Independent Market Operator

System Management PSOP Working Group

Agenda

Meeting No.	6/2009
Location:	IMO Board Room Level 3, Governor Stirling Tower, 197 St Georges Terrace, Perth
Date:	Friday, 19 June 2009
Time:	9:00am till 12:00pm

Item	Subject	Responsible	Time
1.	**WELCOME AND APOLOGIES / ATTENDANCE**	**Chair**	5 minutes
2.	**MINUTES OF PREVIOUS MEETING / ACTIONS ARISING**	**Chair**	5 minutes
3.	**PSOP: Communications and Control Systems**	**System Management**	30 minutes
4.	**PSOP: Dispatch (includes PSOP: Dispatch and PSOP: Scheduling and Dispatch of EGC Facilities)**	**System Management**	130 minutes
5.	**OTHER BUSINESS** Discussion on any other matters that fall within the scope of the Working Group's Terms of Reference.	**Chair**	5 minutes
6.	**NEXT MEETING** The next PSOP Working Group meeting to be scheduled.	**Chair**	5 minutes

ELECTRICITY INDUSTRY ACT

ELECTRICITY INDUSTRY (WHOLESALE ELECTRICITY MARKET) REGULATIONS 2004

WHOLESALE ELECTRICITY MARKET RULES

Power System Operation Procedure: Communications and Control Systems

Commencement: This Market Procedure is to have effect from 8:00am (WST) on the same date as the Wholesale Electricity Market Rule, in which this procedure is made in accordance with, commences.

Market Procedures Published by the Minister

I, FRANCIS LOGAN, Minister for Energy for the State of Western Australia, under regulation 9(2) of the *Electricity Industry (Wholesale Electricity Market) Regulations 2004* hereby approve the publication of the Power System Operation: Communications and Control Systems Procedure contained in this document.

This Market Procedure is to have effect from 8:00am (WST) on the same date as the Wholesale Electricity Market Rule, in which this procedure is made in accordance with, commences.

… … … … … … … … … … … … … … …

Dated at Perth this … … … day of … … … … …2006.

1. RELATIONSHIP WITH MARKET RULES

Clause 2.35.4 of the Wholesale Electricity Market Rules requires that System Management document the communication and control system requirements needed to support the dispatch process.

This procedure is made in accordance with Market Rule 2.35.4.

2. SCOPE OF PROCEDURE

1. The Procedure sets out the communication and control systems required to be in place to enable System Management to dispatch:
    a. Scheduled Generators, Non-Scheduled Generators, Dispatchable and Curtailable Loads that are controlled directly by the Market Participant;
    b. Scheduled or Non-Scheduled Generators where System Management, by agreement with the Market Participant, has operational control of that Facility; and
    c. Interruptible Loads whose operation may be triggered by a fall in power system frequency.
2. The Procedure specifies the main features of the speech, data and control systems that need to be in place between the Facility and System Management for the purpose of:
    a. issuing, acknowledging and responding to Dispatch Instructions, Dispatch Orders and directives;
    b. monitoring the MW output and connection status of the Facility; and
    c. enabling prompt response to High Risk and Emergency Operating States.

3. ASSOCIATED PROCEDURES

Power System Operation Procedure – Dispatch

4. OPERATIONAL COMMUNICATIONS AND CONTROL SYSTEMS FOR SCHEDULED AND NON-SCHEDULED GENERATORS

Each Scheduled and Non-Scheduled Generator should provide voice and data communication systems in order for System Management to issue Dispatch Instructions, Dispatch Orders or directions, and for the subsequent acknowledgement of these back to System Management by the Market Generator.

4.1 SCADA Data Requirements

1. Each Scheduled and Non-Scheduled Generator must provide remote monitoring SCADA equipment to enable System Management to remotely monitor the output and operational status of the Facility at its connection point to the SWIS network.

2. This SCADA data and the equipment for the communication of the data must meet the requirements of all applicable provisions of the Technical Rules, approved pursuant to the requirements of the *Electricity Networks Access Code 2004*.

4.2 Voice Communication Requirements

1. Market Participants with Scheduled Generators or Non-Scheduled Generators must maintain voice communication systems that enable Dispatch Instructions, Dispatch Orders and directions to be communicated to the Market Generator by System Management, and for the Participant to acknowledge receipt of these instructions to System Management.

1. Each Scheduled and Non-Scheduled Generator must provide primary and back-up speech communication facilities for the communication of these instructions.

2. The standard of this equipment should meet the requirements of all applicable provisions of the Technical Rules, approved pursuant to the requirements of the *Electricity Networks Access Code 2004*.

4.3 Facsimile Requirements

Non-EGC Generators may elect to receive confirmation of Dispatch Instructions through a fax message transmitted by System Management. In such instances, the Market Generators should maintain suitable facsimile equipment.

4.4 Electronic Dispatch Messaging System.

1. Scheduled and Non-Scheduled Generators may elect to have their voice based instruction confirmed electronically through a SMMITS based electronic messaging system.

2. System Management may produce an electronic version of the Dispatch Instruction or Dispatch Order, and offer to transmit this electronic version to the Participant over the SMMITS web system. The electronic version will be created

through System Management entering the Dispatch Instruction or Dispatch Order into its electronic logging system.

3. A Generator Facility participating in this scheme will receive an electronic imprint of a Dispatch Instruction or Dispatch Order on a screen situated at the Facility.

4. The Participant must acknowledge receipt of the electronic message and confirm its intention to execute the direction by an electronic signal transmitted back to System Management through the same system. The Facility must then implement the Dispatch Instruction or Dispatch Order.

5. Participating in the SMMITS based electronic system does not remove the requirement on Generator facilities to maintain the voice and data communication equipment specified in sections 4.1 and 4.2 of this procedure.

6. Connection of a Generator Facility to the SMMITS dispatch messaging system will be through mutual agreement between the Generator Participant and System Management.

4.5 Electronic transmission of Dispatch Instructions through AGC.

1. Scheduled and Non-Scheduled Generators may have their Dispatch Instructions or Dispatch Orders transmitted electronically from System Management to the Generator Facility via System Management's automatic generation control system (AGC).

2. Where a Market Generator chooses to participate in the AGC scheme and receive a Dispatch Instruction or Dispatch Order in electronic form, the requirement to maintain the voice and data communication requirements set out in sections 4.1 and 4.2 of this procedure must still be met.

3. A Generator Facility participating in System Management's AGC system will receive a Dispatch Instruction or Dispatch Order in electronic form and the signal will be transmitted directly to the generator unit(s) output control or governing system. The AGC signal will stipulate the amount of increase or decrease in generator output required. The generating unit(s) will react to this signal within a timeframe and ramping rate agreed between the Participant and System Management.

4. Dispatch Instructions and Dispatch Orders transmitted through the AGC system will be limited to generator output increases or decreases.

5. In the initial stage of Market operations, participation in System Management's Automatic Generator Control scheme will be limited to those Generator Facilities providing Load Following Reserve under an Ancillary Service supply agreement.

6. Connection of a Generator Facility to the AGC system will be through the mutual agreement of the Generator Participant and System Management

4.6 Generators controlled by System Management

1. This section applies to Participants with Scheduled or Non-Scheduled Generators whose operation is remotely controlled by System Management under an agreement between that Participant and System Management. [**MR 7.8**]
2. This section does not apply to Generator Facilities participating in either the SMMITS electronic messaging system or AGC. (sections 4.4 and 4.5 of this procedure).
3. Under the agreement referenced in subsection (1), System Management may execute a number of Dispatch Instructions or Dispatch Orders relating to that facility though remote control facilities located in System Management's premises.
4. Where the Market Participant wishes System Management to execute a full range of start up, load and shut down instructions through remote operation, the Participant must provide:
    a. the remote monitoring facilities set out in all applicable provisions of the Technical Rules, approved pursuant to the requirements of the *Electricity Networks Access Code 2004*;
    b. the remote control equipment set out in all applicable provisions of the Technical Rules, approved pursuant to the requirements of the *Electricity Networks Access Code* 2004; and
    c. communication equipment to support (a) and (b) above.
5. Where the Market Participant wishes System Management to execute a limited number of dispatch instructions through remote control action, the Participant and System Management should agree on the range of remote control facilities needing to be provided.
6. The Participant should provide facsimile equipment where it wishes System Management to provide the Participant with fax confirmation of instructions remotely executed by System Management.

4.7 Loss of Communication facilities

1. Where a major loss of communications occurs, the electronic data systems and some of the voice communication circuits referred to in section 4 of this procedure may become unavailable. Participants and System Management must then revert to speech communications, including the use of back up speech facilities for the transfer of all Dispatch Instructions, Dispatch Orders and other operational information.
2. Where System Management's Control Centre has been evacuated and dispatch services shift to System Management's emergency control centre, an Emergency Operational State will exist. Contact with System Management will be via a series of emergency telephone numbers.
3. System Management must provide Market Participants with an emergency contact list to be used in these circumstances.
4. Market Participants must provide System Management with an emergency contact list to be used in these circumstances.

5. COMMUNICATION AND CONTROL SYSTEMS FOR CURTAILABLE LOADS

A Curtailable Load is a Load whose consumption can be curtailed within a specified response time when System Management issues a Dispatch Instruction for that load to be curtailed.

System Management must dispatch each Curtailable Load following the process set out in overview form in Appendix I and detailed in section 5.1 of this procedure.

Market Customers who operate a Curtailable Load must provide the communication and control systems specified in section 5.2 of this procedure.

5.1 Process for communicating Dispatch Instructions to Curtailable Loads

1. System Management must issue Dispatch Instructions to Market Customers with registered Curtailable Loads consistent with this procedure and with the Power System Operation Procedure - Dispatch.

2. The content of the Dispatch Instructions must be consistent with the information detailed in the Standing Data, and any information provided by the IMO on restrictions on use of the Curtailable Load.

5.1.1 System Management to issue a Curtailment Alert

1. System Management must provide a Curtailment Alert to a Market Customer where it has information derived from its latest Dispatch Plan that the Curtailable Load operated by that Market Customer is scheduled to be dispatched within the period covered by that Dispatch Plan.

2. The Curtailment Alert notice is intended to act as an alert to the Market Customer of the prospect of an activation of load curtailment, but is not a Dispatch Instruction.

3. The Curtailment Alert Notice will contain the information set out in Appendix II of this procedure.

4. System Management may update this information over the period in which the Curtailment Alert notice is active. This update may be via a faxed message or through a telephone conversation with the Market Customer.

5. The Curtailment Alert notice should be sent to the Market Customer at the earliest practical time, and before the minimum response time specified in the Standing Data for that Curtailable Load.

6. Where there is insufficient time to issue a Curtailment Alert Notice, System Management may issue a Dispatch Instruction requiring dispatch of a Curtailable Load, without having earlier issued a Curtailment Alert.

5.1.2 Market Customer to provide information on levels of Curtailment

1. A Market Customer should contact System Management within one hour of receiving a Curtailment Alert Notice, and confirm the level of load expected to be curtailed as a consequence of the Dispatch Instruction.

2. Where the Market Customer expects the level of curtailment to vary from the level in the Curtailment Alert Notice, the Market Customer should inform System Management of the adjusted curtailable MW amount.

3. The Market Customer must agree with System Management the means by which this information is communicated.

5.1.3 Cancellation of Curtailment Alert Notice

1. Where System Management has issued a Curtailment Alert Notice, and power system conditions have changed to the extent that System Management considers that load curtailment is no longer needed, System Management should cancel the Curtailment Alert Notice.

2. The process for communicating the cancellation of an Alert Notice may be by issuing of a cancellation notice, or by telephoning the Market Customer with the information.

5.1.4 Issuing of a Dispatch Instruction to a Curtailable Load

1. System Management must issue a Dispatch Instruction to a Curtailable Load in accordance with Market Rule 7.7 and section 9 of the Power System Operating Procedure - Dispatch.

5.1.5 Special case of a Load providing both interruptible and Curtailable Load services

1. A Load may be registered to provide Curtailable Load, and also have a contract with System Management to provide Interruptible Load.

2. Under the circumstances in subsection (1), the Load may be interrupted as a spinning reserve source, and have its de-energised time extended by System Management activating the Curtailable Load phase.

3. To activate the curtailment phase, System Management must send a Dispatch Instruction directly to the Market Customer who is responsible for the Curtailment Load.

4. The content of the Dispatch Instruction to the Curtailable Load must be consistent with the restrictions and conditions that apply as a consequence of its registration as a Curtailable Load, including the required minimum response time.

5.1.6 Consultation following Activation of Curtailable Load

1. Following restoration of the Curtailable load and before the end of the Trading Day in which the curtailment action took place, the Market Customer should consult with System Management on:

    a. any compliance issues arising from activation of the Curtailable Load;
    b. feedback on how Curtailment Load contributed to SWIS security;

Market Customers consider feedback on the contribution of Curtailable Loads to the SWIS supply situation to be important in maintaining the interest of consumers in participating in Curtailable Load schemes. Motives for participation are considered to be as much for the good of WA as for commercial benefit.

c. possible compliance issues if Curtailable Load is to be scheduled for the following Trading Day; and

d. the remaining number of hours (and curtailments) that the Curtailable Load is obligated to provide over the remainder of the period covered by its Reserve Capacity obligations.

2. System Management must update its schedule of Curtailable Load data (Appendix III of this procedure) in response to the information provided as a consequence of subsection (1).

5.2 Communication and Control systems for Dispatching Curtailment Load

1. Section 5.2 of this procedure covers the communication requirements necessary for transmitting the Curtailment Alert Notice and Dispatch Instruction between System Management and the Market Customer, and for subsequent verification of the Dispatch Instruction by the Market Customer

2. Each Market Customer operating a Curtailable Load must put in place a communication system that enables the Curtailable Alert notice and subsequent Dispatch Instruction to be communicated between System Management and the Market Customer, and then from the Market Customer to its Demand Side Customers.

3. The communication system may be:

    a. Telephone, using nominated numbers;

    b. the web based Peak Demand Saver Notification System (PDSN) developed by Western Power;

    c. a web based system with similar capability as PDSN;

    d. a fax based system involving transmission of Curtailment Alert Notices and Dispatch Instructions via fax messages between System Management and the Market Customer; or

    e. a combination of fax messages and a web based system.

4. Market Customers must gain System Management's agreement to the method of communicating Curtailment Alert notices and Dispatch Instructions for each registered Curtailable Load.

5. System Management will not unreasonably withhold its agreement to the communication process proposed by the Market Customer.

6. Market Customers must nominate a contact person(s) and contact details for all matters concerned with their Curtailable Load, for that period where the Curtailable load is required to be available for dispatch.

6. COMMUNICATION AND CONTROL SYSTEMS FOR INTERRUPTIBLE LOADS

1. Interruptible Loads are part of the Spinning Reserve service, and will be activated when the SWIS frequency falls following the failure of one of more facilities.

2. System Management must contract with a Market Participant or Ancillary Service Provider for the provision of an Interruptible Load.

3. This section specifies the communication, control and SCADA equipment that must be provided for each Interruptible Load made available to System Management for interruption.

6.1 Under-frequency Activation

1. Each Interruptible Load must be fitted with a system for interrupting the Interruptible Load during an under frequency situation.

2. The system may include:

    a. a locally sited under-frequency relay system for detecting the under-frequency event and transmitting a trip signal to activate the Load interruption;
    b. a manual or automatic instruction generated from a central site by System Management, and transmitted to the Interruptible Load Facility site to activate the Load interruption; or
    c. a system that incorporates elements of (a) and (b) above.

3. The details of the under-frequency activation system agreed in accordance with subsection (2) between System Management and the provider of the service must be detailed in the applicable Ancillary Service Contract.

4. The disconnection and reconnection times and process for reconnection will be specified in the Ancillary Service contract for that Interruptible Load.

6.2 Communication of SCADA data

1. Data monitoring facilities must be fitted to each Interruptible Load to enable MW status data to be telemetered to System Management's SCADA system.

2. System Management may provide the communication system for transmission of the SCADA data.

3. System Management may, in certain circumstances, accept the connection of new Interruptible Loads without the SCADA monitoring and communication system referred to in subsection (1).

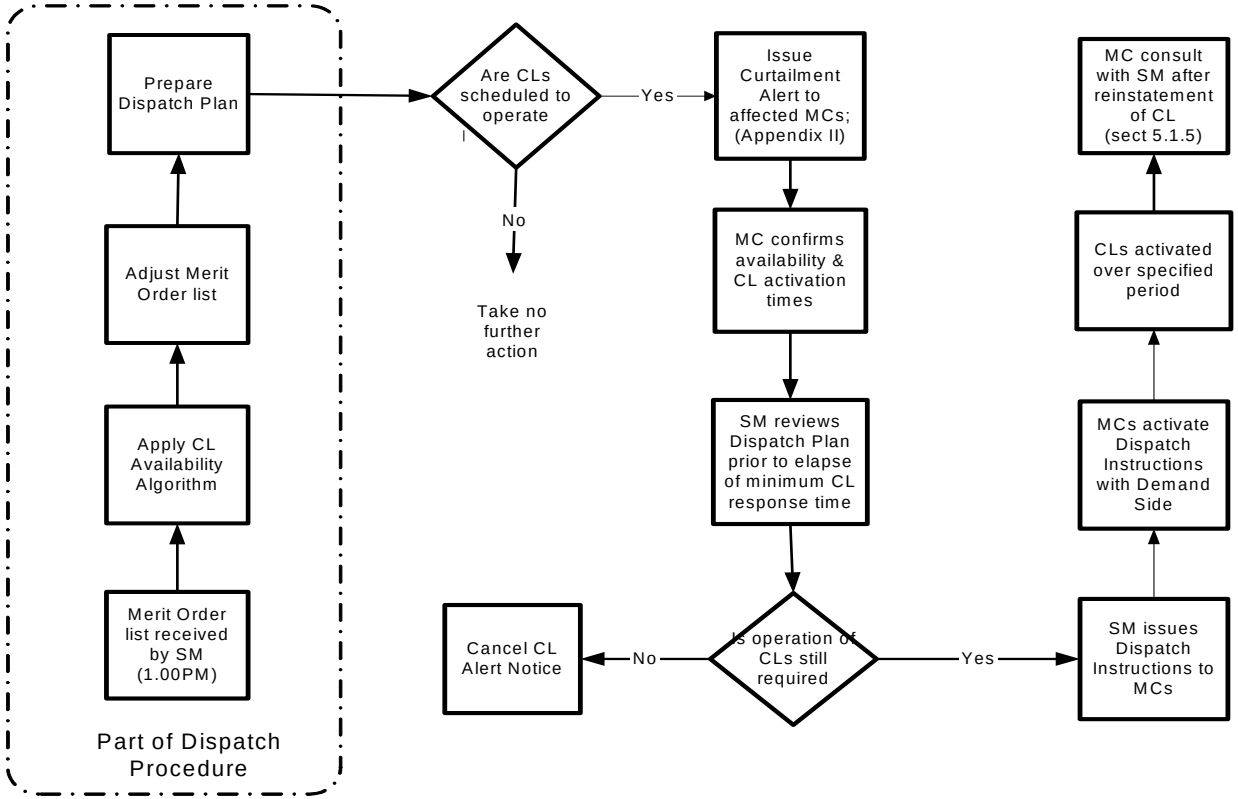
4. The details of the communication system and process for each Interuptible Load will be specified in the Ancillary Service contract covering the Interruptible Load.

5. System Management must log each event involving tripping of an Interruptible Load.

7. DISCLOSURE OF INFORMATION

1. In performing its functions under the Market Rules, System Management may be required to disclose certain information to Market Participants and Network Operators. In selecting the information which may be disclosed, System Management will utilise best endeavours and act in good faith to disclose only the information reasonably required by the application of the Market Rules.

Appendix I



Curtailable Load Dispatch Process

CL - Curtailable Load
MC - Market Customer
SM - System Management
DP - Power System Dispatch Procedure

Appendix II

Information Provided in Curtailment Alert Notice sent out by System management to Market Customer

Market Customer Id. …… Curtailment load Identity. ……	
Reason for curtailment action	(eg expected high demand)
Expected level of curtailment (MW)	
Scheduled time curtailment commences	
Scheduled time curtailment finishes	

Appendix III

CURTAILABLE LOAD DATA MAINTAINED AT OPERATOR DESK

SYSTEM MANAGEMENT CURTAILABLE LOAD STATIC DATA TABLE									
Curtailable Load Identity	**Market Customer Id**	**Communication Reference (1)**	**MW Reserve Capacity of Curtailable Load**	**Minimum lead time for Dispatch Instruction (hrs)**	**Max duration of a single curtailment (hrs)**	**Fixed start time (if applicable)**	**Fixed dispatch period (if applicable)**	**Remaining availability (hrs)**	**Remaining number of curtailments available**

(1) Method of communicating with Market Customer

ELECTRICITY INDUSTRY ACT

ELECTRICITY INDUSTRY (WHOLESALE ELECTRICITY MARKET) REGULATIONS 2004

WHOLESALE ELECTRICITY MARKET RULES

Power System Operation Procedure

Communications and Control Systems:

Commencement: This Power System Operation Procedure is to have effect from the commencement of the relevant provision of the Wholesale Electricity Market Rules under which it is made.

1. COMMUNICATIONS AND CONTROL SYSTEMS

Communications and Control Systems Procedure details System Management's requirements for the Control and Communications Systems needed to support the dispatch process.

2. RELATIONSHIP WITH MARKET RULES

1. This Procedure has been developed in accordance with, and should be read in conjunction with clause 2.35 of the Wholesale Electricity Market (WEM) Rules (Market Rules).

2. References to particular Market Rules within the Procedure in bold and square brackets **[MR XX]** are current as at 1 June 2008. These references are included for convenience only, and are not part of this procedure.

3. In performing its functions under the Market Rules, System Management may be required to disclose certain information to Market Participants and Network Operators. In selecting the information that may be disclosed, System Management will utilize best endeavours and act in good faith to disclose only the information reasonably required by the application of the Market Rules.

3. SCOPE OF PROCEDURE

1. This procedure sets out the communication and control systems required to be in place to enable System Management to dispatch:

    a. Scheduled Generators, Non-Scheduled Generators, Dispatchable and Curtailable Loads that are controlled directly by the Market Participant;
    b. Scheduled or Non-Scheduled Generators where System Management, by agreement with the Market Participant, has operational control of that Facility; and
    c. Interruptible Loads whose operation may be triggered by a fall in power system frequency.

2. The procedure specifies the main features of the speech, data and control systems that need to be in place between the Facility and System Management for the purpose of:
    a. issuing, acknowledging and responding to Dispatch Instructions, Dispatch Orders and directives;
    b. monitoring the MW output and connection status of the Facility; and
    c. enabling prompt response to directions of System Management in the event of a High Risk Operating State or Emergency Operating State.

4. ASSOCIATED PROCEDURES AND STANDARDS

The following Power System Operation Procedures are associated with this Communications and Control Systems procedure:

a. Power System Operation Procedure - Dispatch
b. Power System Operation Procedure - Operational Data Points for Generators

5. OPERATIONAL COMMUNICATIONS AND CONTROL SYSTEMS FOR SCHEDULED AND NON-SCHEDULED GENERATORS

Each Scheduled and Non-Scheduled Generator should provide voice and data communication systems in order for System Management to issue Dispatch Instructions, Dispatch Orders or directions, and for the subsequent acknowledgement of these back to System Management by the Market Generator.

5.1 SCADA Data and Control Requirements

1. Each Scheduled and Non-Scheduled Generator must provide remote monitoring and control SCADA equipment to enable System Management to remotely monitor/control the output and operational status of the Facility at its connection point to the SWIS network

2. The SCADA operational data points and the equipment for the communication of the data and control signals referenced in (1) above must meet the requirements of all applicable provisions of the Technical Rules, approved pursuant to the requirements of the *Electricity Networks Access Code 2004* and any applicable instrument established pursuant to powers under the Wholesale Electricity Market Rules.

5.2 Voice Communication Requirements

1. All Market Participants with Scheduled Generators or Non-Scheduled Generators must maintain voice communication systems that enable communication between the Market Generator and System Management.

