ELECTRICITY INDUSTRY ACT

ELECTRICITY INDUSTRY (WHOLESALE ELECTRICITY MARKET) REGULATIONS 2004

WHOLESALE ELECTRICITY MARKET RULES

Power System Operation Procedure:

Dispatch

Version history	
21 September 2006	Power System Operation Procedure (Market Procedure) for Dispatch
30 September 2009	System Management proposed amendments to this procedure resulting in publication of Procedure Change Report PPCL 0013
5 January 2010	System Management proposed amendments to this procedure resulting in publication of Procedure Change Report PPCL 0014
4 March 2010	System Management proposed amendments to this procedure resulting in publication of Procedure Change Report PPCL 0015
28 June 2010	System Management proposed amendments to this procedure resulting in publication of Procedure Change Report PPCL 0018

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RELATIONSHIP WITH MARKET RULES

1. This Procedure has been developed in accordance with, and should be read in conjunction with, the Wholesale Electricity Market Rules (Market Rules).
2. References to particular Market Rules within the Procedure in bold and square brackets **[MR XX]** are current as at 5 December 2011. These references are included for convenience only, and are not part of this procedure.
3. This Power System Operating Procedure is subservient to the Market Rules. In the event of conflict between this Procedure and the Market Rules or any other document, the order of precedence is as set out in the Market Rules **[MR 1.5.2]**
4. This Power System Operating Procedure may include explanatory text, including quotations from the Market Rules. Such explanatory text is for information only, does not form part of the Procedure, and is italicised and contained in a rectangular box.
5. A word or phrase defined in the Electricity Industry Act 2004, or in the Regulations or Market Rules made under that Act, has the same meaning when used in this Procedure.

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RELATED DOCUMENTS

1. This document is related to, and should be read in conjunction with, the following documents:
   a. SWIS Technical Rules and Operating Standards
   b. Power System Operation Procedure – Power System Security
   c. Power System Operation Procedure – Ancillary Services
   d. Power System Operation Procedure – Communications and Control Systems
   e. Power System Operation Procedure – Commissioning and Testing.
   f. Power System Operation Procedure – Monitoring and Reporting.

COMMENCEMENT

1. This market procedure replacement has effect from the date of commencement of Rules Change Proposal RC_2011_10.

1 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 must be dispatched.
2. This Procedure covers both Verve Energy and non-Verve Energy facilities. It covers both System Management's general dispatch obligations, and those relating to scheduling the Verve Energy Balancing Portfolio as a service provided to Verve Energy.
3. This procedure documents the obligations on:
    a. System Management in respect of the scheduling and dispatch of Market Participants' Facilities and the provision of information to the IMO and to Market Participants on dispatch-related matters
    b. Market Participants in respect of the provision of information and the operation of their Facilities
    c. The IMO in respect of the provision of information.

2 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; and
    b. planning for dispatch; and
    c. issuing dispatch advisories; and
    d. issuing Dispatch Instructions and Dispatch Orders; and
    e. 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 Information Technology Systems in accordance with the Market Rules **[MR 2.34.1(b)]**.

3 DISPATCH CRITERIA

1. When scheduling and dispatching Market Participant's Facilities, System Management must at all times seek to meet the criteria described in the Market Rules **[MR 7.6]**.

The criteria are, in order of priority:

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 Services standards appropriate for the applicable Operating State.

For the avoidance of doubt, the satisfying the Dispatch Criteria will always take precedence over other dispatch rules such as adherence to the Balancing Merit Order.

4 SCHEDULING AND DISPATCH OF THE VERVE ENERGY BALANCING PORTFOLIO

1. System Management's and Verve Energy's obligations for scheduling and dispatching the Facilities of Verve Energy's Balancing Portfolio are set out in the Market Rules **[MR 7.6A]**.
2. Verve Energy must provide System Management with a set of dispatch guidelines for its facilities comprising the Verve Energy Balancing Portfolio in a form agreed between Verve Energy and System Management.
3. System Management must prepare a Verve Energy Dispatch Plan daily for the Verve Energy Balancing Portfolio in a form agreed between Verve Energy and System Management.
4. Verve Energy may update the Verve Energy Balancing Portfolio Dispatch Guidelines from time to time and advise System Management of the date and time from which the updated Guidelines are to take effect.
5. Communication of the Verve Energy Balancing Portfolio Dispatch Guidelines must be made in a form agreed by Verve Energy and System Management.
6. Communication of, and consultation in relation to, the information referred to in **[MR 7.6A.2 (c)]** must normally be by means of an electronic interface. Verve Energy and System Management may communicate by other means where necessary provided that all communications create, or are subsequently verified by, an electronic record.

