

3.1 Market Infrastructure:

3.1.1 Market Infrastructure comprises three main user interfaces, Market Participant Registration, Market Participant Interface and Market Operator Interface. In addition, the system contains modules that perform requisite data collection, calculations and report management.

- a) Market Participant Registration (MPR): It is through MPR that registration of Market Participants and facilities occurs. Further information on the process of:
 - i) registering as a Market Participant can be found in the separate Participant Registration and De-Registration Procedure; and

- ii) registering Facilities can be found in the separate Facility Registration, De-Registration and Transfer Procedure.

- b) Market Participant Interface (MPI): The MPI provides the online communication mechanism between Market Participants and the IMO. It provides web forms for data submission and review, and also supports the upload and download of data in files. The interface includes the following webpages:
 - i) Market Trading, web forms for Market Participants submit, query and cancel data;
 - ii) Market Reports, for Market Participants to review market information;
 - iii) File Exchange, for Market Participants to upload and download files; and
 - iv) Message Displays, displays current market information.

- c) Market Operator Interface (MOI): Through MOI, the IMO's operators and staff can monitor and administer market functions.

- d) Additional Modules: Other Market Infrastructure Modules include:
 - i) Markets module, supports data submission and preliminary validation functions;
 - ii) Publishing module, generates standard reports pertaining to market infrastructure components;
 - iii) Prudential Risk Management, collects and computes prudential risk indicators;
 - iv) Data storage; and
 - v) Event Manager.

3.2 Market Applications:

3.2.1 The Market Applications function provides support to the energy and Reserve Capacity Mechanism, with computational modules including:

- a) Reserve Capacity Auction and Trade;
- b) Individual Reserve Capacity Requirements (IRCR). For further information on IRCR see the separate Initial IRCR Market Procedure;
- c) STEM;

- d) Marginal Cost Administered Price, Upwards Deviation Administered Price, and Downwards Deviation Administered Price Determinations;
- e) Dispatch Schedule Calculation.

3.2.2 The Market Applications function also calculates the following market parameters:

- a) The Maximum Reserve Capacity Price; and
- b) The Energy Price Limits, including the Maximum STEM Price, Minimum STEM Price and Alternative Maximum STEM Price.

3.3 Settlements:

3.3.1 The settlement function supports the financial settlement of trading through the WEM, including:

- a) Importing the information to be used in performing settlement obligations; and
- b) Calculating the determinants outlined in the Market Rules.

3.3.2 Settlement involves three main processes:

- a) STEM transactions, settled on a weekly basis;
- b) Non-STEM transactions, settled on a monthly basis;
- c) Adjustment to settlement, at least once every three months.

3.3.3 For more information on the IMO's settlement process please refer to the Settlement Market Procedure.

3.4 Metering:

3.4.1 The metering function obtains metering data from Metering Data Agents and provides settlement ready data for the settlement function.

3.4.2 For more information on the submission of metering data please refer to the Meter Data Submission Market Procedure.

3.5 Accounting and Billing:

3.5.1 The accounting and billing function aggregates payments and charges and generates invoices for Market Participants. It also tracks the status of invoices and payments.

3.5.2 Market Participants are able to view and download invoices using the WebLink web-interface application.

3.5.3 For more information on billing and invoice processes please refer to the Settlement Market Procedure.

4 MARKET PARTICIPANT REQUIREMENTS

The WEMS is used by Market Participants to provide, collect and review information. The WEMS is the primary communication tool for several functions. It is essential that adequate computer systems are used to support the relevant WEMS functions.

4.1 Redundancy

4.1.1 Market Participants must ensure that they have suitable IT Infrastructure to support their obligations under the Market Rules and their participation in the Wholesale Electricity Market. Market Participants should have one or more primary workstations and one or more secondary workstations configured for access to the WEMS.

4.1.2 Market Participant's primary and secondary workstations should not use the same IT infrastructure, this includes and is not limited to:

- a) Uninterruptible power supply;
- b) Patch panel;
- c) Network switch;
- d) Network router;
- e) Proxy server;
- f) DNS server;
- g) Internet connection; or
- h) Internet service provider.

4.2 Hardware Requirements

4.2.1 The following workstation requirements are recommended:

- a) Intel Pentium 4 3 GHz Processor or equivalent;
- b) 1 GB Memory;
- c) 160 GB hard disk;
- d) Graphics card set to a resolution of 1280 x 1024 or better;

- e) Reliable high-speed (broad speed 2Mb/s+) connection to the Internet, with HTTP access to TCP port 80 and HTTPS access to TCP ports 443 and 563 on the Market Web Site;
- f) 19"+ LCD TFT Monitor with a native resolution of 1280 x 1024 or better; and
- g) Keyboard and wheel mouse.

4.2.2 It is recommended that a high resolution colour print be used that supports multiple fonts.

4.3 Software Requirements

4.3.1 The following software is required as a minimum to operate with the WEMs environment:

- a) Windows XP Pro (Recommend SP2 or later), patched to current Microsoft recommendations unless otherwise notified by the IMO;
- b) For participants that use the ABB MPI Internet Explorer 6 is required;
- c) For participants that use the IMO MPI Internet Explorer 6 or Internet Explorer 7 can be used;
- d) Sun Java Runtime environment version 1.5;
- e) Appropriate Anti Virus Software with regular definition updates

4.3.2 Sun Java Runtime environment is available for download from: <http://java.sun.com>

4.3.3 For information on installing the Java Runtime Environment, refer to section 1.2 of the User Interface Setup Guide available on the IMO website.

4.3.4 Market Participants are required to use FormsPlayer XForms browser plug-in. A copy of this software will be provided by the IMO to all Market Participant. For information on installing FormsPlayer, refer to section 1.3 of the User Interface Setup Guides available on the IMO website.

4.4 Network Requirements

4.4.1 The IMO must provide Market Participants with access to the WEMS via the Internet. To facilitate this, Market Participants will require an internet connection to allow for browser access to the WEMS.

4.4.2 Market Participants must use an appropriate high speed (broadband speed, 512 Kb/s or more) Internet connection as a minimum to ensure adequate service for the WEMS.

4.4.3 Market Participants are required to ensure the security and availability of their own network connections.

4.4.4 Market Participants must implement an appropriate firewall technology to ensure the security of Market Participants networks.

4.5 Time synchronisation

4.5.1 Market Participants workstations must be synchronised with a Network Time Server.

4.5.2 The IMO recommends that Market Participants use the Microsoft network time server, due to ease of configuration with Windows XP.

4.6 IMO Access Security

4.6.1 The IMO must implement appropriate access controls to protect unauthorised access and disclosure of confidential information transmitted through electronic communications.

4.6.2 The use of Digital Certificates for user authentications is the current mechanism used to meet this security requirement. The IMO may replace this mechanism by suitable technology that provides the same (or better) security measures. While Digital Certificates are in use:

- a) Market Participants must use the distributed Digital Certificate to access the secured WEMS Web Site; and
- b) Market Participants must secure their Digital Certificate against inappropriate use.

4.6.3 The IMO must provide a secure access for each Market Participant user of the WEMS. For further details of current security mechanism in place please refer to the Participant Registration Market Procedure.

4.7 Market Connectivity

4.7.1 The primary mechanism for the conveyance of data between Market Participant and the WEMS is XML. XML is an industry standard text based protocol that can be manipulated, viewed and processed by participants using a simple text editor application or any other suitable application of choice.

4.7.2 Where a Market Participant does not wish to manipulate or process XML, they may use the Graphical User Interfaces provided in the WEMS for the submission and retrieval of all data.