2. The standard of this equipment should meet the requirements of all applicable provisions of the Technical Rules, approved pursuant to the requirements of the *Electricity Networks Access Code 2004*.

5.3 Communication of Dispatch Instruction

Following the issue of a Dispatch Instruction System Management will produce an electronic confirmation of the instruction and transmit it to the Participant.

5.4 Electronic Transmission of Dispatch Instructions and Dispatch Orders through AGC

1. **Automatic Generation Control** (**AGC**) refers to equipment operated by System Management, which sends signals to Generating facilities participating in the AGC scheme to automatically adjust their output so as to maintain frequency or restore frequency within the Normal Operating Frequency Band.

2. A Dispatch Order is a direction issued by System Management to the Electricity Generation Corporation as defined in clause 7.6A.3(a) of the Market Rules.

3. A Dispatch Instruction is an instruction given by System Management to a Market Participant other than the Electricity Generation Corporation as defined in clause 7.7.1 of the Market Rules.

4. Scheduled and Non-Scheduled Generators may have their Dispatch Instructions or Dispatch Orders transmitted electronically from System Management to the Generator Facility via System Management's AGC system.

5. A Generation Facility participating in System Management's AGC system will receive from the AGC a Dispatch Instruction or Dispatch Order in the form of an electronic control signal transmitted directly to the generator unit(s) output control or governing system. This signal will set the amount of required increase or decrease in generator output. The generating unit(s) will react to this signal within a timeframe and ramping rate agreed between the Participant and System Management.

6. Dispatch Instructions and Dispatch Orders generated by the AGC system will be limited to increase and decrease of generator output .

7. Connection of a Generation Facility to the AGC system will be through mutual agreement between the relevant Market Participant and System Management.

5.5 Generators operated by System Management

1. This section applies to Participants with Scheduled or Non-Scheduled Generators remotely operated by System Management under an agreement between the Participant and System Management [**MR 7.8**].

2. Under the agreement referenced in subsection (1), System Management may execute a number of Dispatch Instructions or Dispatch Orders relating to that facility through remote control facilities located in System Management's premises. These Dispatch Instructions and Dispatch Orders can be either a full range of start up, load and shut down instructions, or a reduced number of such instructions agreed to by System Management.

3. Before an operating agreement for remote operation and control is entered into, the Market Participant must acknowledge that System Management bears no liability or responsibility for failure of the Participant's Generation Facility to obey a Dispatch Instruction, or to comply with the Participant's Resource Plan.

5.6 Loss of Communication facilities

1. Where a major loss of communications occurs, the electronic data/control systems and some of the voice communication circuits referred to in section 5 of this procedure may become unavailable. Participants and System Management must then revert to speech communications, including the use of back up speech facilities for the transfer of all Dispatch Instructions, Dispatch Orders and other operational information.

2. Where System Management's Control Centre has been evacuated and dispatch services shift to System Management's emergency control centre,

an Emergency Operating State will exist. Contact with System Management will be via a series of emergency telephone numbers.

3. System Management must provide Market Participants with an emergency contact list to be used in these circumstances.

4. Market Participants must provide System Management with an emergency contact list to be used in these circumstances.

6. COMMUNICATION SYSTEMS FOR CURTAILABLE LOADS

A Market Customer who operates a Curtailable Load must provide a voice communication system (telephone) that allows System Management to communicate Dispatch Instructions to the Market Customer.

6.1 Communication Systems for Dispatching Load Curtailment

1. All communication must be by telephone using nominated numbers.

2. Market Customers must nominate a contact person(s) and contact details for all matters concerned with their Curtailable Load, for that period where the Curtailable load is required to be available for dispatch.

6.2 Process for communicating Dispatch Instructions to Curtailable Loads

1. System Management must issue Dispatch Instructions to Market Customers with registered Curtailable Loads consistent with this Procedure and with the Power System Operation Procedure - Dispatch.

2. The content of the Dispatch Instructions must be consistent with the information detailed in the Standing Data, and any information provided by the IMO on restrictions on use of the Curtailable Load.

6.3 Issuing of a Dispatch Instruction to a Curtailable Load

System Management must issue a Dispatch Instruction to a Curtailable Load in accordance with the Market Rules [**MR 7.7**] and the Power System Operating Procedure - Dispatch.

7. COMMUNICATION AND CONTROL SYSTEMS FOR INTERRUPTIBLE LOADS

The communication, control and SCADA equipment functionality to be provided for an Interruptible Load shall be in accordance with the terms attaching to the Agreement for that Interruptible Load.

ELECTRICITY INDUSTRY ACT

ELECTRICITY INDUSTRY (WHOLESALE ELECTRICITY MARKET) REGULATIONS 2004

WHOLESALE ELECTRICITY MARKET RULES

Power System Operation Procedure: Dispatch

Commencement: This Market Procedure is to have effect from 8:00am (WST) on the same date as the Wholesale Electricity Market Rule, in which this procedure is made in accordance with, commences.

Market Procedures Published by the Minister

I, FRANCIS LOGAN, Minister for Energy for the State of Western Australia, under regulation 9(2) of the *Electricity Industry (Wholesale Electricity Market) Regulations 2004* hereby approve the publication of the Power System Operation: Dispatch Procedure contained in this document.

This Market Procedure is to have effect from 8:00am (WST) on the same date as the Wholesale Electricity Market Rule, in which this procedure is made in accordance with, commences.

… … … … … … … … … … … … … … … …

Dated at Perth this … … … day of … … … … …2006.

1. RELATIONSHIP WITH MARKET RULES

This document sets out the procedures that System Management and Market Participants must follow in order to meet the dispatch rules contained in Chapter 7 of the Wholesale Electricity Market Rules. The procedures specify the processes that take place each Scheduling and Trading Day to determine how generation, transmission and Demand Management Facilities will be dispatched.

The procedures cover both “non-Electricity Generation Corporation” and “Electricity Generation Corporation” facilities.

Electricity Generation Corporation (EGC) has certain additional requirements and procedures that relate to meeting its obligations for balancing services, security and the supply of ancillary services. These are detailed in the separate document, “Power System Operation Procedure – Scheduling and Dispatch of EGC Facilities”, which has been produced in accordance with Market Rule 7.6A.

Appendices IX(a) and IX(b) of this procedure provides an overview of the dispatch processes undertaken by System Management on a Scheduling Day.

This procedure is made in accordance with Market Rule 7.7.9.

2. ASSOCIATED PROCEDURES AND OPERATING STANDARDS

a. SWIS Technical Rules and Operating Standards (Technical Rules)
b. Power System Operation Procedure – Scheduling and Dispatch of EGC Facilities
c. Power System Operation Procedure - Power System Security
d. Power System Operation Procedure - Glossary

3. MANAGEMENT OF DISPATCH INFORMATION

System Management must store in an accessible form, all data needed for the preparation of a Dispatch Plan and for the subsequent issuing of Dispatch Instructions, and must update this information as soon as new data is received.

System Management must use the latest available data when:

a. preparing the information submitted to the IMO on Scheduling Day;
b. preparing the Dispatch Plan;
c. issuing Dispatch Instructions and Dispatch Orders; and
d. preparing the ex-post Settlement and Monitoring data.

As required under the Market Rules, the IMO will provide all new and updated data in the Standing Data relating to a Trading Day to System Management as soon as practical for updating of System Management's SMMITS information system.

4. SCHEDULING DAY DATA EXCHANGE

Each Scheduling Day, data relating to dispatch must be exchanged between System Management, the IMO and Participants. Appendix IX of this procedure summarises this information and the time constraints that apply. Sections 4.1 to 4.8 of this procedure detail the applicable timelines, information content and requirement for each data exchange.

4.1 Load Forecast

1. System Management must prepare a Load Forecast for a Trading Day by 7.30 AM on the Scheduling Day for the Trading Day, where this Load Forecast is for information purposes only [**MR 7.2.1, 7.2.2**].

2. The Load Forecast must represent the expected SWIS total demand, including Non-Dispatchable Load, Curtailable Load and Interruptible Load, net of forecast Non-Scheduled Generation.

3. The Load Forecast must predict values for both MWh and MW total demand for each Trading Interval in the Trading Day.

4. The Load Forecast will be loss adjusted to the Reference Node.

5. System Management must prepare the Load Forecast by subtracting from the loss-adjusted SWIS System Load forecast, the combined output of each Non-Scheduled Generator after loss adjusting each forecast output quantity back to the Reference Node.

6. The process for forecasting SWIS System Load and Non-Scheduled Generator output levels is set out in section 4.2 and 4.3 of this procedure respectively.

7. The process for loss adjusting the SWIS System Load back to the Reference Node is set out in section 4.4 of this procedure.

8. The Load Forecast information will be provided to the IMO in a form consistent with Appendix 1(e) of this procedure.

9. System Management must submit the Load Forecast calculated according to subsection (5) into the IMO's WEMS system by 7.30 AM of the Scheduling Day, and the IMO must confirm receipt of the data within 5 minutes of receiving the information.

10. If the IMO has not received the information by 7.40 AM, it must contact System Management and clarify the reasons for non-receipt of the data. If appropriate, System Management must then re-transmit the information to IMO or communicate it by other means as agreed with the IMO such that the information is received by the IMO by 7.50 AM.

11. The IMO should confirm receipt of the information in subsection (10) within 5 minutes of receipt.

4.2 Methodology for forecasting SWIS System Load

1. The SWIS System Load forecast will be prepared using a forecasting methodology.

2. The SWIS System Load is the combined energy (or power) exported from all generating facilities connected to each Network Operator's networks, as measured at the generating facility's connection points.

4.3 Forecasts of Non-Scheduled Generation Output

1. Each Market Generator must, by 10 AM of each day, provide to System Management for each of its Intermittent Generators with a maximum output capacity exceeding 10MW, its most current forecast of the MWh energy output of the Intermittent Generator for each Trading Interval between noon of the current Scheduling Day and the end of the corresponding Trading Day.

2. Where conditions permit a more extended forecast, Market Generators should endeavour to provide System Management with an extended forecast covering the second Trading Day, ie the submission should endeavour to cover two Trading Days of forecast information.

3. Where the output forecast for an Intermittent Generator in a Trading Interval is anticipated to be extremely variable, with the maximum or minimum instantaneous MW output levels expected to exceed the average output over the Trading Interval by a factor of 2 or more, the Market Generator should indicate this in its forecast submission. An indication of possible high variability in generator output can be communicated by inserting the letter "H" in the column provided in Appendix I(b) of this procedure for the relevant Trading Interval.

4. The information referred to in subsections (2) and (3) will be used by System Management to assist in forecasting Ancillary Service requirements. It is not mandatory for Market Participants with Intermittent Generators to provide this information, but its receipt will assist System Management in the management of Ancillary Service Requirements.

5. The Non-Scheduled Generator forecast information should be submitted to System Management through System Management's extended SMMITS system. The form of the report should be consistent with the table in Appendix I (b) of this procedure.

6. Where the Non-Scheduled Generator forecast data is received late or sections of data are missing, System Management must use other forecast data to substitute for this data. This may be output data derived from recordings of injections levels from past Trading Intervals, or a separate forecast derived for that purpose.

7. System Management must confirm receipt of the Load Forecast data received for each Non-Scheduled Generator within 10 minutes of receiving the information.

8. If System Management has not receive the information by 10.10 AM, it must contact the relevant Market Generator as soon as practical. The Market Generator should re-transmit the information by the means agreed with System Management.

4.4 Loss Factors for adjusted Load Forecasts.

1. System Management must "loss adjust" the SWIS Load Forecast in described in section 4.2 above to represent the demand expected at the Reference Node. The process for loss adjustment is set out in Appendix I (c) of this procedure.

2. System Management must maintain a list of the Loss Factor adjustment values applied to the SWIS System Load forecast in accordance with Appendix 1(c) of this procedure. The figures should be reviewed at least once a calendar year.

4.5 Ancillary Service Requirements

1. By 8:30 AM on the Scheduling Day, System Management must determine for each Market Participant that is a provider of Ancillary Services, an estimate of the loss-adjusted MWh of energy that could potentially be called upon by System Management after 1.00 PM on the Scheduling Day to meet Ancillary Service requirements for each Trading Interval of the Trading Day, where these estimates must reflect the Ancillary Service standards [**MR 7.2.3A**].

2. In the absence of a Resource Plan or Dispatch Merit Order data for the forthcoming Trading Day, System Management may base its estimate of Ancillary Service requirements on:

    a. the estimates of Ancillary Service quantities derived for Short Term PASA for the applicable Trading Day;

    b. Ancillary Service quantities dispatched on a previous Trading Day with similar demand and generation patterns to the forecast day; or

    c. analysis conducted on Ancillary Service requirements for the applicable Trading Day.

3. Appendix l(d) of this procedure specifies the data that System Management must provide for each Generating Facility.

4. The loss factor applied will be the Facility's loss adjustment factor referred to in clause 2.27 of the Market Rules.

5. System Management must submit the Ancillary Service forecast data calculated according to this section 4.5 into the IMO's WEMS system by 8.30 AM of that day, and the IMO must confirm receipt of the data within 5 minutes of receiving the information.

6. If the IMO has not received the information within an acceptable time, and no later than 8.40 AM, it must contact System Management. System Management must then either retransmit the information to IMO or communicate it by other means agreed with the IMO such that the information is received by the IMO by 8.50 AM.

7. The IMO should confirm receipt of the information in subsection (5) within 5 minutes of receipt.

4.6 Outage Plans for Market Participant Facilities

1. System Management must provide to the IMO a schedule of Planned, Forced and Consequential Outages for each generating facility and demand management facility of which System Management is aware at the time; for each Trading Interval of a Trading Day, between 8:00 AM and 8:30 AM on the Scheduling Day prior to the Trading Day [**MR 7.3.4**].

2. System Management will obtain this information from:

    a. the Outage Schedule maintained by System Management in accordance with its Power System Outage Procedure;
    b. information received as a consequence of Short Term PASA; and
    c. any forced outage information that System Management becomes aware of immediately prior to providing the information to the IMO.

3. System Management must submit the information to the IMO's WEMS system by 8.30 AM of the Scheduling Day, and the IMO must confirm receipt of the data within 5 minutes of receiving the information.

4. If the IMO has not receive the information described in paragraph (1) within a reasonable time, and no later than 8.40 AM, it must contact System Management and require System Management to retransmit the information in a form agreed with System Management, such that the information is received by the IMO by 8.50 AM.

5. The IMO should confirm receipt of this later transmitted information within 5 minutes of receipt.

4.7 Resource Plans

1. The IMO must provide System Management with the Resource Plans it has accepted from Market Participants for a Trading Day by 1.30 PM of the Scheduling Day [**MR 7.4.1**], or by such later time as is authorised by the Market Rules.

2. Upon receipt of the Resource Plans for a Trading Day from the WEMS system, System Management must within 5 minutes confirm to the IMO that it has received the Resource Plans.

3. In the event that the IMO does not receive confirmation of receipt of the Resource Plans for a Trading Day from System Management within five minutes of when they should have been received, the IMO must contact System Management by telephone.

4. If System Management has not received the Resource Plans, or there is a problem with the data received, then the IMO must make alternative arrangements acceptable to System Management to communicate the information.

5. At any time between the time it receives the Resource Plans for a Trading Day from the IMO and the end of the Trading Intervals covered by the Resource Plans, System Management may request that a Market Participant confirm that it can conform to its Resource Plan for the relevant Trading Intervals and, if not, to indicate what lesser level of compliance the Market Participant is capable of achieving [**MR 7.4.4**].

4.8 Dispatch Merit Orders and Fuel Declarations

1. The IMO must provide System Management with the Dispatch Merit Orders and Fuel Declarations for a Trading Day by 1:30 PM on the Scheduling Day [**MR 7.5.1**] , or by such later time as is authorised by the Market Rules.

2. Upon receipt of the Dispatch Merit Orders and Fuel Declarations for a Trading Day, System Management must within 5 minutes confirm to the IMO that it has received the Dispatch Merit Orders and Fuel Declarations.

3. In the event that the IMO does not receive confirmation of receipt of the Dispatch Merit Orders and Fuel Declarations for a Trading Day from System Management within 5 minutes of when they should have been received, the IMO must contact System Management.

4. If System Management has not received the Dispatch Merit Orders and Fuel Declarations, or there is a problem with the data received, then the IMO must make alternative arrangements to communicate the information.

5 INFORMATION FOR PREPARATION OF THE SWIS DISPATCH PLAN

System Management must prepare a SWIS Dispatch Plan that lists for each Trading Interval in a Trading Day the quantity of energy and Ancillary Service expected from each Generation and Demand Management Facility.

The information System Management must use in preparing the Dispatch Plan is specified in sections 5.1 to 5.13 of this procedure.

5.1. SWIS System Load forecast

1. System Management must prepare a SWIS System Load forecast between 12.00 PM and 1.30 PM of the Scheduling Day as part of the Dispatch Plan preparation process. The forecast must cover each Trading Interval from 1.30 PM through to at least the end of the Trading Day.

2. The System Load forecast will be prepared in accordance with Appendix I(a) of this procedure.

5.2 Forecast of Non-Scheduled Generation

1. System Management must prepare a forecast of the expected output of all Non-Scheduled Generators, including Intermittent Generators, for each Trading Interval of the Trading Day.

2. System Management will obtain this forecast by combining the expected energy sent-out figures provided for each Non-Scheduled Generator in the Resource Plans.

3. Where System Management considers that the forecast of sent-out energy for an Intermittent Generator is not reflective of the level of output actually occurring or likely to occur, System Management may substitute its own data for part or all of the data provided for that Intermittent Generator.

5.3 Supplementary Capacity and Supplementary Capacity Contracts

1. System Management must take account of any additional capacity made available as a consequence of any Supplementary Capacity Contract entered into by the IMO

2. The IMO must inform System Management at least 7 business days ahead of any supplementary capacity being offered for dispatching.

3. The IMO must consult beforehand with System Management on the data that will need to be supplied by the provider of the supplementary capacity, and must specify how the supplementary capacity must be positioned in the Dispatch Merit Order.

5.4 Network Control Services and Network Control Services Contracts

1. System Management must take account of any Network Control Service to be dispatched as part of a Network Control Service Contract.

2. The IMO must inform System Management at least 7 business days ahead of the time that a new Network Control Support Contract comes operational.

3. The IMO must discuss beforehand and agree with System Management the data that must be provided by the Network Operator, including:

    a. the section of network the nominated Generating Facility is required to support;
    b. the security standards to be maintained within that network section through operation of the contracted service;
    c. the Security Limits applicable to the section of Network;
    d. the operating regime that will apply to the Generating Facility providing the service; and
    e. any additional information relevant to dispatching the Generation Facility, including possible additional SCADA data.

5.5 Resource Plan

1. The Resource Plans are to be provided to System Management by 1.30 PM each day, or by such later time as is authorised by the Market Rules (section 4.7 of this procedure).

5.6 Dispatch Merit Order and Fuel Declarations

1. The Dispatch Merit Order and Fuel Declarations are to be provided to System Management by 1.30 PM each day , or by such later time as is authorised by the Market Rules (section 4.8 of this procedure).

2. The IMO must provide the Dispatch Merit Order data separated into:

    a. a list in which the non-EGC energy supply sources, including Liquid and Non-liquid generation facilities and Curtailable Loads, are ranked in price order for increasing energy supply; and
    b. a list in which the non-EGC energy supply sources, including Liquid and Non-liquid generation facilities and Non-Scheduled Generators, are ranked in price order for decreasing energy supply.

3. The IMO must flag on each of the lists in subsection (2a) and (2b), the position on the list that corresponds to the “active” fuel for each Generating Facility that has lodged a Fuel

Declaration. The lists should also flag for each Generating Facility that has lodged a Fuel Declaration, the position on the list that corresponds to the "alternative" fuel.

5. 7 EGC Plant Schedule and Fuel Plan

1. The EGC plant schedule, fuel plan and Ancillary Service schedule received for the current month, and any update of these schedules that EGC might provide by 1.30 PM of the current Scheduling Day, or by such later time as is authorised by the Market Rules.

2. A description of the process covering submission of the EGC plant schedule fuel plan and Ancillary Service schedule is contained in "Power System Operation Procedure – Scheduling and Dispatch of EGC Facilities – section 5".

5.8 SWIS Dispatch Merit Order

1. System Management must prepare a SWIS Dispatch Merit List applicable for the Peak Trading Intervals between 8.00 AM and 10.00 PM and the Non Peak Trading Intervals between 10.00 PM and 8.00 AM for the Trading Day.

2. The SWIS Dispatch Merit List will be prepared as a composite of the Dispatch Merit order provided by the IMO by 1.30 PM each Scheduling Day, or by such later time as is authorised by the Market Rules (section 5.6 of this procedure), and the Plant and Fuel Schedules provided by EGC for that Scheduling Day (section 5.7 of this procedure).

3. The SWIS Dispatch Merit Order will recognise the order of preference between:

    a. EGC facilities and Non-EGC facilities, as set out in clauses 7.6.3 and 7.6.4 of the Market Rules;
    b. Liquid fuel and Non-liquid fuel EGC generation facilities;
    c. Liquid fuel and Non-liquid fuel non-EGC generation facilities;
    d. individual facilities and their position in the Dispatch Merit Order (section 5.6 of this procedure);
    e. individual facilities and their position in the EGC plant schedule (section 5.7 of this procedure); and
    f. any adjustment to the position of Curtailable Load in the Dispatch Merit Order as a consequence of restricted availability (section 5.9 of this procedure).

4. Further details relating to the formation of the SWIS Merit Order list from the Dispatch Merit Order and the EGC plant schedule for increasing system load and decreasing system load are set out in Appendix IV(a) and IV(b) of this procedure.

5.9 Placement of Curtailable Load in the SWIS Merit Order List

1. System Management will insert the Curtailable Load into the SWIS Dispatch Merit Order List in the same merit order as the Curtailable Loads appear in the Dispatch Merit order provided by the IMO, except that when, due to limitations on the availability of a Curtailable Load, such curtailment would prevent a particular Curtailable Load from being available to System Management at a later time when it would have greater benefit with respect to maintaining Power System Security and Power System Reliability [**MR 7.7.4c**].

2. 2. The process System Management will follow in determining whether to place one or more Curtailable loads into the SWIS Merit Order on a particular Trading Day, or defer

their availability to a later Trading Day when there is expected to be more benefits to Power System Security, is set out in Appendix VI of this procedure..

5.10 Generation Data:

1. For each Scheduled and Non-Scheduled Generator:

    a. all Scheduled and Non-Scheduled Generator Standing Data forwarded to System Management by the IMO;
    b. all Generator outage data held in the current Outage Schedule;
    c. any recent outage information of which System Management is aware; and
    d. any data received from Market Generators as a consequence of Short Term PASA studies relating to the Trading Day.

5.11 Transmission Network Data

1. For each Transmission network:

    a. all Network configuration data and network equipment data received from Network Operators;
    b. all Transmission outage data held in the Outage Schedule;
    c. any more recent transmission forced outage data available to System Management and relevant to the Trading Day; and
    d. any data received from Network Operators as a consequence of Short Term PASA studies relating to the Trading Day.

5.12 Loads

1. For each Curtailable Load:

    a. all Demand Management Standing Data relating to each Curtailable Load;
    b. all details of the Reserve Capacity Obligations, including availability and curtailment level, provided by the IMO for each Curtailable Load; and
    c. The Outage Plans for each Curtailable Load.

5.13 Ancillary Service Data

1. For all Ancillary Services:

    a. the Ancillary Service Standards defined in clause 3.10 of the Market Rules and the Ancillary Services Operating procedures;
    b. Standing Data relating to each Ancillary Service;
    c. Ancillary Service quantity schedules and guidelines issued by EGC; and
    d. Ancillary Service data provided as a consequence of Ancillary Service contracts.

6. PREPARATION OF SYSTEM MANAGEMENT'S SWIS DISPATCH PLAN

System Management must prepare, by 2.30 PM of each Scheduling Day, or such later time as authorized by the Market Rules, a SWIS Dispatch Plan setting out for each Trading Interval in the Trading Day, the quantity of energy and Ancillary Service forecast to be needed from each generation and Demand Management Facility. The SWIS Dispatch Plan will set out for each Trading Interval in the Trading Day, the forecast energy output and Ancillary Service supply forecast from each Generating and Demand Management Facility.