5 PRE GATE CLOSURE

5.1 ~~Forecasting Relevant Dispatch Quantity~~Pre-dispatch plan

Comment [BenC1]: RDQ moved to Load Forecasting section

~~1.System Management must derive forecasts of Relevant Dispatch Quantity (in MW), and forecast EOI quantity for non-scheduled generators, from a pre-dispatch plan.~~

1. System Management must produce, and update as required, a pre-dispatch plan covering all periods in the Balancing Horizon.
2. The pre-dispatch plan referred to in Paragraph 5.1.1 must, where practicable, be produced using a mathematical program based on the same formulation used to create Dispatch Instructions (refer Section 6.3 below).
3. Upon receiving a Forecast BMO from the IMO, System Management must formulate any constraints necessary to maintain power system security and

use those constraints when producing the pre-dispatch plan referred to in Paragraph 5.1.1**.**

4. System Management must report any pre-dispatch constraints binding, and any pre-dispatch constraints violated, via Dispatch Advisory notices as described in Section 5.8 of this Procedure.
5. System Management may communicate warnings to individual Market Participants if it detects significant discrepancies between Standing Data equipment limits and the pre-dispatch plan.

The warnings referred to in Paragraph 5.1.5 are for information only. It remains the Market Participant's responsibility to ensure their balancing submissions reflect the physical capabilities of their facilities at all times.

5.2 Constraints used in the pre-dispatch plan

1. The constraints referred to in Paragraph 5.1.3 may include, as appropriate, constraints to ensure any one or more of the following:
   a. Maintenance of Ancillary Services standards
   b. Appropriate use of contracted services, including Dispatch Support Services and Network Control Services
   c. Maintenance of the Ready Reserve Standard
   d. Adherence to Equipment Limits
   e. Maintenance of overall system security
   f. Appropriate management of fuel, if and to the extent that System Management is required to manage such constraints during a fuel supply emergency.

5.3 Load forecasts

1. System Management is required by the Market Rules to provide load forecasts daily to Verve Energy **[MR 7.6A.2(b)]** ~~)]~~ :~~and~~ twice daily to the IMO in accordance with **[MR 7.2.1]**, and half-hourly to the IMO in accordance with **[MR 7A.3.14]**.

System Management will generally update its own load forecasts more frequently and will use the latest updated load forecasts to produce the forecasts referred to in Paragraph 5.3.1.

2. Load forecasts provided in relation to Paragraph 5.3.1 must, where practicable, utilise the most recent information available to System Management at the time the forecast is produced.
3. Load forecasts provided in relation to ~~Paragraph 5.3.1~~**[MR 7.6A.2(b)]** and **[MR 7.2.1]** must separately itemise, for each Trading Interval in the Trading Day, the following data on a sent-out, ~~non-~~loss-adjusted basis:
   a. SWIS System Load, in MW, at the end of the Trading Interval; and

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Comment [BenC2]: Changed for consistency with the Rules

b. Total energy, in MWh, over the trading interval; and

c. Forecast Non-Scheduled Generation, in MW, at the end of the Trading Interval; and

d. Forecast energy from Non-Scheduled Generation, in MWh, over the trading interval~~; and~~.

~~e. Forecast energy from commissioning generators, in MWh, over the trading interval.~~

4. The SWIS System Load must be calculated as 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, converted to sent-out and loss-adjusted.

Load forecasts are considered to be for system demand in the absence of any curtailment by Non-Balancing Facilities (i.e. demand-side management). Forecast curtailment will be communicated to the market via a Dispatch Advisory notice.

5. Relevant Dispatch Quantities provided in relation to **[MR 7A.3.14]** must be provided in sent-out, non-loss-adjusted terms.

~~5.~~6. Load forecasts must be provided to Verve Energy through System Management's market system or any other medium agreed between System Management and Verve Energy.