6.1 Purpose Of SWIS Dispatch Plan

1. The purpose of producing a SWIS Dispatch Plan is:

    a. to provide Market Generators and Market Customers with a forecast of the expected output of their Facilities over the Trading Day;
    b. to issue Dispatch Orders and Dispatch Instructions well in advance of the Trading Interval Trading Interval when the Facility is scheduled, where early Dispatch Orders and/or Dispatch Instructions are required for generator commitment reasons;
    c. to determine well ahead of time the necessary Ancillary Services, Network Control services and supplementary capacity requirements; and
    d. to identify possible High Risk and Emergency Operating States.

2. The SWIS Dispatch Plan will assist Market Participants to plan ahead of time the operation of their Facility, noting that the SWIS Dispatch Plan is subject to variation up to the applicable Trading Interval, and the Dispatch Instructions and Dispatch Orders finally issued may vary from the levels indicated in the SWIS Dispatch Plan.

6.2 Dispatch Criteria to be met in SWIS Dispatch Plan

1. When scheduling Market Participant facilities in the SWIS Dispatch Plan, System Management must seek to meet the following criteria, in descending order of priority [MR 7.6.1]:

    a. to enable operation of the SWIS within the Technical Envelope parameters appropriate for the applicable Operating State;
    b. to minimise involuntary load shedding on the SWIS; and
    c. to maintain Ancillary Services to meet the Ancillary Service standards appropriate for the applicable Operating State.

2. Subject to meeting the criteria in (1), System Management must schedule the Registered Facilities of EGC and Registered Facilities covered by any Balancing Support Contract or Ancillary Service Contract in such a way as to allow the implementation of the Resource Plans that it has received from the IMO for Non EGC Market Participants.

3. The SWIS Dispatch Plan must meet these criteria.

6.3 Components of Dispatch Plan

1. The SWIS Dispatch Plan must set out for each Trading Interval:

    a. the forecast SWIS System Load for that Trading Interval (section 5.1 of this procedure);

    b. the Non-Scheduled Generation output forecasts in each Resource Plan for each Trading Interval (section 5.2 of this procedure);

    c. where an Intermittent Generator output has not been included in a Resource Plan, the forecast output for the Intermittent Generator over each Trading Interval;

d. the generating capacity needed (scheduled) to meet the SWIS Forecast Load, in the order determined by the SWIS Dispatch Merit, and taking account of all planned, scheduled, forced, consequential and opportunistic Facility outages of which System Management is aware; and

e. the generating capacity and Curtailable Loads that are lower and higher in the SWIS Dispatch merit order for each trading period which, in the absence of any transmission or generator constraint, would be the generators or Curtailable Loads dispatched up or down depending on whether System Load is higher or lower than the forecast system load.

6.4 Constraints to be observed in the SWIS Dispatch Plan

1. System Management should review the SWIS Dispatch Plan as part of the preparation process and adjust it as necessary to meet the constraints and conditions specified in items (a) to (g) below. When these conditions are being met, the dispatch criteria in section 6.2 of this procedure should also be met:

    a. the minimum commitment, de-commitment and re-commitment periods for generating units, as specified in the Generator Standing Data, are observed;

    b. the SWIS Operating Standards, Security Limits and Equipment limits are observed;

    c. the fuel supply guidelines submitted by EGC for its generating facilities are met;

    d. any generation capacity expected to be constrained off because of transmission limitations is accounted for;

    e. any generation capacity expected to be constrained on because of transmission limitations is accounted for;

    f. the generation capacity needed to meet the Ancillary Service Standards is accounted for; and

    g. within the limits of capability and availability of EGC generators and after ensuring that the conditions and constraints listed in this section 6.4 have been satisfied, disruption of Non-EGC Resource Plans are minimized or avoided;

6.5 Provision of Scheduling information to Market Participants

1. Following the preparation of the SWIS Dispatch Plan at 2.30 PM, or such later time as authorized by the Market Rules, System Management must notify each Participant whose Generating or Demand Management Facility is scheduled to receive Dispatch instructions or Dispatch Orders in one or more Trading Intervals in the Trading Day.

2. The notification will consist of that portion of the SWIS Dispatch Plan that relates to the Participant's facilities and will specify the forecast output scheduled for that Participant's Facility.

3. System Management will communicate the information in subsection (2) to the Participant by telephone and, where requested, via System Management's SMMITS system.

Discussion of Process for developing Dispatch Plan

The preparation of a Dispatch Plan that fully complies with the objectives and constraints set out in section 6 of this procedure is a complex task involving detailed analysis of many power system conditions and constraints. Power system scheduling software to carry out such tasks is exceedingly expensive and ultimately cannot achieve a fully complying Dispatch Plan that

7. PRE-DISPATCH PERIOD

This section covers the period between preparation of the initial SWIS Dispatch Plan up to "real time" dispatch.

7.1 Update Of SWIS Dispatch Plan

1. System Management must update the SWIS Dispatch Plan for a Trading Day when changes occur which significantly alter the timing or quantity of the output forecast for the Generator and Demand Management facilities. These changes include:

    a. revised weather forecasts;
    b. higher or lower actual demand than predicted;
    c. higher or lower Non-Scheduled Generation than predicted;
    d. unforeseen Facility outages; and
    e. changes to Fuel Declarations that change the Generator or Demand Management facilities scheduled to operate (section 7.2 of this procedure).

7.2 Change of Fuel Declaration

1. A non-EGC Market Generator may change the Fuel Declaration applicable to one of its Generation Facilities by notifying System Management of this at any time between 1:30 PM on the Scheduling Day and up to 30 minutes prior to the commencement of the Trading Interval from which the Fuel Declaration will take effect [**MR 7.5.4**].

2. The information that the Participant must provided is specified in Appendix II of this procedure.

3. The Participant must initially notify System Management of the intent to change Fuel Declaration by telephone, and then provide confirmation by submitting a change of Fuel Declaration notice to System Management through the SMMITS system.

4. The "change of fuel declaration" by the Participant may only be issued where:

a. the Scheduled Generator is switching from Non-Liquid Fuel to Liquid Fuel because it has lost its supply of Non-Liquid Fuel; or
b. the Scheduled Generator is switching from Liquid Fuel to Non-Liquid Fuel because it has obtained a new supply of Non-Liquid Fuel.

5. Where the change in fuel usage signaled by a revised Fuel Declaration could modify the list of generators scheduled to operate in the SWIS Dispatch Plan, System Management should update the SWIS Dispatch Plan with the new Merit Order.

6. The revised SWIS Dispatch Plan should be completed within 30 minutes of receipt of the telephone call declaring the Participant's intention to change fuels.

7. Procedures relating to Dispatch Instructions associated with a change of Fuel Declaration are set out in sections 9.5 and 9.6 of this procedure.

8. In compiling the SWIS Dispatch Plan and in the subsequent issuing of Dispatch Instructions, System Management must assume that a Facility is operating on the fuel indicated for that Facility in the applicable Fuel Declaration, and where there has been a new Fuel Declaration submitted in accordance with this section 7.2, operating on the revised fuel according to the declaration.

9. System Management must retain a record of all notifications provided to it in accordance with this section 7.2.

8. DISPATCH PROCESS

Subject to sections 8.1, 8.2 and 8.3 of this procedure, System Management must issue Dispatch Instructions and/or Dispatch Orders in the order contained within the current SWIS merit order and the associated Dispatch Plan.

8.1 Dispatch Criteria

1. When issuing Dispatch Instructions and/or Dispatch Orders to Generation and Demand Management facilities, System Management must seek to meet the following criteria, in descending order of priority:

    a. to enable operation of the SWIS within the Technical Envelope parameters appropriate for the applicable Operating State, including:

        i. meeting all Generator technical constraints, equipment limits, ramping and synchronization constraints contained in the Standing Data; and
        ii. meeting all transmission equipment and network security limits;

    b. to minimise involuntary load shedding on the SWIS; and

    c. to maintain sufficient Ancillary Services to meet the Ancillary Service standards appropriate for the applicable Operating State, including:
        i. meeting the SWIS Operating Standards that are consequent upon those Ancillary Service Standards; and
        ii. maintaining the required level of Ready Reserve.

8.2 Variation from SWIS Merit Order and Dispatch Plan due to Dispatch Criteria and Other Factors

1. System Management may deviate from the SWIS Dispatch Plan and the SWIS Merit Order when issuing Dispatch Instructions where:

    a. It is necessary to meet the dispatch criteria (section 8.1 of this procedure);
    b. System Management believes it is necessary having regard to:
        i. the Standing Data minimum response times; or
        ii. transmission, ramping or other operational constraints;
    c. the Dispatch Instruction is issued in connection with an Ancillary Service Contract, a Network Control Service Contract, a Balancing Support Contract;
    d. any test of equipment allowed under these Market Rules;
    e. the Ancillary Service Requirements are not being met because of a shortage of Ancillary Services; or
    f. a High Risk or Emergency Operating State exists (section 8.5 of this procedure).

8.3 Implementation of Resource Plans

1. Subject to meeting the dispatch criteria (section 8.1 of this procedure), System Management must dispatch EGC generating facilities and any Facility covered by any Balancing Support Contract or Ancillary Service Contract, in such a way as to allow the implementation of the Resource Plans that it has received from the IMO for Market Participants other than EGC [**MR 7.6.2**].

2. System Management must avoid issuing Dispatch Instructions to non-EGC facilities when there are EGC facilities available, or can be made available, to maintain the SWIS system within a Normal Operating State and meet the dispatch criteria, except that System Management may issue Dispatch Instructions to vary a Resource Plan in the circumstances outlined in section 8.4 of this procedure.

8.4 Variation of Resource Plans

1. System Management may issue Dispatch Instructions to non-EGC facilities to deviate from their Resource Plans in the following situations:

    a. where the Facility is in the SWIS merit order and the EGC and Non-EGC Generation facilities that are in a higher merit order position in the SWIS merit order have already been dispatched (refer to section 5.8 of this procedure);

    b. where the dispatch criteria in section 8.1 of this procedure are not being met, and EGC facilities are not available to supply demand and meet the criteria in section 8.1, including maintaining a Normal Operating State;

    c. where output capacity of EGC facilities is available, but their output is not available in the time required because of; (refer to section 8.2):
        i. transmission constraints; or
        ii. generation constraints including ramping rates;

    d. the Ancillary Service Requirements are not being met because of a shortage of Ancillary Services; or

    e. an Emergency Operating State exists (section 8.5 of this procedure).

8.5 Dispatch instructions in an Emergency Operating State

1. When the SWIS is in an Emergency Operating State, System Management may issue Dispatch Instructions to any Market Participant in connection with any Facility and:

    a. direct EGC and non-EGC Participant to provide Ancillary Services, whether that Participant has an Ancillary Services Contract in relation to the relevant Facility or not;

    b. utilise the overload capacity of Scheduled Generators (as indicated by Standing Data);

    c. issue directions to Participants to operate their facilities in specific ways; and

    d. take such other actions as it considers are required, consistent with good electricity industry practice, to restore the SWIS to a Normal Operating State, or to restore the SWIS to a High Risk Operating State where a Normal Operating State is not immediately achievable.

9. DISPATCH INSTRUCTIONS AND DISPATCH ORDERS

This section is concerned with the timing, response and detail in Dispatch Instructions issued to Non EGC facilities, and Dispatch Orders issued to EGC facilities.

9.1 Dispatch Instructions

1. A Dispatch Instruction is an instruction issued by System Management to a non-EGC Participant directing that the Market Participant vary the output or consumption of one of its facilities from the level indicated in its Resource Plan or from a level for which a Dispatch Instruction has previously been issued, or to vary the output of any Facility holding Capacity Credits but not included in a Resource Plan, for specified Trading Intervals [**MR 7.7.1**].

2. System Management must determine which facilities will be the subject of Dispatch Instructions by applying the order of merit that has been established in the SWIS Dispatch Plan, to the action required.

3. System Management may issue a Dispatch Instruction that varies from the order in the SWIS Dispatch Plan for those situations specified in sections 8.1, 8.2, 8.3 and 8.4 of this procedure.

9.2 Dispatch Order

1. A Dispatch Order is a direction issued by System Management to EGC in respect of an EGC Facility, directing that EGC start or stop a generating unit or Facility, or vary the output from that generating unit or Facility.

2. System Management must determine which EGC Facility will be the subject of a Dispatch Order by applying the merit order that has been established in the applicable SWIS Dispatch Plan to the action required except where System Management believes it is not feasible or desirable to do so having regard to:

a. the Standing Data minimum response times;
b. transmission, ramping or other operational constraints;
c. meeting the SWIS Operating Standards and Security Limits; or
d. maintaining a Normal Operating State, or returning the SWIS to a Normal Operating State.

3. The component parts of a Dispatch Order will be identical to the component parts of a Dispatch Instruction issued to Non-EGC facilities (section 9.4 of this procedure).

4. Each Dispatch Order issued to EGC in regard to a direction to increase or decrease output or synchronise or desynchronize a generating unit will be logged in the same way as a Dispatch Instruction (section 9.7 of this procedure).

9.3 Timing of Dispatch Instructions and Dispatch Orders

1. A Dispatch Instruction or a Dispatch Order for a Trading Interval must not be issued earlier than 2:00 PM on the Scheduling Day for the Trading Day on which the Trading Interval falls or later than the end of the Trading Interval [**MR 7.7.5**].

2. The Dispatch Instruction or Dispatch Order must be issued in a timely fashion such that the recipient of the Dispatch Instruction or Dispatch Order has adequate time to undertake the necessary action.

9.4 Component Parts of Dispatch Instructions and Dispatch Orders.

1. Each Dispatch Instruction or Dispatch Order issued by System Management must be:

    a. consistent with the latest data described in section 5 of this procedure and any update of this information available to System Management at the time the Dispatch Instruction is determined;
    b. applicable to a specific Facility; and
    c. issued at a time that takes into account the Standing Data minimum response time for the Facility.

2. Each Dispatch Instruction and Dispatch Order must contain the following information [**MR 7.7.3**]:

    a. the Facility to which the Dispatch Instruction relates;
    b. the time the Dispatch Instruction was issued;
    c. the time by which response to the Dispatch Instruction or Dispatch Order is required to commence (which must not be earlier than the time it was issued, except as contemplated by section 13(6) of this procedure);
    d. the required level of sent out generation or consumption which may be either:

        i. a target MW output or minimum MW level for a generator; or

        ii. a target MW curtailment for a Curtailable Load; and
    e. the ramp-rate to maintain until the required level of sent out generation or consumption is reached.

9.5 Cancellation of Dispatch instruction to Generating Facility

1. Where System Management has issued a Dispatch Instruction to a Non-EGC Generator that modifies that Participant's Resource Plan, but circumstances have changed, and it

would not be able to issue the Dispatch Instruction in the changed circumstances, System Management must cancel the Dispatch Instruction [**MR 7.6.5**].

2. The circumstances could include changes to System Load forecasts, facility availability or some other power system condition, and it is evident to System Management that had the information on the changed circumstance been available prior to the Dispatch Instruction being issued, or had an updated SWIS Dispatch Plan been available at the time, the original Dispatch Instruction would not have been issued.

3. System Management must, in the circumstance described in (2), cancel the Dispatch Instruction, and issue directions to the relevant Market Participant to return the Facility to its Resource Plan for the relevant Trading Interval or to the output level appropriate to an earlier Dispatch Instruction.

4. Where it is not possible to cancel the Dispatch Instruction without adversely impacting the dispatch criteria, System Management may delay the cancellation of the Dispatch Instruction until a situation arrives where the Dispatch Instruction can be cancelled without creating a conflict with the dispatch criteria, or maintenance of a Normal Operating State.

5. System Management may not cancel a Dispatch Instruction to a Curtailable Load after it is issued (refer to section 9.9 of this procedure).

9.6 Dispatch Instructions following a Change of Fuel Declaration

1. System Management must treat a change in circumstances brought about by a change in Fuel Declaration submitted by a non-EGC Market Participant for a Generating Facility, in a different manner from the procedure established for a change of circumstance as contemplated in section 9.5(1) of this procedure.

2. System Management must not issue a Dispatch Instruction to increase or decrease output from a non-EGC Facility solely because a Market Participant has notified it of a change in fuel for that Facility in accordance with section 7.2 of this procedure.

3. Where a Market Participant notifies System Management of a change in fuel after System Management has issued a Dispatch Instruction to that Facility, then System Management may change that Dispatch Instruction according to the new SWIS Merit Order.

9.7 Communication and logging of Dispatch Instructions

1. System Management must issue a Dispatch Instruction by communicating it to the relevant Market Participant by telephone, allowing sufficient time for the Market Participant to confirm and to respond to that Dispatch Instruction [**MR 7.7.6**].

2. When issued a Dispatch Instruction in accordance with (1), a Market Participant must confirm receipt of the Dispatch Instruction and as soon as practicable confirm its ability to comply with the Dispatch Instruction.

3. System Management, in consultation with the Market Generator, may elect to transmit Dispatch Instructions through an electronic medium (refer to Power System Operating Procedure -Communications and Control Systems).

4. Where System Management has operational control of a Facility, System Management may communicate the Dispatch Instruction at a later time and by a method agreed with the Market Participant (section 13(5) of this procedure).

5. Where the Dispatch Instruction is deemed to have been issued in respect of an Ancillary Service Contract or Network Control Service Contract held by the Generating Facility or Demand Management Facility, and relates to the automatic activation of the Ancillary Service or Network Control Service, System Management:

    a. may communicate the Dispatch Instruction to the relevant Market Participant at a later time in accordance with the Ancillary Services contract or Network Control Service Contract; and
    b. must log the automatic activation event, where the event could be tripping on under-frequency of Interruptible Load.

6. System Management must record all Dispatch Instructions, including confirmations of the initial Dispatch Instruction received from Market Participants, in a form sufficient for independent audit and for settlement purposes.

7. System Management must enter each Dispatch Instruction into the Logging System established for this purpose, and the data recorded will be consistent with the data illustrated in Appendix III of this procedure.

9.8 Dispatch Instruction to Commit or Decommit a Non-EGC Generating unit

1. System Management may require a Non-EGC generating unit to synchronise and operate (commit) or de-synchronise (de-commit) as part of a Dispatch Instruction to vary the Resource Plan of a Non-EGC Participant.

9.8.1 Commitment of Generator

1. At high SWIS loads or in circumstances where there may be a net deficit of connected generation, System Management may require a Non-EGC generator, which has not been scheduled as part of a Resource Plan submitted by a Non-EGC Participant to operate in a particular Trading Interval, to be synchronised and to generate energy in that Trading Interval.

2. In the circumstances set out in subsection (1), System Management may issue a Dispatch Instruction for a non-EGC generator to be committed.

3. The Dispatch Instruction must be consistent with the procedures in section 8 of this procedure for variation of a Resource Plan.

4. System Management must select the Non-EGC generating unit to commit using the merit order for unit commitment based on increasing commitment price which the IMO has provided to System Management, and select the generating unit highest on the merit order list.

5. In situations where there are transmission or generator technical constraints that limit the ability of a generator to be committed in the time and capacity required, System Management must select the next generator in the SWIS merit order list for committing units.

6. When the committed generating unit is synchronized and operating, its position in the Dispatch Merit Order and the SWIS Merit Order will be the same position as other generating units that are associated with that Generator Facility.

7. System Management may need to re-dispatch other Generating Facilities in the SWIS Merit Order to enable the newly committed generator to operate in its correct position in the SWIS Merit Order list.

8. As required by the Market Rules, the IMO will provide System Management with a merit order list for committing non-EGC generating units, and maintain this list in an up-to-date state.

9.8.2 De-commitment of Non-EGC Generator

1. At very low SWIS loads or in circumstance where there may be a surplus of connected generation, System Management may require a Non-EGC Participant to disconnect a generating unit that forms part of that Participant's Resource Plan.

2. System Management may issue a Dispatch Instruction for a non-EGC generator to be de-committed.

3. The Dispatch Instruction must be consistent with the procedures in section 8.4 of this procedure for variation of a Resource Plan.

4. System Management must select the Non-EGC generating unit to de-commit using the price merit order for de-commitment provided to System Management by the IMO.

5. System Management must select the Generator that is highest in the merit order list for unit de-commitment, and where additional capacity is required to be de-committed, continue to select the additional generators to be de-committed based on that merit order.

6. In situations where there are transmission or generator technical limits that constrain the ability of a generator to be de-committed in the time and capacity required, System Management must select the next generator in the merit order list for de-commitment. The technical limits include the capacity and security limits of the transmission network, and ramp down rates and de-synchronisation times of generators

7. As required by the Market Rules, the IMO will provide System Management with a merit order list for commitment of non-EGC generating units, and must maintain this list in a current state.

9.9 Dispatch Instructions to Curtailable Loads

1. System Management should issue a Curtailment Alert Notice prior to issuing a Dispatch Instruction to curtail load to a Market Customer with a Curtailable load Facility. The details of the process to be followed in sending out a Curtailment Alert Notice are set out in "Power System Operation Procedure - Communications and Control Systems".

2. Dispatch instructions must be communicated to a Market Customer with a Curtailable Load using the communication system agreed between System Management and the Market Customer (refer to Power System Operation Procedure - Communications and Control Systems).

3. The Dispatch Instruction for a Curtailable Load should be issued to the Market Customer in sufficient time to meet the minimum response time specified in the Standing Data for that Curtailable Load (MR Appendix I, (h)vii).

4. Where it is practical to do so and no power system security issues arise as a consequence, the curtailment action specified in the Dispatch Instruction should commence and cease at the beginning and end respectively of a Trading Interval.

5. Once a Dispatch Instruction has been issued to a Curtailable load requiring activation of curtailment, System Management may not cancel the Dispatch Instruction.

9.10 Voltage Order issued with respect to voltage control

1. System Management may give a Voltage Order to a Market Participant in respect of a Scheduled Generator or Non-Scheduled Generator with regard to the reactive power output of that Facility.

2. The Voltage Order must nor be in conflict with the power factor or voltage control capability specified in the Standing Data for that Facility or required under the Technical Rules.

3. The Voltage Order may specify for the Generation Facility the method of voltage management the Facility is required to maintain at or close to its connection point, including:
    a. a required reactive power output;
    b. a required voltage target or range at or close to the Facility's connection point to the SWIS.

4. Market Generators must comply with the Voltage Order, except when that compliance is excused by the Market Rules.

10. CONSTRAINED OPERATION OF A NON-SCHEDULED GENERATOR.

1. System Management may consider it necessary to issue a Dispatch Instruction to a Non-Scheduled Generator to restrict the MW or MWh output of the Generator over specified Trading Intervals where the Dispatch Criteria (section 8.1 of this procedure) is not being met, or a High Risk or Emergency Operating State exists, as a consequence of the operation of that Non-Scheduled Generator.

2. The reasons for non-observance of the dispatch criteria may include, but not be limited to the following:

    a. the Ancillary Service Requirements are not being satisfied;

    b. operation of the Non-Scheduled Generator Facility is causing voltage swings in the region of the Facility's connection to the Network to exceed the range permitted by the Technical Rules or Security Limits;

    c. Operation of the Non-Scheduled Generator is causing Equipment Limits or Security Limits to be exceeded; or

    d. Operation of the Non-Scheduled Generator is causing frequency to exceed the normal frequency operating range.

10.1 Dispatch Instruction to Non-Scheduled Generator

1. The Dispatch Instruction issued by System Management to a Non-Scheduled Generator in the situation detailed in subsection 10(1) may require the Non-Scheduled Generator to restrain the maximum MW output of the Non-Scheduled Generator below a value specified in the Dispatch Instruction, or to restrict the variability that is occurring in the MW output from the Facility.

10.2 Consultation with Market Generator prior to issuing Dispatch Instruction

1. Prior to issuing the Dispatch Instruction in section 10.1, System Management must notify the Non-Scheduled Generator of System Management's intention to reduce the output of the Generator through the issuing of a Dispatch Instruction.

2. System Management should endeavour to provide this notification at least one trading period prior to the Dispatch Instruction being issued, where such pre-warning is feasible.

3. System Management should consult with the Non-Scheduled Generator on the level of constraint and the options for achieving these levels, given the technical and environmental (wind) conditions that might exist at the Facility.

10.3 Notification of situation affecting Power System Security.

1. When a Market Generator operating a Non-Scheduled Generator becomes aware of a possible situation arising that could adversely impact power system security, the Market Generator should immediately inform System Management of this. The information should be communicated by telephone. For a wind farm, the situation may include the possibility of an automated Facility shutdown caused by excessive wind speeds.

10.4 Quantification of Constrained off Quantities.

1. Where System Management requires a Non-Scheduled Generator to reduce output and where the Market Generator is to be compensated for the reduction, System Management must provide the IMO with an estimate of the reduction in MWh output of the Generating Facility as a consequence of System Management issuing the Dispatch Instruction to reduce output.

2. System Management's assessment of the constrained off MWh quantity must be prepared as part of the settlement data that System Management provides to the IMO in accordance with clause 6.17.6(c)(i) of the Market Rules.

3. For the purpose of determining the quantity described in clause 6.17.6(c)(i) of the Market Rules for each Trading Interval, the quantity is:

    a. in the case of a Non-Scheduled Generator included in a Resource Plan, to be the greater of zero and the MWh difference between the Resource Plan MWh quantity of the Non-Scheduled Generator less the MWh output of the Non-Scheduled generator over the Trading Interval implied by its Dispatch Instruction; and
    b. in the case of a Non-Scheduled Generator not included in a Resource Plan, System Management's estimate of the MWh reduction in output, by Trading Interval, of the Non-Scheduled Generator as a result of System Managements Dispatch Instruction.

10.4.1 Provision of Data from Intermittent Generators

1. If a Market Participant operating an Intermittent Generator (Wind Farm) wishes to be compensated for a Dispatch Instruction to constrain down the output of the Intermittent Generator, the Participant must provide System Management with data to enable System Management to assess the constrained down energy quantities arising from the Dispatch Instruction.

2. The Market Participant must, for the situation in subsection (1), provide System Management with real time data that can be used to assess the operating output and state of the Wind Farm. The data should be in a form suitable for System Management's SCADA system and include:
    a. the instantaneous MW output of the Intermittent Generator;
    b. the wind speed or aggregate (representative) wind speed at the Wind Farm; and
    c. the number of turbines operating at the wind farm.

3. The Market Participant providing the data in subsection (2) should endeavour to ensure the accuracy of this data, and maintain records to verify this accuracy.

4. Where the Participant is unable to provide System Management with some of the data in subsection (2), or data is missing, System Management may substitute data or develop alternative sources of data to replicate the information in subsection (2).

5. Participants should co-operative with System Management in the provision of the data in subsection (2), or provision of alternative data referred to in subsection (4).

10.4.2 Choice of Algorithm for Assessing Constrained MWh Quantities

1. When System Management makes a post event assessment of the quantity of energy that has been constrained down in each Trading Interval for which the Dispatch Instruction applies, where the assessment is formed from:

    a. a predictive algorithm provided by the Market Participant, providing an assessment of generator MWh output from measured wind speed over the Trading Interval;

    b. a predictive algorithm provided by System Management, providing an assessment of generator MWh output from measured wind speed over the Trading Interval;

    c. an assessment by System Management based on output of the Intermittent Generator in a past Trading Interval under similar meteorological conditions; or

    d. an estimate using Participant data provided to System Management that uses output data from particular wind turbines that continue to operate unconstrained after the Dispatch Instruction, with the output data subsequently grossed up to represent the output from all wind turbines that otherwise would have operated.

2. The Market Participant may provide System Management with an algorithm for converting the data to an estimate of the MW or MWh output of the Facility.

3. System Management may use the algorithm provided as a consequence of subsection (2), or another method as listed in subsection (1) for the assessment of the constrained down MWh, based on what System Management considers as most suited for the purpose.

4. System Management must consult with the relevant Market Generator concerning the choice of option selected by System Management in subsection (1).

10.4.3 Assessment of constrained-off Quantities of Intermittent Generation.

1. System Management must make an estimate of the actual output of the Intermittent Generator over each Trading Interval for which the Dispatch Instruction applies. This may be through access to MWh metering at the Generator Facility, or by measuring the instantaneous MW output from the Intermittent Generator MW output using System Management's SCADA system, and integrating these measurements over each Trading Interval to produce a MWh estimate.

2. System Management must make an assessment of the MWh output that would have been achieved by the Intermittent Generator should the Dispatch Instruction not have been issued. The assessment must be produced using the algorithm chosen for this purpose (refer section 10.4.2(3) of this procedure).

3. System Management must make an estimate of the constrained off quantities caused by the Dispatch Instruction for each Trading Interval the Dispatch instruction applies to, by subtracting the measured output (subsection (1)) from the assessment of output that would otherwise have occurred (subsection (2)).

4. System Management must provide these assessments to the IMO as part of the ex-post settlement data (section 14 of this procedure).

10.5 Constraining operation of multiple Intermittent Generators.

1. Where there are a number of Intermittent (wind) Generators operating at high output during light system demand conditions, a reduction in the output of one or all Intermittent Generation may be needed to meet the dispatch criteria.

2. Where an EGC Intermittent Generating Facility is one of the Intermittent Generators contributing to a conflict with the criteria in subsection 10(2) of this procedure, and a reduction or constraint in the output of the EGC Intermittent Generator will relieve or reduce the conflict with the dispatch criteria, then the output of the EGC Intermittent Generator must be reduced to the level where the Generating Facility is not the contributing element to the conflict with power system security.

3. Where the requirement for a reduction or constraint in the output of Intermittent Generators can be attributed to a single non-EGC Intermittent Generator, a Dispatch Instruction requiring output to be constrained down must be issued to that Intermittent Generator.

4. The quantity of output reduction sought from the Intermittent Generator in subsection (3) is the quantity that ensures that Intermittent Generator is not the source of the conflict with the dispatch criteria

5. Where System Management considers that the conflict with the Dispatch Criteria is due to the operation of two or more non-EGC Intermittent Generators, then System Management must constrain down the Intermittent Generators in the order set by the SWIS merit order list.

6. The Intermittent Generating Facility first on the "constraining down" merit list will be constrained down first, followed by the next Intermittent Generator on the "constraining down" merit order list, until the conflict with the dispatch criteria is removed.

7. As required by the Market Rules, the IMO will provide System Management each Scheduling Day with the merit order list setting out the ranking for the constraining off of Intermittent Generators.

8. System Management must issue a Dispatch Instruction to each of the applicable Intermittent Generators in the form specified in section 10.1 of this procedure.

11. COMPLIANCE OF MARKET PARTICIPANTS WITH DISPATCH INSTRUCTIONS, RESOURCE PLANS AND DISPATCH ORDERS

11.1 Compliance of Non-EGC Generator with Resource Plan and Dispatch Instruction

1. A Market Participant other than the EGC must comply with [**MR 7.10.1**]:

    a. its Resource Plan, except that if a Dispatch Instruction has been issued for a Facility for a Trading Interval, then must comply with the most recently issued Dispatch Instruction applicable to the Facility for the Trading Interval; and

    b. if a direction has been given to the Market Participant for a Trading Interval, then with that direction, including an instruction associated with:
        i. an ancillary Service contract;
        ii. Balancing Support contract;
        iii. Network Control Service contract;
        iv. any equipment test that has been approved by System Management in accordance with the Commissioning and Testing Operating Procedures; and
        v. a direction under subsection (5) or any other direction from System Management authorized under the Market Rules or Operational Procedures.

2. A Market Participant is not required to comply with the requirements of subsection (1) if such compliance would endanger the safety of any person, damage equipment, or breach any applicable law [**MR 7.10.2**].

3. Where a Market Participant cannot meet its Resource Plan, Dispatch Instruction, or direction given under subsection (1), it must inform System Management as soon as practicable, providing the reasons for the failure, or intended failure, to comply [**MR 7.10.3**].

4. System Management must undertake regular checks of Market Participant Facility status to monitor whether the Facility outputs are consistent with the Resource Plans, Dispatch Instructions or directives issued by System Management.

5. Where System Management considers that a Market Participant has not complied with subsection (1) in relation to any of its facilities in a manner that [**MR 7.10.5**]:

    a. threatens Power System Security or Power System Reliability by creating, or tending to create, a High Risk or Emergency Operating State;

b. would require System Management to issue a Dispatch order to an EGC Facility or a Facility covered by a Balancing Support Contract or Ancillary Service Contract; or
c. would require System Management to issue a Dispatch Instruction to another Market Participant's Facility that otherwise would not have been issued,

System Management must warn the Market Participant about the deviation and request an explanation for the deviation; and cessation of the deviation within a time that System Management considers reasonable.

6. A Market Participant must comply with the request under subsection (5).

7. A Market Participant that cannot comply with a request under subsection (5) must notify System Management as soon as practicable and must include an explanation of the reason for the failure to comply in that notification.

8. Where the Market Participant does not comply with the request referred to in subsection (5), System Management may issue directions to the Market Participant in respect of the output of that Facility, without regard for the Dispatch Merit Order, with the objective of minimising the dispatch deviations of the Facility.

9. System Management must report any failure to comply with the request referred to in subsection 5 to the IMO, in accordance with the "Power System Operation Procedure – Monitoring and Reporting".

11.2 Compliance of EGC Generator with Dispatch Order

1. EGC must comply with Dispatch Orders issued by System Management.

2. The requirements and conditions relating to compliance with Dispatch Orders are set out in the "Power System Operation Procedure - Scheduling and Dispatch of EGC Facilities", section 8.

12. SYNCHRONISATION AND NON-SYNCHRONISATION OF NON-EGC GENERATORS

This section of the procedure applies to Non-EGC Market Generators, and sets out the process that must be followed when the Participant's generating units are to be synchronised or de-synchronised from the SWIS in accordance with the Participant's Resource Plan.

12.1 Synchronisation of a Non-EGC Generating Unit

1. Subject to subsection (3) following, if a Non-EGC Participant intends to synchronise a Scheduled Generator, then it must confirm with System Management the expected time of synchronization:
    a. at least one hour before the expected time of synchronisation; and
    b. must update this advice five minutes before synchronising.

2. The information in subsection (1) should be communicated by telephone.

3. System Management may request that a Market Generator who has given confirmation of its intention to synchronise a generation unit as in subsection (1) above, provide further notification to System Management immediately before synchronisation of the Facility, and the relevant Market Generator must comply with the request.

4. Subsection (1) does not apply where System Management has issued a Dispatch Instruction to the Facility that requires synchronisation within one hour of the Dispatch Instruction being issued.

5. System Management must grant permission to synchronise unless:

    a. the synchronisation is not in accordance with the relevant Resource Plan or Dispatch Instruction; or
    b. System Management considers that
        i. it would not be able to meet the dispatch criteria (which are set out in section 8.1) were synchronisation to occur;
        ii. synchronisation of the generation unit would likely lead to a High Risk or Emergency Operating State, or
        iii. it may endanger the safety of any person or item of equipment

6. System Management must log the reasons when permission to synchronise is refused.

7. Where a Non-EGC Participant is unable to comply with the synchronisation times in the Resource Plan or any other aspects of the Resource Plan, the Participant should contact System Management as soon as practical with the information.

8. Where the Non-EGC Participant wishes to synchronise another unit in place of the generation unit specified in the Resource Plan, permission to change the unit must be sought from System Management.

9. System Management may only refuse permission to the request from the Participant to change the generation unit being synchronized if it causes a power system security problem.

12.2 De-Synchronisation of a Non-EGC Generating Unit

1. Subject to subsection (3) following, if a non-EGC Participant intends to de-synchronise a Scheduled Generator, then it must confirm with System Management the expected time of de-synchronisation:
    a. at least one hour before the expected time of de-synchronisation; and
    b. must update this advice five minutes before de-synchronising.

2. The information in subsection (1) should be communicated by telephone.

3. Subsection (1) and (3) do not apply where System Management has issued a Dispatch Instruction to the Facility that requires de-synchronisation within one hour of the Dispatch Instruction being issued.

4. System Management may request that a Market Participant who has given confirmation of its intention to de-synchronise a generation unit as in subsection (1) above, provide further notification to System Management immediately before de-synchronisation of the Facility, and the relevant Market Participant must comply with the request.

5. Where a Non-EGC Participant is unable to comply with the de-synchronisation times in the Resource Plan, or any other aspects of the Resource Plan, the Participant should contact System Management as soon as practical with the information.

6. Where the Non-EGC Participant wishes to de-synchronise another unit in place of the generation unit specified in the Resource Plan, permission to change the unit must be sought from System Management.

7. System Management must grant permission to de-synchronise unless:

    a. the de-synchronisation is not in accordance with the relevant Resource Plan or Dispatch Instruction; or
    b. System Management considers that:
        i. it would not be able to meet the criteria set out in section 8.1 of this procedure were de-synchronisation to occur; or
        ii. de-synchronisation of the generation unit would likely lead to a High Risk or Emergency Operating State.

8. Where System Management does not grant permission to de-synchronize under subsection (7), then subject to subsection (10), a Market Participant must comply with that decision.

9. System Management must log the reasons why permission to de-synchronise was refused.

10. A Market Participant is not required to comply with (8) above if such compliance would endanger the safety of any person, damage equipment, or breach any applicable law.

11. Where a Market Participant cannot comply with a decision of System Management under paragraph (8), the Market Participant must:

    a. inform System Management as soon as practicable; and
    b. if System Management refused to allow de-synchronisation of a Facility but the Market Participant did de-synchronise that Facility then System Management must record the de-synchronisation as a Forced Outage.

12.3 Special Approval where De-Synchronisation will leave Generation Facility unavailable for more than 4 hours

1. If a Market Participant intends to de-commit a Facility to such an extent that it will not be available to be synchronised for four hours or more after the time of de-synchronisation then the Market Participant must have been granted permission by System Management to do this in accordance with Market Rule 3.21B. The conditions set out in this Rule require that:

    a. Except where approval for a Planned Outage has been granted, a Market Participant must seek permission from System Management before putting a Scheduled Generator holding Capacity Credits into a state where it will take more than four hours to re-synchronise the Scheduled Generator.

    b. A Market Participant must request from System Management the permission described in (a) above not less than two hours prior to the facility ceasing to be able to be re-synchornised within four hours, including in that request:
        i. the identity of the Scheduled Generator;

ii. the time at which the Market Participant wants to have the Scheduled Generator enter a state where it will take more than four hours to re-synchronise; and
iii. the first time after the time specified in (ii) above at which the Scheduled Generator will be able to be re-synchronised with four hours notice.

c. System Management must assess the request for permission, based on the information available to System Management at the time of the request, and applying the criteria set out in (e) below.

d. System Management must either approve or reject the request and inform the Market Participant of its decision as soon as practicable, but no later than one hour prior to the time described in b.ii above.

e. System Management may only withhold the permission described in (1) above if:

i. the request for that permission is not in compliance with (b) above or some other section of this Operating Procedure (MR 3.21B5 a); or
ii. granting permission would mean that System Management would be incapable of maintaining the Ready Reserve Standard (MR 3.21B5.b).

f. Where System Management informs a Market Participant that permission is not granted, then System Management and the Market Participant must use their best endeavours to find an alternative time for the Scheduled Generator to be put into a state where it will take more than four hours to re-synchronise the Scheduled Generator (MR 3.21.B.6).

g. If System Management grants permission, then between the times between those stated in subsections b(ii) and b(iii), or such alternative times as are mutually agreed in accordance with (f) above, System Management must not require that Scheduled Generator to perform in accordance with its Reserve Capacity Obligations or its Standing data (MR 3.21B.7).

12.4 Logging of System Management Directions regarding Synchronisation

1. System Management must log the occasions when System Management grants permission or refuses permission in accordance with this section, and report:

a. the reasons for granting or not granting permission for a Generator to de-synchronise in terms of the conditions set out in section 12.3(1) or 12.3(1f); and
b. the results of the endeavours to find an alternative time for de-synchronisation to proceed.

13. OPERATIONAL CONTROL OF GENERATION FACILITIES BY SYSTEM MANAGEMENT

1. Market Rules allow for a generating Facility to be remotely operated and dispatched by System Management, where System Management acts as the agent of the Participant with respect to the issuing, receipt and actioning of Dispatch Instructions and Dispatch Orders.

2. System Management may, by agreement with a Market Participant, maintain operational control over aspects of a Generator or Demand Management scheme, including, but not limited to:
    a. the starting, loading and stopping of one or more of that Market Participant's Scheduled Generators; and
    b. limiting the output of one or more of that Market Participant's Non-Scheduled Generators.

3. The maintenance of operational control of a Generator or Demand Management Facility by System Management does not remove the obligation on System Management to produce Dispatch Instructions for these facilities.

4. A Market Participant's rights and obligations under these Market Rules in respect of a Facility are not affected or modified where System Management maintains operational control over the Facility in accordance with this section 13. In particular, the compliance obligations set out in the Market Rules [MR 7.10], remain with the Market Participant responsible for the facilities to which this section 13 relates.

5. The requirement to telephone a Dispatch Instruction, and for the recipient to confirm receipt of the Dispatch Instruction as set out in section 9.7 of this procedure, does not apply where:

    a. System Management has operational control of the relevant Facility in accordance with this section 13, in which case System Management may communicate the Dispatch Instruction at a later time and by a method agreed with the Market Participant; and

    b. where the Dispatch Instruction is deemed to have been issued in respect of a Facility in accordance with an Ancillary Service Contract or Network Control Service Contract and relates to the automatic activation of the Ancillary Service or Network Control Service in which case System Management may communicate the Dispatch Instruction to the relevant Market Participant at a later time in accordance with the Ancillary Services contract or Network Control Service Contract .

14. DISPATCH ADVISORIES

14.1 Issuing of Dispatch Advisories

1. A Dispatch Advisory is a communication by System Management to Market Participants, Network Operators and the IMO that there has been, or is likely to be, an event that will require a significant deviation from Resource Plans or will restrict communication between System Management and any of the Market Participants, Network Operators, or the IMO [**MR 7.11.1**].

2. The Dispatch Advisory may seek certain actions of Market Participants and Network Operators that are not appropriate to be handled through Dispatch Instructions and Dispatch Orders. The actions may be specific to a certain situation, and may require a response beyond the actions normally sought by System Management. An example is the seeking of voluntary demand reductions.

3. System Management must issue a Dispatch Advisory for future potential events if it considers there to be a high probability that the event will occur within 48 hours of the time of issue [**MR 7.11.2**].

4. The information that must be contained in a Dispatch Advisory is set out in Appendix V of this procedure.

5. Dispatch Advisories must be released as soon as practical after System Management becomes aware of a situation requiring the release of a Dispatch Advisory [**MR 7.11.3**].

6. For the avoidance of doubt, where System Management must respond to an unexpected and sudden event, System Management may issue a Dispatch Advisory after the event has occurred [**MR 7.11.3A**].

7. System Management must inform Market Participants, Network Operators and the IMO of the withdrawal of a Dispatch Advisory as soon as practical once the situation that the Dispatch Advisory relates to has finished.

8. System Management must transmit Dispatch Advisory notices through its SMMITS system. Where there is a communication failure or insufficient time to issue such a notice, System Management may convey the content of the notice including any direction via telephone, but must confirm this as soon as practical through transmitting a formal Dispatch Advisory notice as soon as practical.

14.2 Situations requiring release of Dispatch Advisory.

1. System Management must release a Dispatch Advisory in the event of, or in anticipation of situations where:

    a. involuntary load shedding is occurring or expected to occur;
    b. committed generation at minimum loading is, or is expected to, exceed forecast load;
    c. Ancillary Service Requirements will not be fully met;
    d. significant outages of generation transmission or customer equipment are occurring or expected to occur;
    e. fuel supply on the Trading Day is significantly more restricted than usual, or fuel supply limitations mean it is not possible for some Market Participants to supply in accordance with their Resource Plans;
    f. scheduling or communication systems required for the normal conduct of the scheduling and dispatch process are, or are expected to be, unavailable; or
    g. the system is in, or is expected to be in, a High Risk Operating State or an Emergency Operating State.

14.3 Directions to Market Participants or Network Operators under a Dispatch Advisory

1. Where System Management considers a High Risk Operating State or an Emergency Operating State applies, System Management will endeavour to issue a Dispatch Advisory before issuing a Dispatch Instruction, Dispatch Order or Direction that is a result of the High Risk Operating State or Emergency Operating State.

2. System Management may issue a direction to one or more Participants or class of Participant seeking particular action aimed at removing or alleviating the situation giving rise to the Dispatch Advisory.

3. If System Management must issue directions to a Market Participant or a Network Operator under a High Risk Operating State or an Emergency Operating State prior to issuing a Dispatch Advisory then System Management may issue such directions as if a Dispatch Advisory had been issued provided that it informs the relevant Market Participant or Network Operator of the applicable operating state as soon as practical [**MR 7.11.6A**].

4. The directions may include instructions as contained in Appendix V of this procedure, Dispatch Instructions, Dispatch Orders and any other directions as provided for in this Operating Procedure and the Market Rules.

5. Market Participants and Network Operators must comply with directions that System Management issues in any Dispatch Advisory notice as set out in Appendix V of this procedure, or provided directly to the Market Participant or Network Operator under subsection (2).

6. A Market Participant or Network Operator is not required to comply with subsection (5) if such compliance would endanger the safety of any person, damage equipment, or breach any applicable law.

7. Market Participants, Network Operators and the IMO must inform System Management as soon as practical if they become aware of any circumstances that might reasonably be expected to result in System Management issuing a Dispatch Advisory.

15. DISPATCH SETTLEMENT DATA

1. By noon of the first business day following the Trading Day, System Management must supply to the IMO for settlement and monitoring purposes, the data set out in Appendix VII of this procedure for the Trading Day.

2. System Management must provide the IMO with the data specified in Appendix VII of this procedure for each Trading Day by noon on the first Business Day following the day on which the Trading Day ends.

3. System Management must submit the data to the IMO's WEMS system in a format agreed with the IMO.

4. The IMO must confirm with System Management receipt of the data.

5. If the IMO has not received the data by 12.10 PM of the required business day, the IMO must contact System Management and request the data be resent.

6. If the data is not with IMO by 12.20 PM, System Management and IMO should confirm the cause of the data failure and if necessary, agree an alternative method of transferring the data.

15. DISCLOSURE OF INFORMATION

7. In performing its functions under the Market Rules, System Management may be required to disclose certain information to Market Participants and Network Operators. In selecting the information which may be disclosed, System Management will utilise best

endeavours and act in good faith to disclose only the information reasonably required by the application of the Market Rules.

APPENDIX I(a) **System Load Forecasts**

REMOVED

APPENDIX I(b) - Non-Scheduled Generator Output Forecasts

1. Format of report for submitting forecast data on output of non-scheduled / Intermittent Generator Facility data

Intermittent Generator…Id Date: ……

Trading Interval Scheduling Day	MWh	Variability	Trading Intervals for next Trading Day	MWh forecast	Variability	Trading Intervals for Second Trading Day	MWh	Variability
			8.00-8.30			8.00-8.30		
			8.30-9.00			8.30-9.00		
			……..			…….		
12.00-12.30			…….			…….		
…….			7.30-8.00			7.30-8.00		

Note 1: MWh figure is energy output forecast for Facility over Trading Interval as forecast at injection point into SWIS network.

Note 2: Insertion of "H" into column headed "Variability" will indicate that the Intermittent generator is anticipating extremely variable conditions from minute to minute, and the instantaneous output could exceed the average output by at least a factor of 2, or fall below at least 0.5 of average, where the average is the average over the respective Trading Interval.

APPENDIX I(c) **Loss Adjustment of Load Forecasts**

1. System Management must loss adjust the Load Forecast data in 4.2 and 4.3 so that the Load Forecast provided as a consequence of section 4.1 reflects the forecast demand at the Reference Node.