~~6.~~7. Load forecasts must be provided to the IMO electronically in accordance with the IMO-System Management Interface Document.

~~7. System Management must provide the information referred to in Paragraph 5.3.1 to the IMO within the timeframe stipulated in the Market Rules **[MR 7.2.3B(a)]** and confirmation of receipt must be made by the IMO within the relevant timeframe **[MR 7.2.3D]**.~~

~~8. If System Management fails to provide the information referred to in Paragraph 5.3.1 within the stipulated timeframe, or does not receive confirmation of receipt from the IMO, System Management must contact the IMO and arrange to provide the information by alternative means by the timeframe stipulated in the Market Rules **[MR 7.2.3C]**.~~

5.4 ~~Significant discrete loads~~[blank]

This section, intended to cover treatment of significant discrete loads, ~~has not been finalised~~ is blank at this time.

System Management is considering whether it is necessary to ~~proposes that a~~ model significant discrete loads (suggested ~~be defined as~~ definition is a load at a single connection point on the SWIS with a non loss factor adjusted peak greater or equal to than 20MW or a set of related loads with more than one connection point sharing coincident load profiles with the sum of the non loss factor adjusted peaks being greater than or equal to 20 MW). A summary of the requirements proposed by System Management for Significant Discrete Loads is as follows:

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Comment [BenC3]: Not in interface spec; not required by Rules

Comment [BenC4]: Changed for consistency with the Rules

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Comment [BenC5]: These paragraphs simply replicate the content of the Rules.

Comment [BenC6]: SM will not have HOP for this – may pursue separately later.

- A load forecast for the significant discrete load must be produced by the load customer or its retailer on the Scheduling Day for the upcoming Trading Day.

- Load forecast must be sent by the load customer or its retailer to SM via SM's market system interface by 12:00 hrs on the Scheduling Day.

- The significant discrete load forecast must then be in corporated into SM's system load forecast which is then used by IMO to produce the market forecasts and then by SM for its security constrained pre-dispatch and furthermore for security and dispatch purposes including Dispatch Advisories, Dispatch Instructions and Operating Instructions.

A Market Rule change would be required to give these requirements heads of power. ~~This is to be considered further by the IMO~~System Management may propose a Rules Change to this effect in the future.

5.5 Forecasts of non-scheduled generation

1. Unless specifically excused by System Management, 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. 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, modelling data sufficient to allow System Management to forecast the output of that Intermittent Generator. The modelling data provided shall include, but not necessarily be limited to, identification of the main independent variables affecting output and the function relating those variables to output. All modelling data shall be provided on, or be sufficient to allow conversion to, a sent-out basis.
3. The Non-Scheduled Generator forecast information must be submitted to System Management via the interface to System Management's market system unless an alternative medium agreed between System Management and the Market Participant.
4. 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 estimate expected intermittent generation output using the information provided under Paragraph 5.5.2 and may substitute this data for part or all of the data provided for that Intermittent Generator.
5. 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 injection levels from past Trading Intervals, or a separate forecast derived for that purpose.
6. ~~System Management must not disclose the information referred to in Paragraph 5.5.2 to any other party, or use it for any purpose other than to assist in~~

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~~reviewing Ancillary Service requirements and corresponding dispatch plans during the Trading Day in accordance with the Market Rules **[MR 7.2.6].**~~

6. Non-Scheduled Generation forecasts must be provided to the IMO electronically in accordance with the IMO-System Management Interface Document.

Comment [BenC7]: Should be covered by general confidentiality provisions (deleted in response to LGP comment)

Comment [a8]: Requested by IMO (Cameron Parrotte entered 11/1/2012)

5.6 Forecasts of ancillary services demand

1. 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]**.
2. 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]**.
3. If the IMO fails to receive this information within the initial stipulated timeframe, the IMO must contact System Management and System Management must provide it by alternative means by the delayed timeframe stipulated in the Market Rules **[MR 7.2.3C]**. Confirmation of receipt of such information must be made by the IMO within the relevant timeframe **[MR 7.2.3D]**.