2. For this purpose, System Management must prepare a set of representative loss factors that can be applied to the gross system demand figures for a range of different levels of SWIS system demand

3. System Management may consult with Network Operators over the methodology and level of analysis required.

4. A Loss Factor will be assessed for each of the levels of SWIS system load set out in the table below.

Table 2

SWIS system load range	Applicable loss factor for adjusting system load forecast
500…600MW	LF_{500}
600…700MW	LF_{600}
……	……
X MW…X+100MW	LF_X
……	……

These figures will be used to derive each of the load adjusted Load Forecasts provided to the IMO.

APPENDIX I(d) - MWH supply capability associated with Ancillary Services.

1. System Management will provide for each generating Facility providing ancillary services, the loss adjusted supply capability in MWh (ie the maximum MWh that might be generated by the MW capacity set aside for ancillary service purposes).

2. The energy supply capability will be 0.5 times the MW capacity scheduled in the Trading Interval for the supply of ancillary services .

3. The MWh estimates will be loss adjusted by the relevant loss factor for that Facility (Market Rule 2.27)

4. System Management must provide to the IMO by 8.30 of the morning of the scheduling day the information in Columns (1) and (6) of Table 3 for each Facility from which ancillary services are obtained.

5. Column (6) will be calculated by adding columns (2),(3) and (4) and adjusting by the loss adjustment factor (column (5)

Generator Facility ……Id….			**Trading Day……**		
Trading Period (1)	Spinning Reserve (MWh) (2)	Load Following Reserve MWh) (3)	Dispatch Support Services (MWh) (4)	Loss Factor adj factor (5)	Total MWh supply capability assoc with Anc Services (6)
8.00-8.30					
8.30-9.00					
…….					
7.30-8.00					

APPENDIX 1(e) LOAD FORECAST

1. System Management will provide the Load Forecast information in a form consistent with the table below

LOAD FORECAST DATA Trading Day……					
Trading interval	SWIS System Load Forecast - MWh	SWIS MWh Load forecast - loss adjusted to refer ref point. Note 1	Loss adjusted Aggregate Non-Scheduled Generation- MWh Note 2	Load Forecast -MWh Note 3	Load Forecast -MW Note 4
8.00-8.30 AM					
8.30-9.00 AM					
…….					
…….					
7.30-8.00 AM					

Note 1. The SWIS load forecast is loss adjusted according to the methodology in Section 4.4

Note 2. Each Non-Scheduled Generator energy forecast is loss adjusted back to the Reference Node using each Non-Scheduled Generator's static loss factor (Market Rule 2.27). The loss-adjusted values are then aggregated to form a total expected loss-adjusted output from all Non-Scheduled Generators

Note 3. The Load Forecast value is formed by subtracting column 4 from column 3

Note 4. The MW Load Forecast will also be provided by multiplying column 5 by two

APPENDIX II - CHANGE OF FUEL DECLARATION NOTICE

Change of Fuel Declaration notice to be submitted by a Non-EGC Market Generator when it intends to switch the fuel used by a Scheduled Generator from Non-Liquid to Liquid or Liquid to Non-Liquid

Change of Fuel Declaration notice	
To: System Management cc: IMO	
Name of Market Participant	……
Identity of Generating Facility	……..
Available generating capacity of Facility	……..
Capacity covered by new fuel declaration	……
Trading Interval and date from which fuel change will apply	……
Trading Interval and date from which fuel change will cease	……
New Fuel type that will apply	
Reasons for Fuel change (eg failure of Non-liquid fuel supply)	……..

APPENDIX III FORMAT OF SYSTEM MANAGEMENT'S DISPATCH LOG

IPP Id (1)	Time of Instruction (2)	Present Output level (3)	Required Response time (4)	Ramp Rate (5)	New Output level (6)	Category Of instruction (7)

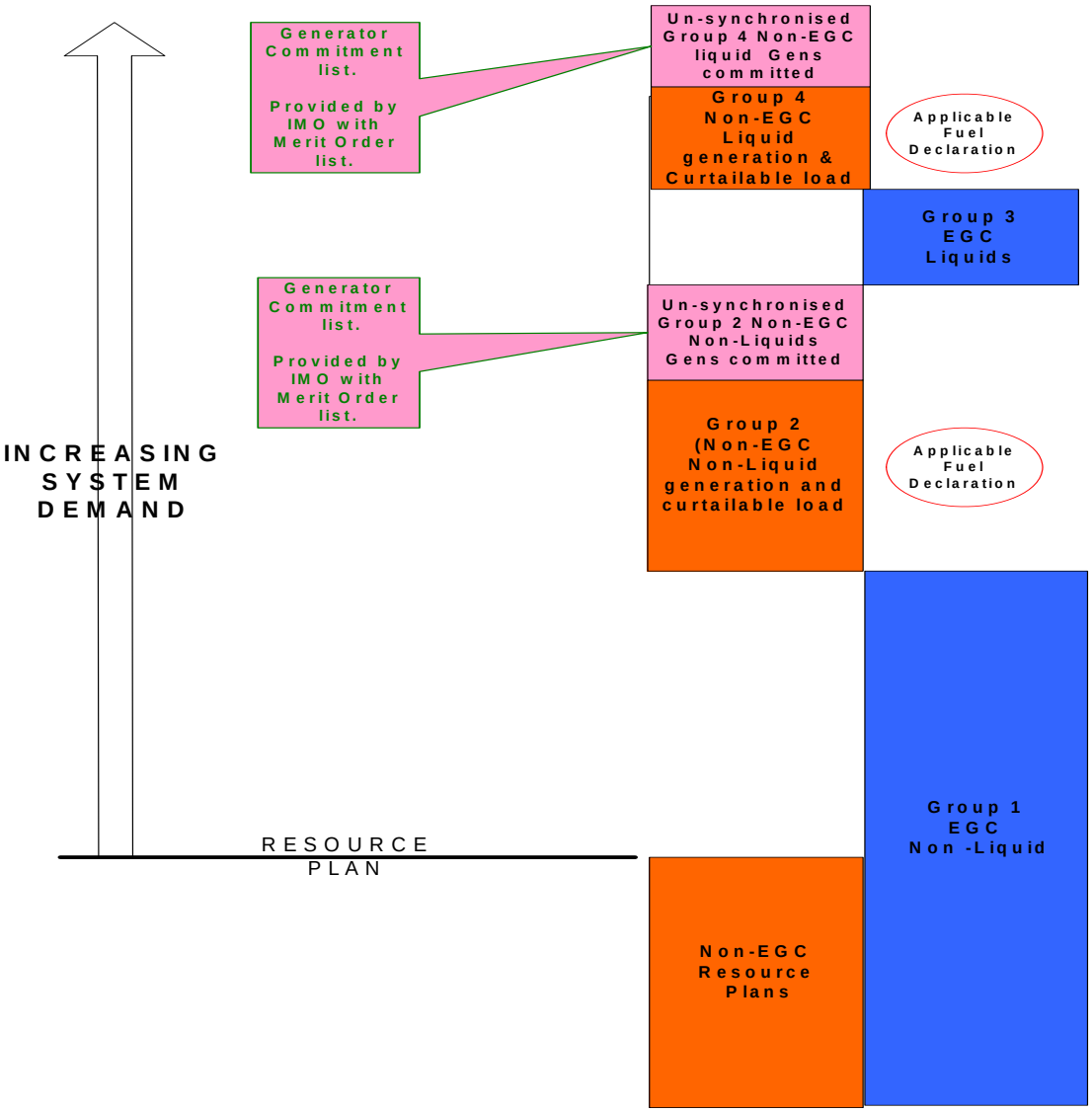
The logging system should have a section where System Management can record brief comments that can assist in later evaluation and processing of the Dispatch Instruction. An example of a comment is where SM has issued a Dispatch Instruction as a result of receiving a "change of fuel declaration".

The information contained in the Dispatch Instruction table will include both manually and automatically entered data; columns (2) and (3) are likely to hold information automatically entered by the logging system

Column 7 is a separate entry System Management must make in order to classify the type of Dispatch Instruction. Examples are;

Classification	Type of Dispatch Instruction
Blank	DI to raise or lower generation
LFR	DI associated with Load following reserve
SR	DI associated with supply of spinning reserve
DC	DI associated with De-commit generator
BC	Dispatch associated with Balancing Support Contract
NCSC	Dispatch associated with Network Control Service Contract
Sy	DI toSynchronise Unit
D-Sy	DI to De-Synchronise unit
C	DI to Cancel earlier Dispatch Instruction
T	DI associated with a test
CL	DI assoc with Curtailable Load

APPENDIX IV (A) SWIS MERIT ORDER FOR INCREASING SYSTEM LOAD



SWIS DISPATCH MERIT LIST
FOR INCREASING SYSTEM LOAD

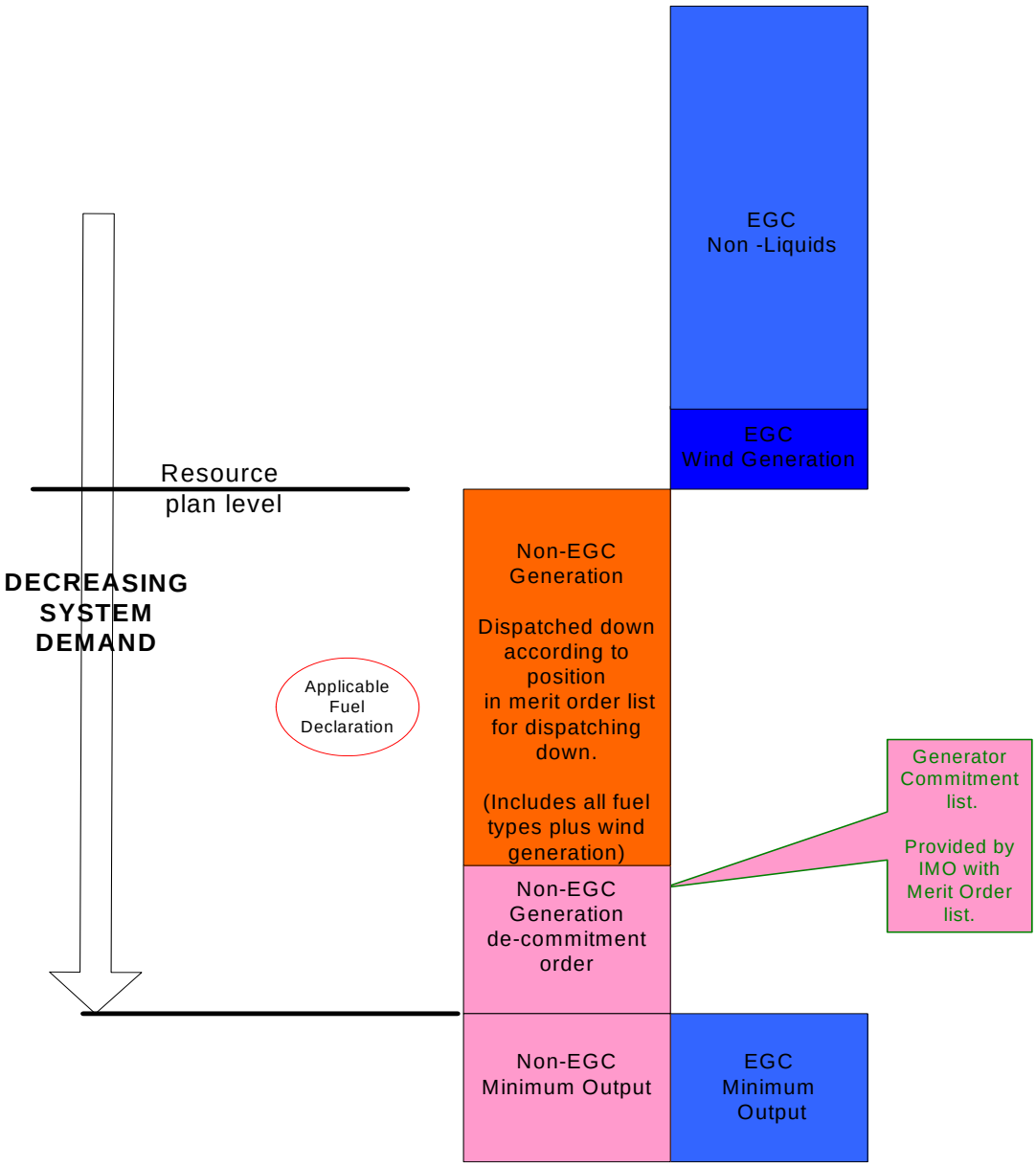
Note 1. For increasing system load, Facilities will be dispatch in the order Group 1,2,3 & 4.

Note 2. All Curtailable Loads in the Dispatch Merit Order that are ranked lower in price than the lowest price ranked non-EGC liquid generator, will be included in Group 2, except that, should a liquid fuel generating Facility be price ranked lower than the highest price non-liquid fuel generating Facility, that (liquid fuel) generator will be shifted upwards in the price order to sit at the bottom of Group 4.

Note 3 Refer to section 9.8.1 and 9.8.2 for basis for committing or de-committing generator units into Groups 2 and 4

Note 4. A non-EGC Generating Facility with Duel Fuel capability should be positioned in Group 2 or 4 depending on the fuel stated to be “active” in its Fuel Declaration.

APPENDIX IV (B) SWIS MERIT ORDER FOR DECREASING SYSTEM LOAD



SWIS DISPATCH MERIT LIST FOR DECREASING DEMAND

Note 1. For decreasing system load, EGC Facilities dispatched down to minimum level permitted by power system security, followed by synchronized non-EGC Facilities in the price order specified in the Dispatch Merit Order for constraining down non-EGC generators.

Note 2. non-EGC synchronised generators then de-committed in order set by de-commitment price (see section 9.8.2)

Note 3. A non-EGC Generating Facility with Duel Fuel capability should be positioned in the Merit Order according to the fuel stated to be “active” in its Fuel Declaration

APPENDIX V DISPATCH ADVISORY

System Management will provide the following information when releasing a Dispatch Advisory to Market Participants, issued under Market Rule 7.11. (refer to section 14)

Recipients:	Market Participants and Network Operators for whom Dispatch Advisory is intended
Release of Dispatch Advisory	Time and date Dispatch Advisory is sent
Time period over which Dispatch Advisory is expected to apply:	Time of application: Time of Cessation:
Operating State(s) applicable during period over which Notice is expected to apply:	Start of Operating State: Definition of Operating State: End of Operating State:
Details of situation which Advisory Notice a pplies to:	Description of situation, including location if applicable and seriousness of situation, possible consequences to Participants
System Management action:	Description of action System Management intends to take
Market Participant and Network Operator required action:	Description of action, if any, that Market Participants and Network Operators are required to take in response to the situation
Market Participant and Network Operator voluntary action	Description of action, if any, that Market Participants and Network Operators may voluntarily take in response to the situation

a. APPENDIX VI

APPENDIX VII **EX-POST DISPATCH DATA TO BE PROVIDED BY SYSTEM MANAGEMENT**

The data to be provided to the IMO through System Management's SMMITS system is specified in the table below (refer to section 15

MR ref.	**Data Specification**	**Comment**
a	the Operational System Load Estimate in each Trading Interval in the Trading Day;	1. Derived by adding together the loss-adjusted output of each network connected generating Facility. 2. Generating output data obtained from instantaneous SCADA data taken at regular intervals during each Trading Interval 3. Instantaneous figures averaged over half hour to gain estimate of net MWh from each Facility.
b	Load Forecasts prepared by System Management in accordance with clause 7.2.1(b);	1. Load forecast prepared in connection with SWIS Dispatch Plan. 2. Load forecast prepared in connection with any update of SWIS Dispatch Plan
c	a schedule of all of the Dispatch Instructions that System Management issued for each Trading Interval in the Trading Day by Market Participant and Facility	Data sent in accordance with Appendix III
cA	a schedule of the MWh output of each generating system monitored by System Management's SCADA system for each Trading Interval of the Trading Day;	A subset of the SCADA PI data showing instantaneous output at each Generating Facility connection point at 15 minute intervals(beginning, mid point and end of each Trading Interval)
cB	the temperature at the site of each generating system monitored by System Management's SCADA system for each Trading Interval of the Trading Day;	The temperature data from those generating Facilities for which SM receives temperature data.
cC	The MWh quantity of non-compliance by the EGC by Trading Interval	The estimate of MWH of non-Compliance is outlined in the Information and Compliance Procedure
d	a description of the reasons for each Dispatch Instruction issued, including a flag indicating where a Dispatch Instruction was issued in connection with: i. any Ancillary Service Contract; ii. any Balancing Support Contract; iii. any Network Control Service Contract; iv. any test of equipment allowed under these Market Rules; or v. any failure of an EGC Facility to follow the scheduling and dispatch procedure developed under clause 7.6.13;	Refer to Appendix III
e	the schedule of all Planned Outages, Forced Outages and Consequential Outages relating to each Trading Interval in	Provide Dispatch schedule relating to Trading Day, updated to account for any forced outages occurring during

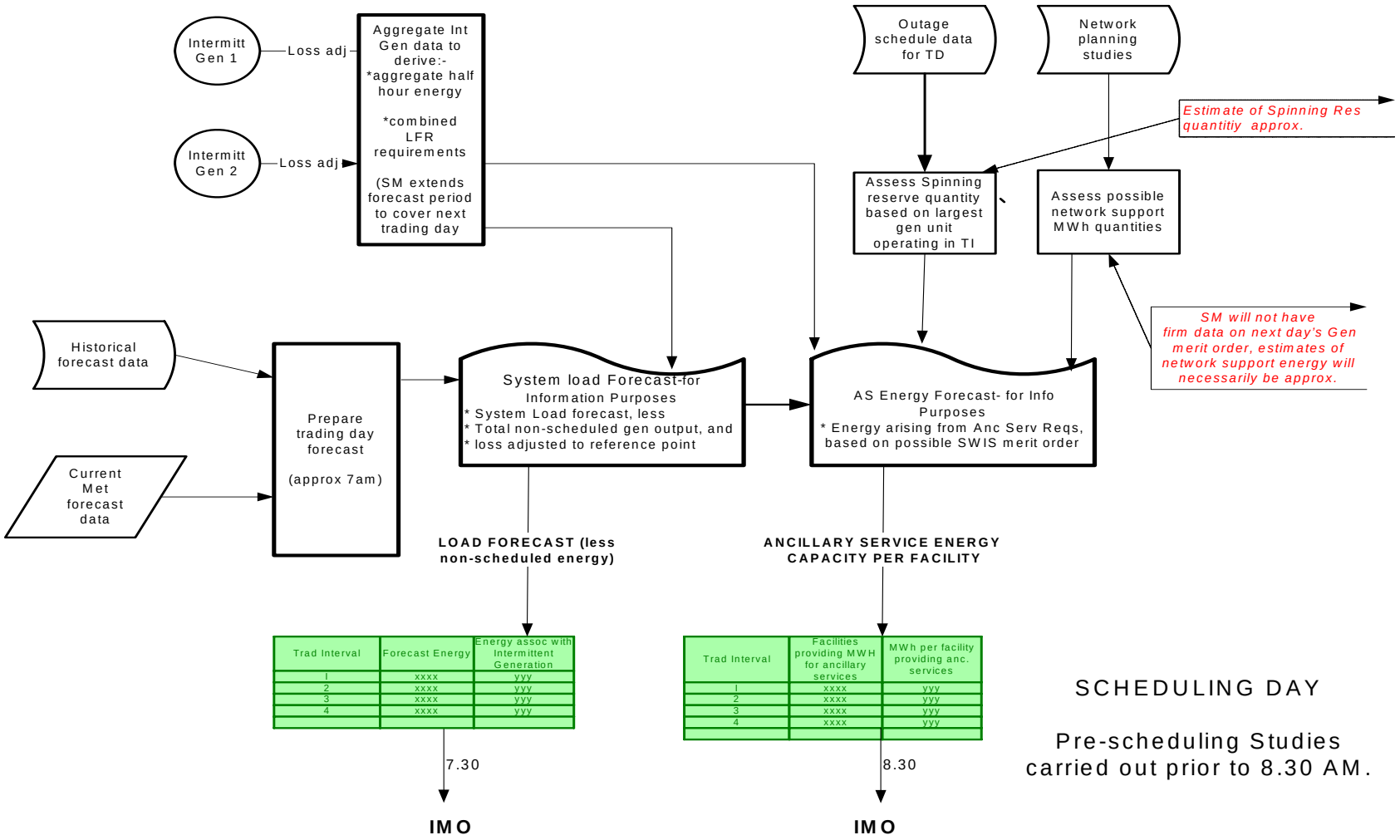
	the Trading Day by Market Participant and Facility	TD.
eA	Notifications regarding "Change of fuel Declarations"	Provide IMO with schedules submitted by MPs in accordance with Appendix II
eB	Estimated decrease MWh quantities of Intermittent Generator output as a result of a Dispatch Instruction	the estimated MWh reduction in the output of each Intermittent Generator, by Trading Interval, as a result of Dispatch Instructions, as determined in accordance with section 10.4.3
eC	required decrease, in MWh quantities, in the output of each Curtailable load as a result of a Dispatch Instruction to that Curtailable Load	
H	Dispatch Instructions to Curtailable Loads and providers of supplementary capacity	Refer to Appendix III
i	Commissioning Test	Details of Facility subject to either a Commissioning Test, Reserve Capacity Test or other test as provided for in the Commissioning and Testing Procedure, including start and finishing times.

APPENDIX VIII SUMMARY OF SCHEDULING DAY INFORMATION EXCHANGE COVERED BY PROCEDURE

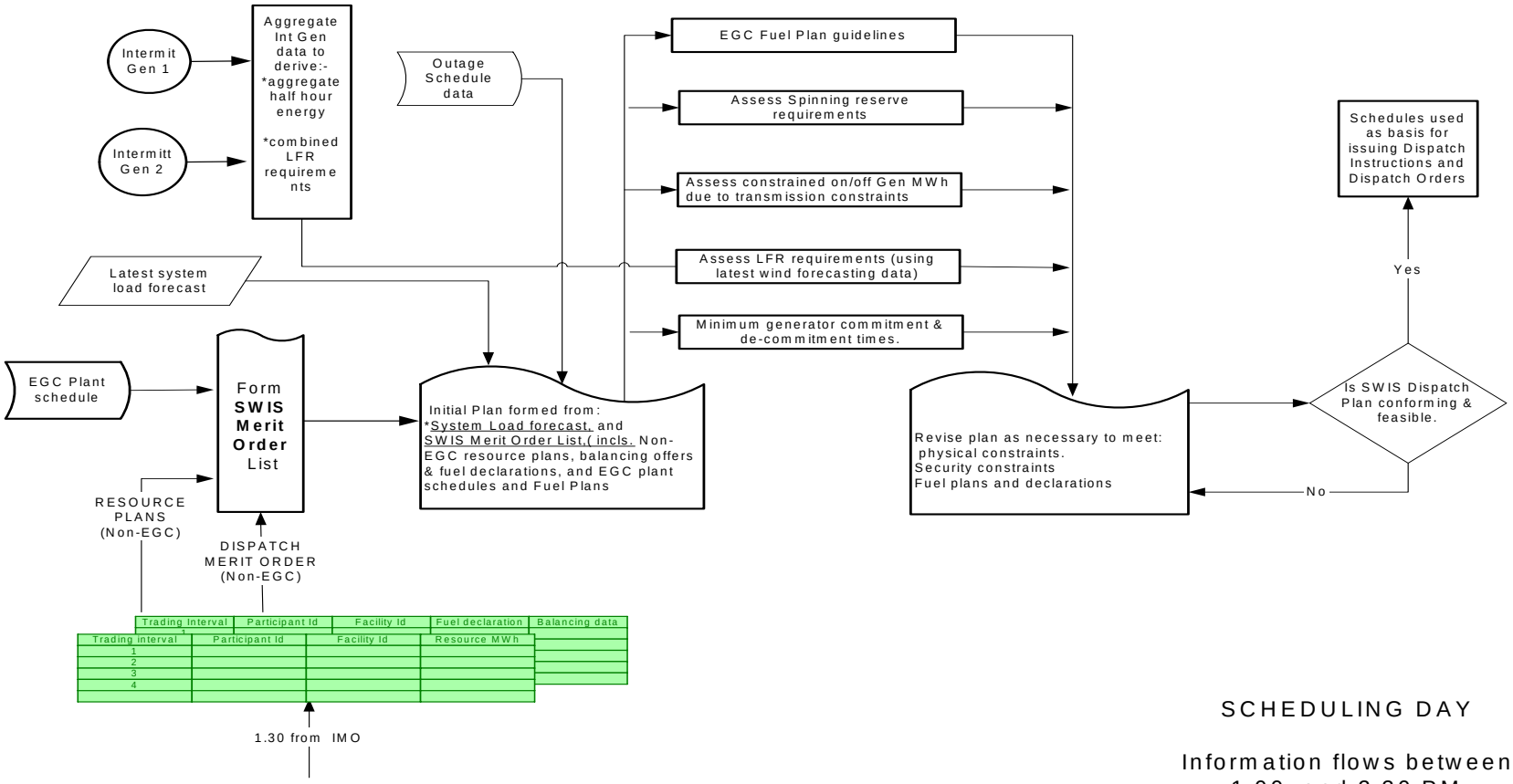
Time information required to be provided	**Description of Information**	**Sending Party**	**Receiving Party**	**Procedure reference**	**Time for recipient to confirm data receipt**	**Time by which data must be resent if not received** (1)	**Time for recipient to confirm receipt** (2)
7.30 AM	SM to provide System Load forecast, net of non-scheduled Generation [MR7.2.1]	SM	IMO	4.1	IMO to confirm within 5 min of receipt	7.50 AM	5 mins from receipt
8.30 AM	SM to provide MWh Supply Capability associated with the supply of ancillary services [MR7.2.3A]	SM	IMO	4.5	5 min from receipt	8.50 AM	5 min from receipt
8.00 to 8.30 AM	SM to provide Outage Data [MR7.3.4]	SM	IMO	4.6	5 min from receipt	9.00 AM	5 min from receipt
10.00 AM	Market Generators to provide forecast of Intermittent Gen output MR7.2.5]	Intermittent Generator	SM	4.3	15 min from receipt	10.30 AM	15 min from receipt
1.30 PM	Resource Plans received by SM	IMO	SM	4.7	5 min from receipt	1.50 AM	5 min from receipt
1.30 PM	Dispatch Merit Order and Fuel Declarations received by SM	IMO	SM	4.8	5 min from receipt	1.50 AM	5 min from receipt

(1) Applicable when original deadline missed and Sender directed to resend data.
(2) Time by which recipient must confirm if resent data received.

APPENDIX IX (a) OVERVIEW OF SCHEDULING DAY PROCESSES



APPENDIX IX (b) OVERVIEW OF SCHEDULING DAY PROCESSES



SCHEDULING DAY

Information flows between 1.00 and 2.30 PM

ELECTRICITY INDUSTRY ACT

ELECTRICITY INDUSTRY (WHOLESALE ELECTRICITY MARKET) REGULATIONS 2004

WHOLESALE ELECTRICITY MARKET RULES

Power System Operation Procedure: Dispatch

Commencement: This Market Procedure is to have effect from 8:00am (WST) on the same date as the Wholesale Electricity Market Rule, in which this Procedure is made in accordance with, commences.

TABLE OF CONTENTS

1. THE DISPATCH PROCESS

The Power System Operation Procedure: Dispatch (**Procedure**) details procedures that System Management and Rule Participants must follow when dispatching generating plant connected to the South West Interconnected power system (**SWIS**).

2. RELATIONSHIP WITH MARKET RULES

1. This Procedure has been developed in accordance with, and should be read in conjunction with predominantly chapter 7 of the Wholesale Electricity Market (**WEM**) Rules (**Market Rules**).

2. References to particular Market Rules within the Procedure in bold and square brackets **[MR XX]** are current as at 1 June 2009. These references are included for convenience only, and are not part of this Procedure.

3. In performing its functions under the Market Rules, System Management may be required to disclose certain information to Market Participants and Network Operators. In selecting the information that may be disclosed, System Management will utilise reasonable endeavours and act in good faith to disclose only the information reasonably required by the application of the Market Rules.

3. SCOPE

1. The Dispatch Procedure details the processes that take place each Scheduling Day and Trading Day to determine how generation, transmission and Demand Side Management Facilities will be dispatched.

2. This Procedure covers both “non-Electricity Generation Corporation” (Independent Power Producer, or **IPP**) and “Electricity Generation Corporation” facilities. However, as the Electricity Generation Corporation (**EGC**) is subject to additional requirements and procedures that relate to meeting its obligations for the provision of balancing services, security and the supply of ancillary services, this is addressed in a separate section titled ‘Responsibilities of EGC facilities when subject to dispatch activities.’

4 ASSOCIATED PROCEDURES AND OPERATING STANDARDS

The following Power System Operation Procedures are associated with this Procedure.

a. SWIS Technical Rules and Operating Standards (**Technical Rules**)
b. Power System Operation Procedure – Scheduling and Dispatch of EGC Facilities
c. Power System Operation Procedure – Power System Security
d. Power System Operation Procedure – Communications and Control
e. Power System Operation Procedure – Monitoring and Reporting

5. MANAGEMENT OF DISPATCH INFORMATION

1. System Management must store, and maintain from time to time, all necessary data needed to carry out the following processes:

    a. preparing the information submitted to the IMO on the Scheduling Day;
    b. preparing the Dispatch Plan;
    c. issuing Dispatch Instructions and Dispatch Orders; and
    d. preparing the ex-post Settlement and Monitoring data.

2. The IMO must provide all new and updated data in the Standing Data relating to a Trading Day to System Management as soon as practical for updating of System Management's Market Information Technology System information system (**SMMITS**) in accordance with the Market Rules.

5.1 Dispatch Instructions and Dispatch Orders

1. A Dispatch Instruction is an instruction given by System Management to a Market Participant other than the Electricity Generation Corporation as defined in clause 7.7.1 of the Market Rules.

2. A Dispatch Order is a direction issued by System Management to the Electricity Generation Corporation as defined in clause 7.6A.3(a) of the Market Rules.

6. PREPARATION OF SWIS DISPATCH PLAN

The SWIS Dispatch Plan will be prepared as a composite of the Dispatch Merit order provided by the IMO, and the EGC Plant schedule provided by EGC for that Scheduling Day. In contrast, the EGC Dispatch Plan only includes the EGC Plant Schedule.

6.1 Preparation of SWIS Dispatch Plan

1. A SWIS Dispatch Plan will be developed for each Trading Day, depicting the forecast energy demand.

2. The SWIS Dispatch Plan will also be subject to change on the Trading Day.

3. The SWIS Dispatch Plan will recognize the order of preference between:

    a. EGC facilities and Non-EGC facilities, as set out in clauses 7.6.3 and 7.6.4 of the Market Rules;
    b. Liquid fuel and Non-liquid fuel EGC generation facilities;
    c. Liquid fuel and Non-liquid fuel non-EGC generation facilities;
    d. individual facilities and their position in the Dispatch Merit Order;
    e. individual facilities and their position in the EGC plant schedule;
    f. any operational restrictions on particular generation facilities applying from time to time (clause 7.7.4 of the Market Rules); and
    g. any adjustment to the position of Curtailable Load in the Dispatch Merit Order as a consequence of restricted availability in accordance with the Market Rules **[MR7.7.4(c)].**

4. The process System Management shall follow in determining the order Curtailable Loads will be dispatched in circumstances of increasing load is as follows:

a. all Curtailable Loads in the Dispatch Merit Order that are ranked lower in price than the lowest price ranked non-EGC liquid generator, will qualify to be dispatched after all non-EGC liquid generation has been dispatched according to the Dispatch Merit Order.

b. However, should a liquid fuel generating Facility be price ranked lower than the highest price non-liquid fuel generating Facility, that (liquid fuel) generator will qualify to be dispatched after all non-EGC liquid generation has been dispatched according to the Dispatch Merit Order.

6.2 Dispatch Criteria to be met in SWIS Dispatch Plan

When scheduling Market Participant's Facilities in accordance with the SWIS Dispatch Plan, System Management must seek to meet the criteria described in the Market Rules **[MR 7.6.1** and **MR 7.6.2].**

6.3 Components of Dispatch Plan

The SWIS Dispatch Plan must set out for each Trading Interval:

a. the forecast SWIS system Load for that Trading Interval;
b. the Non-Scheduled Generation output forecasts in each Resource Plan for each Trading Interval;
c. where an Intermittent Generator output has not been included in a Resource Plan, the estimated forecast output for the Intermittent Generator over each Trading Interval;
d. the generating capacity needed (scheduled) to meet the forecast SWIS system Load, in the order determined by the Dispatch Merit Order and EGC plant schedule, and taking account of all planned, scheduled, forced, consequential and opportunistic Facility outages of which System Management is aware; and
e. the generating capacity and Curtailable Loads that are lower and higher in the Dispatch Merit Order and EGC plant schedule for each trading period which, in the absence of any transmission or generator constraint, would be the generators or Curtailable Loads dispatched up or down depending on whether actual SWIS system Load is higher or lower than the forecast SWIS system Load.

6.4 Constraints to be observed in the SWIS Dispatch Plan

System Management should adjust the SWIS Dispatch Plan as part of the preparation process as necessary to meet the constraints and conditions specified in items (a) to (g) below. When these conditions are being met, the dispatch criteria should also be met:

a. the minimum commitment, de-commitment and re-commitment periods for generating units, as specified in the Generator Standing Data, are observed;
b. the SWIS Operating Standards, Security Limits and Equipment limits are observed;
c. the fuel supply guidelines submitted by EGC for its generating facilities are met;
d. any generation capacity expected to be constrained off because of transmission limitations is accounted for;
e. any generation capacity expected to be constrained on because of transmission limitations is accounted for;
f. the generation capacity needed to meet the Ancillary Service Standards is accounted for; and

g. within the limits of capability and availability of EGC generators and after ensuring that the conditions and constraints listed in this section 6.4 have been satisfied, disruption of Non-EGC Resource Plans are minimized or avoided.

6.5 Provision of Scheduling information to Market Participants

1. Following the preparation of the SWIS Dispatch Plan at 2.30 PM System Management must endeavour to notify each Participant whose Generating or Demand Management Facility is scheduled to receive Dispatch Instructions or Dispatch Orders in one or more Trading Intervals in the Trading Day.

2. The notification will consist of that portion of the SWIS Dispatch Plan that relates to the Participant's facilities and will specify the forecast output scheduled for that Participant's Facility.

3. System Management will communicate the information in subsection (2) to the Participant by telephone and, where requested, via System Management's SMMITS system.

7. PREPARATION OF SYSTEM MANAGEMENTS SWIS DISPATCH PLAN (OBLIGATIONS SPECIFIC TO EGC FACILITIES)

1. System Management's and EGC's obligations for scheduling and dispatching EGC facilities are set out in the Market Rules **[MR 7.6A.1].**

2. The consultation referred to in the Market Rules **[MR 7.6A.2(d)]** may be by telephone, however both parties should endeavour to formalise any exchange of additional data through written confirmation.

7.1 EGC Ancillary Service Requirements

1. System Management must include in the EGC Dispatch Plan a forecast of the quantity of ancillary services likely to be needed, and the generating facilities that may be used for the supply of each of the following services:

   a. Load Following Reserve;
   b. Spinning Reserve; and
   c. Load Rejection Reserve.

2. System Management may derive the estimates of Ancillary Service quantities from one or more of the following sources:

   a. the most recent Short Term PASA study prepared by System Management;
   b. the ancillary service data provided by EGC; and
   c. power system analysis undertaken for the Trading Day.

7.2 Preliminary EGC Dispatch Plan

The requirements for System Management to provide a preliminary EGC Dispatch Plan are specified in the Market Rules **[MR 7.6A.2(c)].**

7.3 Detailed EGC Dispatch Plan

1. The requirements for System Management to confirm the EGC Dispatch Plan are specified in the Market Rules **[MR 7.6A.2(e)].**

2. System Management will meet the requirements of subsection (1) by providing to the EGC by 2.30 PM of the Scheduling Day, the EGC component of the SWIS Dispatch Plan that System Management has prepared in accordance with this Procedure

3. Should EGC not receive the detailed EGC Dispatch plan by 2.40 PM, EGC must notify System Management, and the latter should resend the data through SMMITS or any alternative exchange medium agreed between EGC and System Management.

4. Market Participant files necessary to confirm the Dispatch Plan which are otherwise expected by System Management from the IMO may be delayed, as authorised by the Market Rules. Where such a delay occurs and System Management is therefore unable to provide the Dispatch Plan to EGC by 2.30 PM of the Scheduling Day, then System Management must confirm with EGC the Dispatch Plan as soon as practicable, and in any event by no later than 5.00 PM of the Scheduling Day.

7.4 Modifications to EGC Dispatch Plan

1. The requirements for System Management to notify the EGC of significant changes to the EGC Dispatch Plan are specified in the Market Rules **[MR 7.6A.2(e)** and **MR 7.6A.2(f)].**

2. The changes in subsection (1) will be deemed to be significant when they indicate:

   a. previously unscheduled generating plant is expected to be dispatched; or

   b. expended fuel quantities are forecast to be outside the limits set by EGC.

3. Where System Management revises a SWIS Dispatch Plan in accordance with this Procedure, the component of the SWIS Dispatch Plan that relates to EGC plant will be provided to EGC.

4. System Management must transmit the revised EGC Dispatch Plan to EGC as soon as practical through SMMITS or any alternative medium agreed between System Management and EGC.

7.5 Conflict with EGC Dispatch Plan

1. The requirements for the EGC to notify System Management when it is unable to comply with and EGC Dispatch Plan are specified in the Market Rules **[MR 7.6A 2(g)].**

8. PROVISION OF EGC SPECIFIC DISPATCH INFORMATION

8.1 Requirement for EGC to provide information each month

1. The Electricity Generation Corporation Facilities must prepare and provide to System Management the relevant information relating to scheduling its Facilities are specified in the Market Rules **[MR 7.6A.2]**.

2. The information must be provided through SMMITS or any other communication medium mutually agreed by System Management and EGC.

3. Where the information has not been received by System Management by 12.15 PM of the required day, System Management should contact EGC and the information should either be resent, or communicated through another data transfer medium agreed between EGC and System Management.

4. Where System Management is not in receipt of the information by the end of the first day of the new calendar month, System Management will use the information received for the previous month.

8.2 Changes to EGC specific Dispatch Information

1. EGC may revise the information specified in the Market Rules **[MR 7.6A.2]** at any time during the month over which the information applies.

2. When EGC revises the data in accordance with subsection (1), EGC should notify System Management by telephone of the change and confirm the change by communicating the updated information through SMMITS.

3. EGC should specify in the notification in subsection (2) above, the time from which the new data will apply, except that the notification should allow System Management a minimum of one trading interval to update the SWIS Dispatch Plan and reschedule the EGC generators according to the revised information.

8.3 SWIS System Load Forecast

1. The requirements for System Management to provide to EGC a forecast of the expected SWIS Load for the Trading Day are specified in the Market Rules **[MR 7.6.2(b)]**.

4. The information relating to subsection (1) will be provided through SMMITS or any other electronic medium agreed between System Management and EGC.

5. If EGC has not received the System Load Forecast by 8.40 AM, EGC should notify System Management and the latter should resend the data through the SMMITS system or any alternative communication medium agreed between EGC and System Management.

6. If the EGC has not receive the supply forecasts by 12.40 PM, EGC should notify System Management and the latter should resend the data through the SMMITS system or any alternative medium agreed between EGC and System Management.

9. EGC ADMINISTRATION AND REPORTING

9.1 Appointment of Representative

The EGC and System Management should:

a. each appoint a representative who will act as the formal point of contact with regard to the operation of this procedure.
b. provide each other and the IMO with the name, title and contact details of its representative.
c. maintain the appointed representative's currency.

9.2 Meetings held between System Management and the EGC

The requirement to conduct monthly meetings between System Management and the EGC and System Management's obligation to document minutes of such meetings is stipulated in the Market Rules **[MR 7.6A.5 (a)]**.

9.3 Failure of Parties to meet obligations

1. The requirements for System Management to report to the IMO any instance where it believes that the EGC has failed to meet its obligations under this procedure are specified in the Market Rules **[MR 7.6A.5(c)], [MR 7.6A.5(d)], [MR 7.6A.5(e)].**

2. The reports referred to in subsection (1) must be submitted to the IMO within 2 business days of the occurrence of the event, or within 2 business days of either party becoming aware of the event.

9.4 Keeping of Records

The requirements for the EGC and System Management to retain records created by the operation of this procedure are specified in Market Rules **[MR 7.6A.6].**

9.5 Failure to Agree on an issue within the Procedure

1. The requirements for System Management and EGC to address and reach agreement on any issues arising from the application of this procedure are specified in the Market Rules **[MR 7.6A.5(b)].**

2. Where agreement cannot be reached and arbitration is required, party seeking arbitration must, within 7 days of the event or within 7 days of the party becoming aware of the event, provide the IMO with a report setting out:

    a. a description of the issue in dispute;
    b. the background to the dispute and a description of the endeavours of the parties to resolve the issue; and
    c. the position of both parties on the issue, including what is required to resolve the dispute.

3. The party submitting the report must provide a copy of the report to the other party at the same time the report is submitted to the IMO.

4. The other party must submit its own report on the issue to the IMO within 2 business days of the receipt of the report noted in subsection (5).

5. In reviewing the issue, the IMO must have regard to the following:

    a. the content of this procedure;
    b. the Market Rules and procedures; and
    c. the appropriateness of any section of this procedure relevant to the issue, and its alignment with market objectives, Market Rules and other procedures.

6. The IMO may seek further information from either party, and this information should be provided within 2 Business Days of receipt of the request.

7. The IMO must provide its draft recommendation to EGC and System Management within two weeks of the receipt of the report in subsection (4). Both parties have 2 Business Days to provide the arbitrator with comments on the draft recommendation.

8. The IMO must, within 2 Business Days of receiving comments, issue a binding decision.

10. INFORMATION FOR PREPARATION OF THE SWIS DISPATCH PLAN INCLUDING SCHEDULING DAY DATA EXCHANGE PROCESS

10.1 Load Forecast

System Management must prepare and update a Load Forecast, in accordance with the Market Rules **[MR 7.2.1, MR 7.2.2** and **MR 7.2.3]**.

10.2 Methodology for forecasting SWIS system Load

1. The SWIS system Load forecast will be prepared using a forecasting methodology.

2. The SWIS system Load is the combined energy (or power) exported from all generating facilities connected to each Network Operator's networks, as measured at the generating facility's connection points.

10.3 Forecasts of Non-Scheduled Generation data exchange process

1. Where so required by System Management, if applicable, each Market Generator must provide, for each of its Intermittent Generators with a maximum output capacity exceeding 10 MW the data specified in the Market Rules **[MR 7.2.5].**

2. The Non-Scheduled Generator forecast information should be submitted to System Management via SMMITS.

10.4 Provision of Load Forecast and Ancillary Service Information timeframe

System Management must provide the information specified in sections 10.1 and 10.3 to the IMO within the timeframe stipulated in the Market Rules **[MR 7.2.3B(a)** and **MR 7.2.3C]** and confirmation of receipt made by the IMO within the relevant timeframe **[MR 7.2.3D]**.

10.5 Forecast of Non-Scheduled Generation information

1. System Management must prepare a forecast of the expected output of all Non-Scheduled Generators, including Intermittent Generators.

2. Where System Management considers that the forecast of sent-out energy for an Intermittent Generator is not reflective of the level of output actually occurring or likely to occur, System Management must use its reasonable endeavours to estimate expected intermittent generation output and may substitute this data for part or all of the data provided for that Intermittent Generator.

3. System Management may utilise other forecast data where required, if Non-Scheduled Generator forecast data is received late or if sections of data are missing. This may be output data derived from recordings of injections levels from past Trading Intervals, or a separate forecast derived for that purpose.

4. Where conditions permit a more extended forecast, Market Generators should utilise reasonable endeavours to provide System Management with the required information covering two Trading Days of forecast information.

5. The information referred to in section 10.3.1 will be used by System Management to assist in reviewing Ancillary Service requirements and corresponding dispatch plans during the Trading Day in accordance with the Market Rules **[MR 7.2.6].**

10.6 Ancillary Data and Service Requirements

1. System Management must take account of the following data when preparing the SWIS Dispatch Plan:

   a. the Ancillary Service Standards defined in clause 3.10 of the Market Rules and the Ancillary Services Operating procedures;
   b. Standing Data relating to each Ancillary Service;
   c. Ancillary Service quantity schedules and guidelines issued by EGC; and
   d. Ancillary Service data provided as a consequence of Ancillary Service contracts.

2. System Management must determine the estimated Ancillary Service requirements for each Market Participant that is a provider of Ancillary Services in accordance with the Market Rules **[MR 7.2.3A]**.

3. System Management must submit the Ancillary Service forecast data calculated pursuant to the Market Rules **[MR 7.2.3A]** to the IMO by the relevant time **[MR 7.2.3B(b)]** and confirmation of receipt must be made by the IMO within the relevant timeframe **[MR 7.2.3D]**.

4. In the absence of a Resource Plan or Dispatch Merit Order data for the forthcoming Trading Day, System Management may base its estimate of Ancillary Service requirements on:

   a. the estimates of Ancillary Service quantities derived for Short Term PASA for the applicable Trading Day;
   b. Ancillary Service quantities dispatched on a previous Trading Day with similar demand and generation patterns to the forecast day; or
   c. analysis conducted on Ancillary Service requirements for the applicable Trading Day.

10.7 Loss Factors for adjusted Load Forecasts.

1. System Management must prepare a set of representative loss factors that can be applied to the gross system demand figures for a range of different levels of SWIS system demand.

2. A Loss Factor will be assessed for each of the levels of SWIS system load set out in the table below.

Table 1

SWIS system load range	Applicable loss factor for adjusting system load forecast
500…600MW	LF_{500}
600…700MW	LF_{600}
……	……
X MW…X+100MW	LF_X
……	……

These figures will be used to derive each of the load adjusted Load Forecasts provided to the IMO pursuant to the Market Rules **[MR 7.2.3B]**.

3. System Management must maintain a list of the Loss Factor adjustment values applied to the SWIS System Load forecast and review the information at least once a calendar year.

10.8 Resource Plans, Dispatch Merit Orders and Fuel Declarations data exchange process

1. The IMO must provide System Management with the Resource Plans it has accepted from Market Participants, Dispatch Merit Orders and Fuel Declarations for a Trading Day in accordance with the Market Rules **[MR 7.4** and **MR 7.5]**.

2. If the IMO does not receive confirmation of receipt of the above items for a Trading Day from System Management within of the time interval when it should have been received, the IMO must contact System Management by telephone in accordance with the Market Rules **[MR 7.4.3** and **MR 7.5.3]**.

3. If System Management has not received the above items, or there is a problem with the data received, then the IMO must make alternative arrangements to communicate the information according to the Market Rules **[MR 7.4.3** and **MR 7.5.3]**.

4. Within the time constraints stated under the Market Rules, System Management may request a Market Participant to confirm that it can conform to its Resource Plan for the relevant trading intervals under the Market Rules **[MR 7.4.4]**.

10.9 Dispatch Merit Order and Fuel Declarations information

1. The IMO must provide the Dispatch Merit Order data separated into:

    a. a list in which the non-EGC energy supply sources, including Liquid and Non-liquid generation facilities and Curtailable Loads, are ranked in price order for increasing energy supply; and
    b. a list in which the non-EGC energy supply sources, including Liquid and Non-liquid generation facilities and Non-Scheduled Generators, are ranked in price order for decreasing energy supply.

2. The IMO must flag on each of the lists above, the position on the list that corresponds to the fuel declared at that point in time for each Generating Facility that has lodged a Fuel Declaration. The lists should also flag for each Generating Facility that has lodged a Fuel Declaration, the position on the list that corresponds to the "alternative" fuel.

10.10 Generation Data

1. System Management must take account of the following data for each Scheduled and Non-Scheduled Generator:

    a. all Scheduled and Non-Scheduled Generator Standing Data forwarded to System Management by the IMO;
    b. all Generator outage data held in the current Outage Schedule;
    c. any recent outage information of which System Management is aware; and

d. any data received from Market Generators as a consequence of Short Term PASA studies relating to the Trading Day.

11. PRE-DISPATCH PERIOD

This section covers the period between preparation of the initial SWIS Dispatch Plan up to "real time" dispatch.

11.1 Update Of Dispatch Plans

1. System Management must update the SWIS Dispatch Plan, or Electricity Generation Corporation Dispatch Plan as needed, when changes occur which significantly alter the timing or quantity of the output forecast for the Generator and Demand Side Management facilities. These changes include:

   a. revised weather forecasts;
   b. higher or lower actual demand than predicted;
   c. higher or lower Non-Scheduled Generation than predicted;
   d. unforeseen Facility outages; and
   e. changes to Fuel Declarations that change the Generator or Demand Management facilities scheduled to operate.

11.2 Change of Fuel Declaration

1. System Management will regard a notification of a change of Fuel Declaration as a valid notification, if received between the timeframe stipulated in the Market Rules **[MR 7.5.4** and **MR 7.5.5]**. The Market Participant must confirm the change of Fuel Declaration notice via SMMITS or through another means as agreed with System Management.

2. The Participant must initially notify System Management of the intent to change Fuel Declaration by telephone, and then provide confirmation by submitting a change of Fuel Declaration notice to System Management via SMMITS.

3. In compiling the SWIS Dispatch Plan and in the subsequent issuing of Dispatch Instructions, System Management must assume that a Facility is operating on the fuel indicated for that Facility **[MR 7.5.7]** in the applicable Fuel Declaration, and where there has been a new Fuel Declaration submitted in accordance with the Market Rules **[MR 7.5.4 and MR 7.5.5],** operating on the revised fuel according to the declaration.

11.3 Dispatch Criteria to be met in the Dispatch Process

When dispatching Market Participant's Facilities in accordance with the SWIS Dispatch Plan, System Management must seek to meet the criteria defined in the Market Rules **[MR 7.6.1].**

11.4 Variation from SWIS Dispatch Merit Order and Dispatch Plan due to Dispatch Criteria and Other Factors

1. The circumstances under which System Management is not required to determine whether a particular Facility will be subject to a Dispatch Instruction by applying the Dispatch Merit Order is addressed under the Market Rules **[MR 7.7.4]**.

2. System Management may also deviate from the SWIS Dispatch Plan and the SWIS Dispatch Merit Order when issuing Dispatch Instructions and Dispatch Orders when:

   a. It is necessary to meet the dispatch criteria;
   b. any test of equipment allowed under the Market Rules;
   c. the Ancillary Service Requirements are not being met because of a shortage of Ancillary Services; or
   d. in the event of a High Risk Operating State or Emergency Operating State.

11.5 Implementation of Resource Plans in accordance with dispatch criteria

1. System Management must follow the requirements defined in the Market Rules **[MR 7.6.2]** to ensure that the Resource Plans are implemented.

2. System Management must avoid issuing Dispatch Instructions to non-EGC facilities when there are EGC facilities available, or can be made available, to maintain the SWIS system within a Normal Operating State and meet the dispatch criteria in accordance with the Market Rules, except that System Management may issue a Dispatch Instruction to vary a Resource Plan in circumstances outlined in section 11.4.2.

12. REAL TIME DISPATCH PROCESS

This section is concerned with the timing, response and detail in Dispatch Instructions issued to Non EGC facilities, and Dispatch Orders issued to EGC facilities.

12.1 Dispatch Instructions

1. The requirements for Dispatch Instructions are detailed in the Market Rules **[MR 7.7.2** and **MR 7.7.3].**

2. System Management must determine which Facilities will be subject to dispatch instructions by applying the order of merit that has been established in the SWIS Dispatch Plan and applicable Dispatch Merit Order to the action required **[MR 7.7.4]**.

12.2 Dispatch Order

1. System Management must determine which EGC Facility will be the subject of a Dispatch Order by applying the EGC Dispatch Merit Order that has been established in the applicable SWIS Dispatch Plan to the action required except where System Management believes it is not feasible or desirable to do so having regard to:

   a. the Standing Data minimum response times;
   b. transmission, ramping or other operational constraints;
   c. meeting the SWIS Operating Standards and Security Limits; or
   d. maintaining a Normal Operating State, or returning the SWIS to a Normal Operating State.

2. EGC must implement the Dispatch Orders issued by System Management, except where such compliance would endanger the safety of any person, damage equipment or breach any applicable law in accordance with the Market Rules **[MR 7.9.11].**

3. Each Dispatch Order issued to EGC in regard to a direction to increase or decrease output or synchronise or desynchronize a generating unit will be conveyed via telephone or via the Automated Generation Control ('AGC') system.

12.3 Variation of Resource Plans

System Management may issue Dispatch Instructions to non-EGC facilities to deviate from their Resource Plans in the following situations:

a. where the Facility is in the Dispatch Merit Order and the EGC and Non-EGC Generation facilities that are in a higher merit order position in both the Dispatch Merit Order and EGC plant schedule have already been dispatched;
b. where the dispatch criteria are not being met, and EGC facilities are not available to supply demand and maintain a Normal Operating State;
c. where output capacity of EGC facilities is available, but their output is not available in the time required because of:
    i. transmission constraints; or
    ii. generation constraints including ramping rates and commitment constraints;
d. the Ancillary Service Requirements are not being met because of a shortage of Ancillary Services; or
e. a High Risk Operating State or Emergency Operating State exists.

12.4 Change of Fuel Declaration

1. System Management will regard a notification of a change of Fuel Declaration as a valid notification, if received between the timeframe stipulated in the Market Rules **[MR 7.5.4** and **MR 7.5.5]**. The Market Participant must confirm the change of Fuel Declaration notice via SMMITS or through another means as agreed with System Management.

2. The Participant must initially notify System Management of the intent to change Fuel Declaration by telephone, and then provide confirmation by submitting a change of Fuel Declaration notice to System Management via SMMITS.

3. In compiling the SWIS Dispatch Plan and in the subsequent issuing of Dispatch Instructions, System Management must assume that a Facility is operating on the fuel indicated for that Facility **[MR 7.5.7]** in the applicable Fuel Declaration, and where there has been a new Fuel Declaration submitted in accordance with the Market Rules **[MR 7.5.4 and MR 7.5.5],** operating on the revised fuel according to the declaration.

12.5 Operational Control of Generation Facilities by System Management

1. The requirements for System Management to remotely operate and dispatch a Generating Facility, where System Management acts as the agent of the Market Participant with respect to the issuing, receipt and actioning of Dispatch Instructions and Dispatch Orders, are specified in the Market Rules **[MR 7.8]**.

1. System Management may enter into an operating agreement to remotely operate and dispatch a Generating Facility.

3. Where a Generating Facility is subject to remote operation and dispatch by System Management, System Management will not be responsible or liable for any deviation from the Facility's Resource Plan or applicable Dispatch Instruction.

12.6 Timing of Dispatch Instructions

The Dispatch Instruction must be issued in a timely fashion such that the recipient of the Dispatch Instruction has adequate time to undertake the necessary action **[MR 7.7.6],** but in any case must not be issued earlier than the time specified in the Market Rules **[MR 7.7.5].**

12.7 Cancellation or change of Dispatch instruction issued to a Generating Facility

1. The circumstances for the Cancellation of Dispatch Instruction could include changes to SWIS system Load forecasts, facility availability or some other Power System Condition, and it is evident to System Management that had the information on the changed circumstance been available prior to the Dispatch Instruction being issued, or had an updated SWIS Dispatch Plan been available at the time, the original Dispatch Instruction would not have been issued.

2. The circumstances under which System Management must cancel a dispatch instruction are specified in the Market Rules **[MR 7.6.5].**

3. The circumstances under which System Management may change a dispatch instruction following the notification of a change in Fuel Declaration are specified in the Market Rules **[MR 7.6.5A].**

4. System Management may issue a further dispatch instruction to cancel a dispatch instruction issued initially to Curtail Load providing that the further Dispatch Instruction was issued according to the constraints provided by the Market Rules **[MR 7.7.10].**

12.8 Communication and logging of Dispatch Instructions

1. System Management must issue and record Dispatch Instructions and Market Participant must respond in accordance with the Market Rules **[MR 7.7.6** and **MR 7.7.8]**.

2. Where System Management has operational control of a non-EGC Registered Facility, with agreement with the relevant Market Participant, communication of related Dispatch Instructions should be made in accordance with the Market Rules **[MR 7.7.7(a)]**.

3. Where a dispatch instruction is deemed to have been issued in respect of an Ancillary Service Contract or Network Control Service Contract held by the Generating Facility or Demand Management Facility, and relates to the automatic activation of the Ancillary Service or Network Control Service, System Management: may communicate the dispatch instruction to the relevant Market Participant at a later time in accordance with the Ancillary Services contract or Network Control Service Contract

12.9 Dispatch Instruction to Commit or Decommit a Non-EGC Generating unit

System Management may require a Non-EGC generating unit to synchronise and operate (commit) or de-synchronise (de-commit) as part of a Dispatch Instruction to vary the Resource Plan of a Non-EGC Participant.

12.9.1 System Management's obligations when issuing Dispatch Instructions to synchronise a Non-EGC Generating Unit

1. At high SWIS loads or in circumstances where there may be a net deficit of connected generation, System Management may require a Non-EGC generator, which has not been scheduled as part of a Resource Plan submitted by a Non-EGC Participant to operate in a particular Trading Interval, to be synchronised and to generate energy in that Trading Interval.

2. In the circumstances set out in subsection (1) above, System Management may issue a Dispatch Instruction for a non-EGC generator to be committed.

3. The Dispatch Instruction must be consistent with the procedures in section 12.3 of this procedure for variation of a Resource Plan.

4. System Management must select the Non-EGC generating unit to commit using the dispatch merit order which the IMO has provided to System Management, and select the generating unit highest on the dispatch merit order.

5. In situations where there are transmission or generator technical constraints that limit the ability of a generator to be committed in the time and capacity required, System Management must select the next generator in the SWIS dispatch merit order list.

6. When the committed generating unit is synchronized and operating, its position in the Dispatch Merit Order and the SWIS Merit Order will be the same position as other generating units that are associated with that Generator Facility.

7. System Management may need to re-dispatch other Generating Facilities in the SWIS Merit Order to enable the newly committed generator to operate in its correct position in the SWIS Merit Order list.

12.9.2 System Management's obligations when issuing Dispatch Instructions to desynchronize a Non-EGC Generating Unit

1. At very low SWIS loads or in circumstance where there may be a surplus of connected generation, System Management may require a Non-EGC Participant to disconnect a generating unit that forms part of that Participant's Resource Plan.

2. System Management may issue a Dispatch Instruction for a non-EGC generator to be de-committed.

3. The Dispatch Instruction must be consistent with the procedures in section 8.4 of this procedure for variation of a Resource Plan.

4. System Management must select the Non-EGC generating unit to de-commit using the price merit order for de-commitment provided to System Management by the IMO.

5. System Management must select the Generator that is highest in the merit order list for unit de-commitment, and where further capacity is required to be de-committed, continue to select the additional generators to be de-committed based on that merit order.

6. In situations where there are transmission or generator technical limits that constrain the ability of a generator to be de-committed in the time and capacity required,

System Management must select the next generator in the merit order list for de-commitment. The technical limits include the capacity and security limits of the transmission network, and ramp down rates and de-synchronisation times of generators.

7. As required by the Market Rules, the IMO will provide System Management with a merit order list for de-commitment of non-EGC generating units, and must maintain this list in a current state.

8. The requirements for the Synchronisation and De-Synchronisation of Non-EGC Generators are specified in the Market Rules **[MR 7.9] and [MR 3.21B].**

9. A Non-EGC Participant should communicate confirmation of expected time of synchronization and de-synchronisation under the Market Rules via telephone **[MR 7.9.1].**

10. System Management must log the reasons when permission to synchronise or de-synchronise is refused.

11. Where a Non-EGC Participant is unable to comply with the synchronization times in the Resource Plan or any other aspects of the Resource Plan, the Participant should contact System Management as soon as practical with the information.

12. Where a Market Participant cannot comply with a decision of System Management within this section the Market Participant must inform System Management as soon as practicable.

13. Where the Non-EGC Participant wishes to synchronise another unit in place of the generation unit specified in the Resource Plan, permission to change the unit must be sought from System Management.

14. System Management may only refuse permission to request from the Participant to change the generation unit being synchronized if it causes a Power System Security problem.

12.10 Dispatch Instructions to Curtailable Loads

1. Within section 12 of this Procedure, where a clause refers to a Market Customer, this will also refer to a Dispatch Agent. A Dispatch Agent has the meaning given in the Market Rules.

2. System Management should issue a Curtailment Alert Notice prior to issuing a Dispatch Instruction to curtail load to a Market Customer with a Curtailable load Facility. The details of the process to be followed in sending out a Curtailment Alert Notice are set out in “Power System Operation Procedure - Communications and Control Systems”.

3. Dispatch instructions must be communicated to a Market Customer with a Curtailable Load using the communication system agreed between System Management and the Market Customer (refer to Power System Operation Procedure - Communications and Control Systems).

4. The Dispatch Instruction for a Curtailable Load should be issued to the Market Customer in sufficient time to meet the minimum response time specified in the Standing Data for that Curtailable Load.

5. Where it is practical to do so and no power system security issues arise as a consequence, the curtailment action specified in the Dispatch Instruction should commence and cease at the beginning and end respectively of a Trading Interval.

6. Once a Dispatch Instruction has been issued to a Curtailable load requiring activation of curtailment, System Management may cancel the Dispatch Instruction in accordance with the Market Rules.

7. As per Market Rule 4.12.8, there are limitations for issuing Dispatch Instructions to Market Customers.

12.11 Reactive Power Output

1. System Management may give an instruction to a Market Participant to change the reactive power output of a Facility as specified in the Market Rules **[MR 7.6.12].**

2. The Voltage Order must not be in conflict with the power factor or voltage control capability specified in the Standing Data for that Facility or required under the Technical Rules.

3. The Voltage Order may specify for the Generation Facility the method of voltage management the Facility is required to maintain at or close to its connection point, including:
   a. a required reactive power output;
   b. a required voltage target or range at or close to the Facility's connection point to the SWIS.

4. Market Generators must comply with the Voltage Order, except when compliance is not required under the Market Rules **[MR 7.10.2]**.

13. CONSTRAINED OPERATION OF A NON-SCHEDULED GENERATOR

1. System Management may consider it necessary to issue a Dispatch Instruction to a Non-Scheduled Generator to restrict the MW or MWh output of the Generator over specified Trading Intervals where the dispatch criteria is not being met, to restrict the variability that is occurring in the MW output from the Facility, or if a High Risk Operating State or Emergency Operating State exists.

2. The reasons for non-observance of the dispatch criteria may include, but not be limited to the following:

   a. the Ancillary Service Requirements are not being satisfied;
   b. operation of the Non-Scheduled Generator Facility is causing voltage swings in the region of the Facility's connection to the Network to exceed the range permitted by the Technical Rules or Security Limits;
   c. operation of the Non-Scheduled Generator is causing Equipment Limits or Security Limits to be exceeded; or
   d. operation of the Non-Scheduled Generator is causing frequency to exceed the normal frequency operating range.

14. COMPLIANCE OF WITH DISPATCH REQUIREMENTS

The dispatch compliance requirements for participants and the requirements for System Management to report non-compliance to the IMO are specified in the Market Rules [**MR 2.13.9, 7.6A and 7.10**] and in PSOP: Monitoring and Reporting.

15. DISPATCH ADVISORIES

1. The requirements for the issue and release of Dispatch Advisories to Market Participants and Network Operators are specified in the Market Rules **[MR 7.11].**

2. System Management must transmit Dispatch Advisory notices through SMMITS. Where there is a communication failure or insufficient time to issue such a notice, System Management may convey the content of the notice including any direction via telephone or such other means as are practicable at the time, but must confirm this as soon as practical through transmitting a formal Dispatch Advisory notice as soon as practical.

16. DISPATCH SETTLEMENT DATA

1. The requirements for System Management to provide settlement data to the IMO are specified in the Market Rules **[MR 7.13].**

2. System Management must submit the data to the IMO's WEMS system in a format agreed with the IMO.

3. The IMO must confirm with System Management receipt of the data.

4. If the IMO has not received the data by 12.10 PM of the required business day, the IMO must contact System Management and request the data be re-sent.

5. If the data is not with IMO by 12.20 PM, System Management and IMO should confirm the cause of the data failure and if necessary, agree an alternative method of transferring the data.

16.1 Quantification of Constrained off Quantities.

1. Where System Management requires a Non-Scheduled Generator to reduce output and where the Market Generator is to be compensated for the reduction, System Management must provide the IMO with an estimate of the reduction in MWh output of the Generating Facility as a consequence of System Management issuing the Dispatch Instruction to reduce output.

2. System Management's assessment of the constrained off MWh quantity must be prepared as part of the settlement data that System Management provides to the IMO in accordance with the Market Rules **[6.17.6(c)(i)].**

3. For the purpose of determining the quantity described in section 16.1(2) for each Trading Interval, the quantity is:

    a. in the case of a Non-Scheduled Generator included in a Resource Plan, to be the greater of zero and the MWh difference between the Resource Plan MWh

quantity of the Non-Scheduled Generator less the MWh output of the Non-Scheduled generator over the Trading Interval implied by its Dispatch Instruction; and

b. in the case of a Non-Scheduled Generator not included in a Resource Plan, System Management's estimate of the MWh reduction in output, by Trading Interval, of the Non-Scheduled Generator as a result of System Managements Dispatch Instruction.

16.1.1 Provision of Data from Intermittent Generators

1. If a Market Participant operating an Intermittent Generator (Wind Farm) wishes to be compensated for a Dispatch Instruction to constrain down the output of the Intermittent Generator, the Participant must provide System Management with data to enable System Management to assess the constrained down energy quantities arising from the Dispatch Instruction.

2. The Market Participant must, for the situation in subsection (1), provide System Management with real time data that can be used to assess the operating output and state of the Wind Farm. The data should be in a form suitable for System Management's SCADA system and include:
   a. the instantaneous MW output of the Intermittent Generator;
   b. the wind speed or aggregate (representative) wind speed at the Wind Farm; and
   c. the number of turbines operating at the wind farm.

3. The Market Participant providing the data in subsection (2) should endeavor to ensure the accuracy of this data, and maintain records to verify this accuracy.

4. Where the Participant is unable to provide System Management with some of the data in subsection (2), or data is missing, System Management may substitute data or develop alternative sources of data to replicate the information in subsection (2).

5. Participants should co-operative with System Management in the provision of the data in subsection (2), or provision of alternative data referred to in subsection (4).

16.1.2 Choice of Algorithm for Assessing Constrained MWh Quantities

1. When System Management makes a post event assessment of the quantity of energy that has been constrained down in each Trading Interval for which the Dispatch Instruction applies, where the assessment is formed from:

   a. a predictive algorithm provided by the Market Participant, providing an assessment of generator MWh output from measured wind speed over the Trading Interval;
   b. a predictive algorithm provided by System Management, providing an assessment of generator MWh output from measured wind speed over the Trading Interval;
   c. an assessment by System Management based on output of the Intermittent Generator in a past Trading Interval under similar meteorological conditions; or
   d. an estimate using Participant data provided to System Management that uses output data from particular wind turbines that continue to operate unconstrained after the Dispatch Instruction, with the output data subsequently grossed up to represent the output from all wind turbines that otherwise would have operated.

2. The Market Participant may provide System Management with an algorithm for converting the data to an estimate of the MW or MWh output of the Facility.

3. System Management may use the algorithm provided as a consequence of subsection (2), or another method as listed in subsection (1) for the assessment of the constrained down MWh, based on what System Management considers as most suited for the purpose.

4. System Management must consult with the relevant Market Generator concerning the choice of option selected by System Management in subsection (1).

16.1.3 Assessment of constrained-off Quantities of Intermittent Generation.

1. System Management must make an estimate of the actual output of the Intermittent Generator over each Trading Interval for which the Dispatch Instruction applies. This may be through access to MWh metering at the Generator Facility, or by measuring the instantaneous MW output from the Intermittent Generator MW output using System Management's SCADA system, and integrating these measurements over each Trading Interval to produce a MWh estimate.

2. System Management must make an assessment of the MWh output that would have been achieved by the Intermittent Generator should the Dispatch Instruction not have been issued. The assessment must be produced using the algorithm chosen for this purpose (refer section 16.1.2(3) of this procedure).

3. System Management must make an estimate of the constrained off quantities caused by the Dispatch Instruction for each Trading Interval the Dispatch instruction applies to, by subtracting the measured output (subsection (1)) from the assessment of output that would otherwise have occurred (subsection (2)).

4. System Management must provide these assessments to the IMO as part of the ex-post settlement data.

16.2 Constraining operation of multiple Intermittent Generators.

1. Where there are a number of Intermittent (wind) Generators operating at high output during light system demand conditions, a reduction in the output of one or all Intermittent Generation may be needed to meet the dispatch criteria.

2. Where an EGC Intermittent Generating Facility is one of the Intermittent Generators contributing to a conflict with the criteria of this procedure, and a reduction or constraint in the output of the EGC Intermittent Generator will relieve or reduce the conflict with the dispatch criteria, then the output of the EGC Intermittent Generator must be reduced to the level where the Intermittent Generating Facility is not the contributing element to the conflict with power system security.

3. Where the requirement for a reduction or constraint in the output of Intermittent Generators can be attributed to a single non-EGC Intermittent Generator, a Dispatch Instruction requiring output to be constrained down must be issued to that Intermittent Generator.

4. The quantity of output reduction sought from the Intermittent Generator in subsection (3) is the quantity that ensures that Intermittent Generator is not the source of the conflict with the dispatch criteria

5. Where System Management considers that the conflict with the Dispatch Criteria is due to the operation of two or more non-EGC Intermittent Generators, then System

Management must constrain down the Intermittent Generators in the order set by the SWIS merit order list.

6. The Intermittent Generating Facility first on the "constraining down" merit list will be constrained down first, followed by the next Intermittent Generator on the "constraining down" merit order list, until the conflict with the dispatch criteria is removed.

7. As required by the Market Rules, the IMO will provide System Management each Scheduling Day with the merit order list setting out the ranking for the constraining off of Intermittent Generators.

8. System Management must issue a Dispatch Instruction to each of the applicable Intermittent Generators in the form specified in section 11.1 of this procedure.

17. NETWORK CONTROL SERVICES AND NETWORK CONTROL SERVICES CONTRACTS

1. System Management must take account of any Network Control Service to be dispatched as part of a Network Control Service Contract.

2. The IMO must inform System Management at least 7 business days ahead of the time that a new Network Control Support Contract comes operational.

3. The IMO must discuss beforehand and agree with System Management the data that must be provided by the Network Operator, including:

   a. the section of network the nominated Generating Facility is required to support;
   b. the security standards to be maintained within that network section through operation of the contracted service;
   c. the Security Limits applicable to the section of Network;
   d. the operating regime that will apply to the Generating Facility providing the service; and
   e. any additional information relevant to dispatching the Generation Facility, including possible additional SCADA data.

ELECTRICITY INDUSTRY ACT

ELECTRICITY INDUSTRY (WHOLESALE ELECTRICITY MARKET) REGULATIONS 2004

WHOLESALE ELECTRICITY MARKET RULES

Power System Operation Procedure:

Scheduling and Dispatch of Electricity Generation Corporation Facilities

Commencement: This Market Procedure is to have effect from 8:00am (WST) on the same date as the Wholesale Electricity Market Rule, in which this procedure is made in accordance with, commences.

Market Procedures Published by the Minister

I, FRANCIS LOGAN, Minister for Energy for the State of Western Australia, under regulation 9(2) of the *Electricity Industry (Wholesale Electricity Market) Regulations 2004* hereby approve the publication of the Power System Operation: Scheduling and Dispatch of Electricity Generation Corporation Facilities Procedure contained in this document.

This Market Procedure is to have effect from 8:00am (WST) on the same date as the Wholesale Electricity Market Rule, in which this procedure is made in accordance with, commences.

… … … … … … … … … … … … … … …

Dated at Perth this … … … day of … … … … …2006.

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1. RELATIONSHIP WITH MARKET RULES

This document sets out, in accordance with clause 7.6A of the Wholesale Electricity Market Rules, the procedure that will apply to the scheduling and dispatch of Electricity Generation Corporation (EGC) facilities.

This procedure is in addition to the Power System Dispatch Procedures that apply to the scheduling and dispatch of both Non-EGC and EGC facilities. This document should be read in conjunction with the Power System Dispatch Procedures governing all Market Participants.

This procedure is subject to the same requirements and change processes as other procedures established under the Market Rules.

This procedure is made in accordance with Market Rule 7.6A.7.

2. SCOPE OF PROCEDURE

This document sets out the processes that apply on a Scheduling Day and Trading Day for the scheduling and dispatch of EGC generation, and include:

a. The provision of plant and fuel data by EGC
b. The scheduling of EGC facilities
c. The dispatch of EGC facilities
d. Ex-post data exchange

3. ASSOCIATED PROCEDURES

a. Power System Operation Procedure – Dispatch
b. Power System Security Procedure
c. Power System Ancillary Services Procurement Procedure
d. Power System Operation Procurement - Glossary

4. INFORMATION PROCESSES

System Management and EGC acknowledge that, for the 12 months following commencement of the Electricity Market and the application of this procedure, some of the information systems described in this document may be in a process of development and trial.

5. DISPATCH INFORMATION

5.1 Requirement for EGC to provide information each month

1. No later than 12.00 PM on the last Business Day prior to the commencement of a new calendar month, EGC must provide to System Management the following

information for the purpose of scheduling and dispatching EGC facilities for the forthcoming month:

a. a Plant Schedule describing the merit order in which the facilities are to be called upon and any restrictions on the operations of such facilities;

b. a Fuel Plan specifying which fuels will be used in each Facility and guidance as to how that plan might be varied depending on circumstance; and

c. a description as to how Ancillary Services are to be provided, including the capability of each Facility to supply these services, and any ranking that should be applied between facilities when scheduling and dispatching the ancillary services.

2. The information should be provided in a form similar to that set out in Appendix l of this procedure.

3. The information will be provided through System Management's SMMITS system or any other communication medium mutually agreed by System Management and EGC.

4. Where the information has not been received by System Management by 12.15 PM of the required day, System Management should contact EGC and the information should either be resent, or communicated through another data transfer medium agreed between EGC and System Management.

5. Where System Management is not in receipt of the information by the end of the first day of the new calendar month, System Management will use the information received for the previous month.

5.2 Changes to Plant Schedule, Fuel Plan and Dispatch Information

1. EGC may revise the information set out in section 5.1 above at any time during the month over which the information applies.

2. When EGC revises the data in accordance with subsection (1), EGC should notify System Management by telephone of the change and confirm the change by communicating the updated information through the data exchange mechanism detailed in section 5.1(3) of this procedure.

3. EGC should specify in the notification in subsection (2) above, the time from which the new data will apply, except that the notification should allow System Management a minimum of one trading interval to update the SWIS Dispatch Plan and reschedule the EGC generators according to the revised information.

6. PROVISION OF SCHEDULING DAY INFORMATION BY SYSTEM MANAGEMENT

System Management must provide the following information to EGC on the Scheduling Day.

6.1 SWIS System Load Forecast by 8.30 AM.

1. System Management must provide to EGC by 8:30 AM on the Scheduling Day associated with a Trading Day a forecast of the expected SWIS Load for the Trading Day.

2. The SWIS System Load Forecast will represent the expected SWIS MWh load for each Trading Interval of the Trading Day, as measured at the combined Generation facility connection points to the SWIS network.

3. System Management will obtain the SWIS System Load forecast from the forecast process undertaken in accordance with section 4.2 of the Power System Operating Procedure - Dispatch.

4. The information will be provided through System Management's SMMITS system or any other electronic medium agreed between System Management and EGC.

5. If EGC has not received the System Load Forecast by 8.40 AM, EGC should notify System Management and the latter should resend the data through the SMMITS system or any alternative communication medium agreed between EGC and System Management.

6.2 EGC Supply Forecasts by 12.30 PM

1. System Management must provide to EGC by 12:30 PM on the Scheduling Day associated with a Trading Day, the information set out in this section 6.2 on the forecast output of EGC facilities. The information will be provided in the form of a Preliminary EGC Dispatch Plan that relates to the forthcoming Trading Day.

2. System Management must submit the data to System Management's SMMIT system or any other means of exchange agreed between System Management and EGC in a time that allows delivery of the data to EGC before 12.30 PM of the Scheduling Day.

3. Should EGC not receive the forecast Load data by 12.40 PM, EGC should notify System Management and the latter should resend the data through the SMMIT system or any alternative medium agreed between EGC and System Management.

6.2.1 EGC Total System Requirements

1. System Management must provide a forecast of the overall requirements for EGC energy, being a forecast of the whole of SWIS energy requirement less the Net Contract Positions of other Market Participants, for each Trading Interval of the Trading Day.

2. System Management will prepare this forecast by subtracting from the System Load Forecast determined in accordance with section 6.1 of this procedure, or any update of this forecast that System Management may have prepared, the

aggregate net contract position of all Market Participants after adjusting the aggregate quantity to account for losses.

3. System Management will adjust for losses by using the loss factors developed in accordance with section 4.4 of the Power System Operating Procedure – Dispatch.

6.2.2 Preliminary EGC Dispatch Plan

1. System Management must prepare a Preliminary EGC Dispatch Plan setting out the expected output for each EGC generating facility in order to supply the forecast EGC system requirements determined under section 6.2.1 of this procedure.
2. The EGC Dispatch plan must take into account:
    a. EGC forecast system requirements;
    b. expected availability of EGC plant; and
    c. plant schedule and Fuel Plan data provided by EGC under section 5.1(1) of this procedure.
3. System Management must consult with EGC in developing the Preliminary EGC Dispatch Plan, and EGC must provide System Management with any additional information required by System Management to prepare the Plan.
4. The consultation referred to in subsection (3) may be by telephone, but both parties should endeavour to formalise any exchange of additional data through written confirmation.
5. In the event of any failure by the EGC to provide any information required by System Management in a timely fashion, then System Management may use its reasonable judgement to substitute its own information.
6. An overview of the process for preparing the Preliminary Dispatch Plan is set out in Appendix II of this procedure.

The Preliminary EGC Dispatch Plan can only provide an approximation of the likely supply requirements on EGC on the Trading Day. Until the main Dispatch Plan is completed at 2.30PM using the merit order list provided by the IMO, it will be unclear the extent of non-EGC participation in providing balancing energy.

6.2.3 EGC Ancillary Service Requirements

1. System Management must include in the preliminary EGC Dispatch Plan a forecast of the quantity of ancillary services likely to be needed, and the generating facilities that may be used for the supply of each of the following services:
    a. Load Following Reserve;
    b. Spinning Reserve; and
    c. Load Rejection Reserve.
2. System Management may derive the estimates of Ancillary Service quantities from one or more of the following sources:

a. the most recent Short Term PASA study prepared by System Management;
b. the ancillary service data provided by EGC; and
c. power system analysis undertaken for the Trading Day.

6.3 Detailed EGC Dispatch Plan to be provided by 2.30 PM

1. By 2:30 PM on the Scheduling Day associated with a Trading Day, System Management must either confirm the Dispatch Plan provided to EGC as a consequence of section 6.2 of this procedure, or notify EGC of changes to the Dispatch Plan and forecast fuel requirement to reflect any changes required to accommodate Resource Plans or any changes in conditions.
2. System Management will meet the requirements set out in subsection (1) above by providing to EGC by 2.30 PM of the Scheduling Day, the EGC component of the SWIS Dispatch Plan that System Management has prepared in accordance with section 6 of the Power System Operating Procedure - Dispatch.
3. Should EGC not receive the detailed EGC Dispatch plan by 2.40 PM, EGC must notify System Management, and the latter should resend the data through SMMITS or any alternative exchange medium agreed between EGC and System Management.
4. Market Participant files necessary to confirm the Dispatch Plan which are otherwise expected by System Management from the IMO may be delayed, as authorised by the Market Rules. Where such a delay occurs and System Management is therefore unable to provide the Dispatch Plan to EGC by 2.30 PM of the Scheduling Day, then System Management must confirm with EGC the Dispatch Plan as soon as practicable, and in any event by no later than 5.00 PM of the Scheduling Day.

6.3.1 Modifications to EGC Dispatch Plan

1. If after 2:30 PM on the Scheduling Day but prior to the start of a Trading Interval on the corresponding Trading Day, System Management becomes aware of a change in conditions that require a significant change in the EGC Dispatch Plan, it may make such change but must notify the EGC of such change.
2. The changes in subsection (1) will be deemed to be significant when they indicate:
    a. previously unscheduled generating plant is expected to be dispatched; or
    b. expended fuel quantities are forecast to be outside the limits set by EGC.
3. Where System Management is required to alter the EGC Dispatch Plan, either as a consequence of meeting the Dispatch Criteria or any other reason permitted under section 6 or 7 of the Power System Operating Procedure - Dispatch, System Management must employ reasonable endeavours to minimise the change in the EGC Dispatch Plan and to have regard to the merit order of EGC Facilities. [**MR7.6.2A**]

4. Where System Management revises a SWIS Dispatch Plan in accordance with section 7.1 of the Power System Operating Procedure - Dispatch, the component of the SWIS Dispatch Plan that relates to EGC plant will be provided to EGC.
5. System Management must transmit the revised EGC Dispatch Plan to EGC as soon as practical through SMMITS or any alternative medium agreed between System Management and EGC.

6.4 Conflict with EGC Dispatch Plan

1. EGC must notify System Management as soon as practicable if it becomes aware that is unable to comply with an EGC Dispatch Plan. EGC must provide System Management with the reasons why it cannot comply.
2. System Management must review its Dispatch Plan to account for the information provided by EGC in subsection (1).

7. DISPATCH OF EGC FACILITIES FOR A TRADING DAY

1. System Management must issue EGC facilities with Dispatch Orders to dispatch facility output in accordance with the SWIS Dispatch Plan, and section 9 of the Power System Operating Procedure – Dispatch.
2. System Management may instruct EGC Facilities to deviate from the SWIS Dispatch Plan, or to change their commitment or output, in accordance with section 8 of the Power System Operating Procedure - Dispatch, or in response to System Management's powers under a High Risk Operating State or an Emergency Operating State.
3. EGC must implement the Dispatch Orders issued by System Management, except where such compliance would endanger the safety of any person, damage equipment or breach any applicable law.
4. EGC must notify System Management as soon as practicable if it becomes aware that is unable to comply with a Dispatch Order given under subsection (1).

8. EGC DISPATCH COMPLIANCE

1. System Management must undertake regular checks of EGC Generator Facility output status to monitor whether the outputs are consistent with the Dispatch Orders issued by System Management.
2. Where System Management detects that an EGC Facility has deviated substantially from its instructed output level, System Management must contact the Facility and request that the output level be adjusted to meet the required target output.
3. The EGC should comply with this request, and provide an estimate of the time that this will be accomplished.
4. System Management will accept this if there are no adverse implications to power system security.
5. System Management may deem EGC to be in non-compliance for a Trading Interval if the deviation:

a. persists beyond a time that System Management considers reasonable;

b. exceeds 10MW;

c. System Management deems power system security to be endangered; and

d. there are no mitigating circumstances.

6. Power System Security will be deemed to be endangered if the deviation causes the SWIS system to leave a Normal Operating State, or the dispatch criteria to be infringed.

7. System Management must consult with EGC concerning the events that cause the situation in subsection (5) in determining whether or not to deem EGC to be in non-compliance. System Management must give due regard to any reasonable mitigating circumstances of which EGC has notified it in accordance with:

    a. section 7(4) of this procedure; or

    b. any forced outage situation.

8. An overview of the process that System Management should follow in determining whether an EGC Facility has been in non-compliance is set out in Appendix III of this procedure.

9. In the event that System Management deems an EGC Facility to be in non-compliance for a Trading Interval, then System Management must determine the MWh quantity of the non-compliance for that Facility for the Trading Intervals in which the Facility has been in non-compliance.

10. EGC will be subject to a non-compliance charge [MR 9.10A] based on the MWh quantity of non-compliance assessed by System Management and provided to the IMO.

11. The MWh quantity of non-compliance for the non-complying Facility will be the MWh the facility produced above or below the MWh that should have been produced had the Facility complied exactly with the relevant Dispatch Order(s), less the 5MWh that equates to the 10MW allowable deviation.

12. Where two or more EGC facilities are non-compliant, the individual MWh quantity of non-compliance will be assessed for each Facility. System Management will record for each whether the deviation was positive or negative.

13. System Management will provide the IMO with its estimate of MWh quantity of non-compliance for each non-complying Facility as part of the settlement data provided to the IMO by noon of the first Business Day following the Trading day in which the event occurred.

9. ADMINISTRATION AND REPORTING:

9.1 Appointment of Representative

1. EGC and System Management should each appoint a representative who will act as the formal point of contact with regard to the operation of this procedure.

2. EGC and System Management should provide each other and the IMO with the name, title and contact details of its representative.

3. EGC and System Management will each maintain the appointed representative's currency.

9.2 Failure of Parties to meet obligations

1. System Management must report to the IMO any instance where it believes that the EGC has failed to meet its obligations under this procedure.

2. EGC may report to the IMO any instance where it believes that System Management has failed to meet is obligations under this procedure.

3. The reports referred to in subsection (1) and (2) must be submitted to the IMO within 2 business days of the occurrence of the event, or within 2 business days of either party becoming aware of the event.

4. Upon request by the IMO, EGC and System Management must make available to the IMO records created as a consequence of this procedure.

5. EGC and System Management must retain all records, including meeting minutes, created through the operation of this procedure.

9.3 Failure to Agree on an issue within the Procedure

1. System Management and EGC must use best endeavours to address any issues arising from the application of this procedure. Where agreement cannot be reached on an issue, either party may seek to have the matter resolved by arbitration by the IMO or through the dispute resolution process set out in clause 2.18 of the Market Rules.

2. The party seeking arbitration must, within 7 days of the event or within 7 days of the party becoming aware of the event, provide the IMO with a report setting out:
    a. a description of the issue in dispute;
    b. the background to the dispute and a description of the endeavours of the parties to resolve the issue; and
    c. the position of both parties on the issue, including what is required to resolve the dispute.

3. The party submitting the report must provide a copy of the report to the other party at the same time the report is submitted to the IMO.

4. The other party must submit its own report on the issue to the IMO within 2 business days of the receipt of the report noted in subsection (4).

5. In reviewing the issue, the IMO must have regard to the following:
    a. the content of this procedure;
    b. the Market Rules and procedures; and
    c. the appropriateness of any section of this procedure relevant to the issue, and its alignment with market objectives, Market Rules and other procedures.

6. The IMO may seek further information from either party, and this information should be provided within 2 Business Days of receipt of the request.

7. The IMO must provide its draft recommendation to EGC and System Management within two weeks of the receipt of the report in subsection (5). Both parties have 2 Business Days to provide the arbitrator with comments on the draft recommendation.

8. The IMO must, within 2 Business Days of receiving comments, issue a binding decision.

10. INFORMATION DISCLOSURE AND CONFIDENTIALITY

1. All data exchanged between EGC and System Management in consequence of this procedure that is commercially sensitive will be treated as “Rule Participant Market Restricted” and disclosure of the information will be covered by the conditions set out in clause 10.2.2(c) of the Market Rules.

Appendix I EGC Scheduling Information

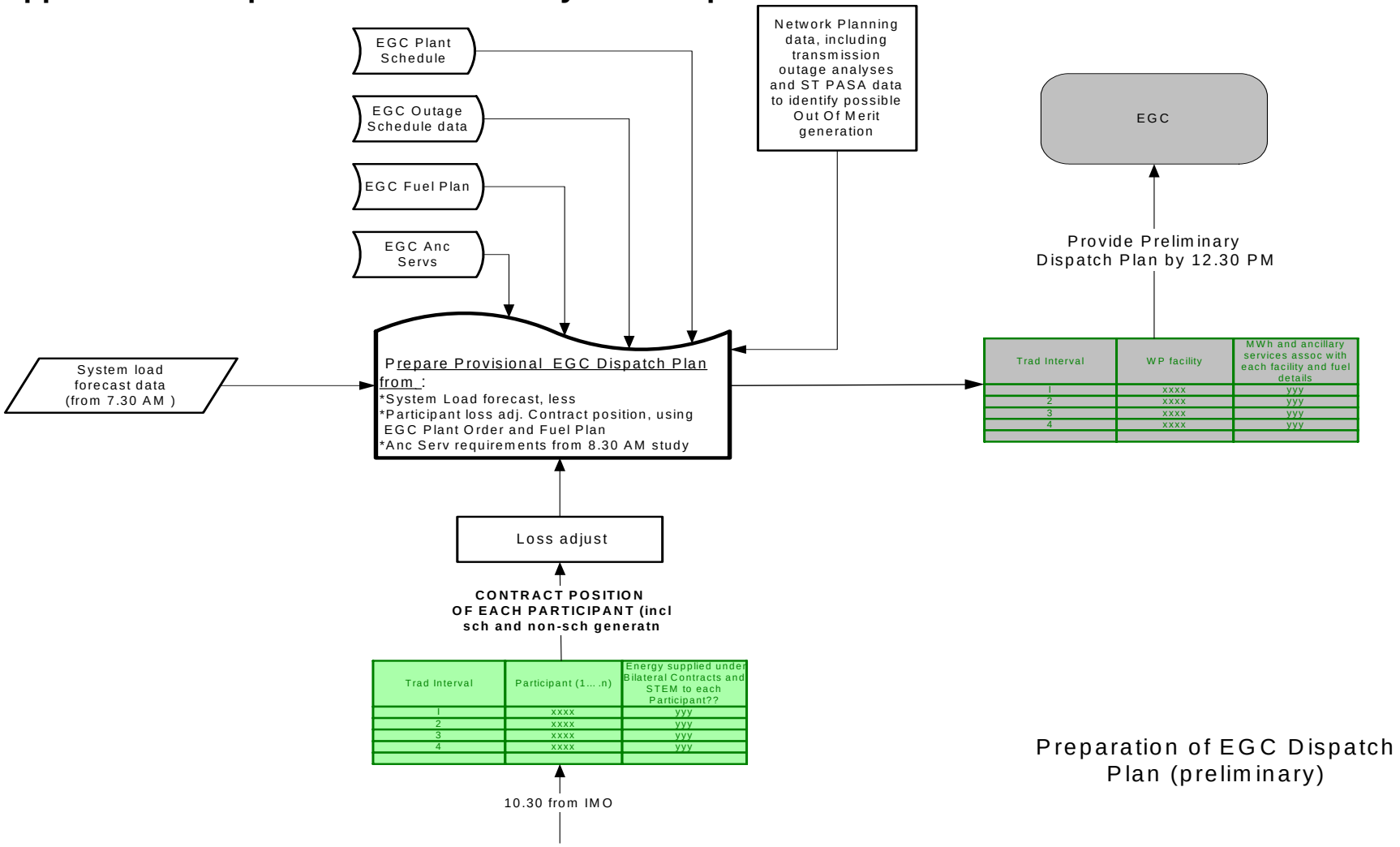
Information provided to System Management in accordance with Section 5(1)

Plant Schedule: Merit order list for EGC generating units and facilities		
Facility Identification	**Fuel Determination associated with facility**	**MW Capacity associated with Fuel determination**
Facility No 1 (can be specified as single or multiple units)		
Facility No 2		
…….		
…….		
……..		
Facility nn		

Fuel Plan: Fuel Guidelines for Fuel types, sources and delivery rates		
Fuel Type	**Fuel MWh constraints**	**Fuel delivery rates**
Fuel type 1		
Fuel type 2		
…….		
…….		
Fuel type mm		

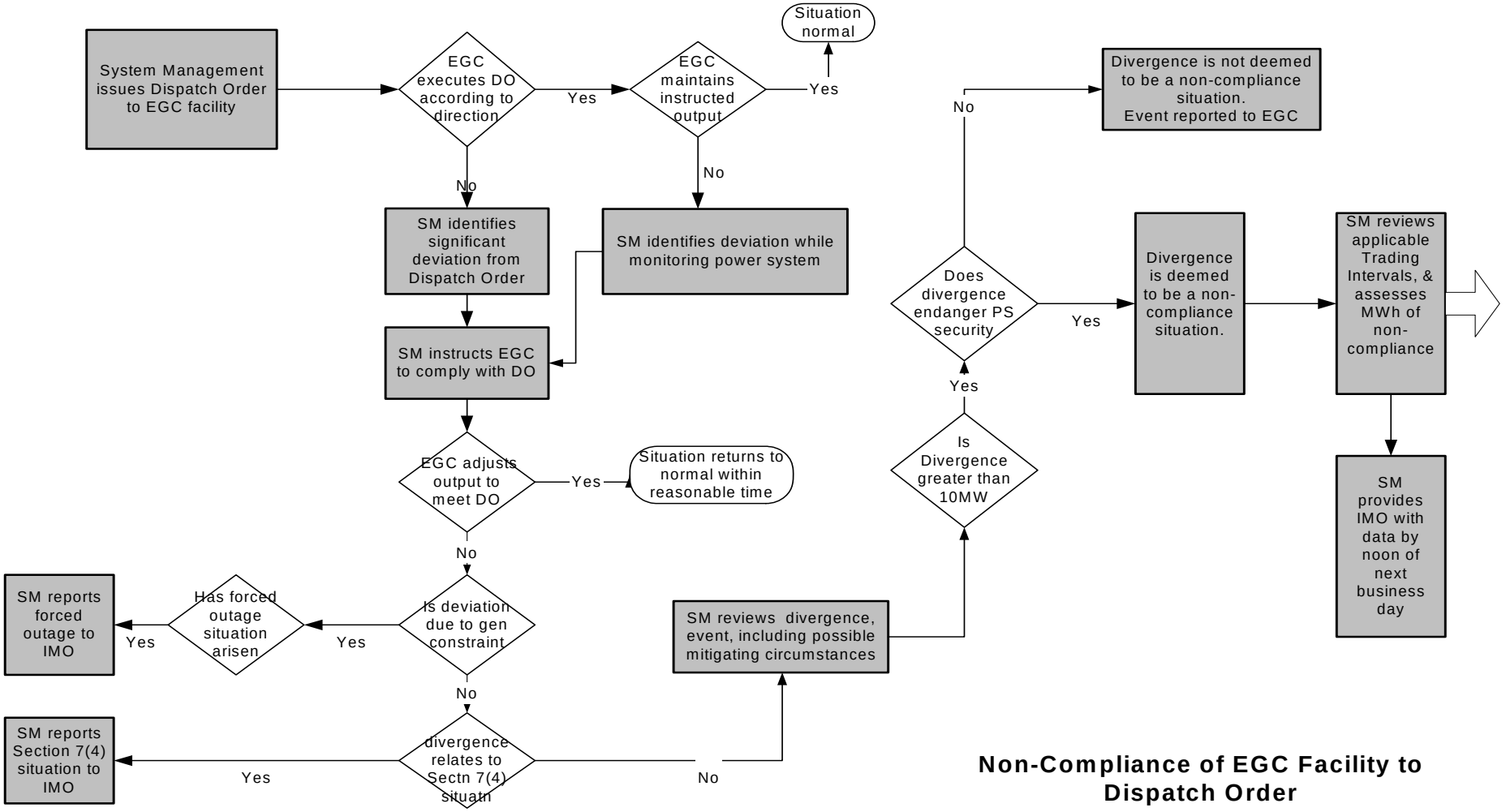
Ancillary Services: Information additional to that provided in Market Rule's the Standing data on ancillary service capability		
Facility Identification	**Frequency following Reserve-**	**Spinning Reserve**
Facility No 1 (can be specified as single or multiple units)		
Facility No 2		
…….		
…….		
……..		
Facility nn		

Appendix II Preparation of Preliminary EGC Dispatch Plan



Preparation of EGC Dispatch Plan (preliminary)

Appendix III EGC Compliance with Dispatch Order



Non-Compliance of EGC Facility to Dispatch Order