5.7 Updating the Verve Energy Dispatch Plan

1. System Management is required to notify Verve Energy of significant changes to the Verve Energy Dispatch Plan **[MR 7.6A.2(f)].**
2. The changes referred to in Paragraph 5.7.1 must be deemed to be significant when they indicate:
   a. previously uncommitted generating Facilities are expected to be committed, or previously committed generating Facilities are expected to be de-committed; or
   b. fuel required is forecast to be outside the limits set by Verve Energy; or
   c. System Management expects to need to dispatch Facilities in the Verve Energy Balancing Portfolio outside the Verve Energy Balancing Portfolio Dispatch Guidelines described in Paragraph 4.2.
3. System Management must transmit the revised Verve Energy Dispatch Plan to Verve Energy as soon as practicable through the interface to System Management's market system.
4. Verve Energy may request changes to the Verve Energy Dispatch Plan, which System Management must use reasonable endeavours to accommodate.

*System Management has an obligation to consult with Verve Energy in preparing the Verve Energy Dispatch Plan **[MR 7.6A.2(d)].***

5.8 Dispatch Advisory notices

1. The requirements for the issue and release of Dispatch Advisory notices to Market Participants and the IMO are specified in the Market Rules **[MR 7.11].**
2. Dispatch Advisories may arise as a result of one or more of:
   a. Conditions detected in the pre-dispatch plan; or
   b. Conditions detected in the dispatch plan; or
   c. Real-time monitoring thresholds being reached; or
   d. Conditions detected or forecast manually by System Management Controllers.

Types of Dispatch Advisory notices are listed in Appendix 1.

3. System Management must transmit Automatic Dispatch Advisory notices ~~half hourly,~~ as soon as practicable after the completion of each Trading Interval, and at other times if required. Manually generated Dispatch Advisory notices must be transmitted as soon as practicable.
4. System Management must transmit Dispatch Advisory notices in accordance with the IMO-System Management Interface Document.
5. Where there is a communication failure or insufficient time to issue such a notice, System Management may convey the content of the notice via telephone or such other means as are practicable at the time, but must provide confirmation in the form of a formal Dispatch Advisory notice as soon as practicable.
6. System Management has an obligation under the Market Rules **[MR 7.11.6AA]** to ensure that confidential information is not disclosed in Dispatch Advisory notices.

Comment [BenC9]: Changed so that it is clear that nothing will be transmitted in half hours for which no Das are required

5.9 Content and management of Dispatch Advisory notices

1. Each occurrence of a condition triggering a Dispatch Advisory notice must result in a separate Dispatch Advisory notice being produced.
2. Each Dispatch Advisory notice must contain:
   a. An issue time; and
   b. A commencement time, being the time at which the conditions triggering the Dispatch Advisory notice are expected to occur; and
   c. An ending time, being the time at which the conditions triggering the Dispatch Advisory notice are expected to cease; and
   d. A Dispatch Advisory Type field; and
   e. A text field for the detailed content of the Dispatch Advisory notice.
3. Dispatch Advisory notices remain in force until withdrawn.
4. Withdrawal of Dispatch Advisory notices must occur as follows:

a. Dispatch Advisory notices issued pursuant to the pre-dispatch plan or dispatch plan cover one trading interval and are deemed to have been withdrawn at the end of that trading interval; or

b. Dispatch Advisory notices issued retrospectively in response to events that have already occurred are deemed to have been withdrawn at the later of the time of issue and the ending time. Such Dispatch Advisories may also be withdrawn by issuing a withdrawal notification; or

c. Dispatch Advisory notices issued in circumstances not covered above are issued when required and expire automatically at the ending time unless withdrawn earlier.

5.10 Pre-issuing of Dispatch Instructions

1. Where System Management determines that a specific Facility is required to operate in a particular way in a future period for the maintenance of power system security, System Management may issue Dispatch Instructions to the required Facility prior to the normal issuance time.
2. Where the Facility referred to in Paragraph 5.10.1 would be required to be dispatched pursuant to Part b of Paragraph 6.3.5, System Management must observe the Facility's Standing Data minimum response time when issuing Dispatch Instructions to that Facility.
3. Where System Management determines that a Non-Balancing Facility is required to operate in a future period for the maintenance of power system security, System Management must issue Dispatch Instructions to the required Facility in accordance with that Facility's notice period.
4. System Management may issue new Dispatch Instructions to replace Dispatch Instructions issued pursuant to Paragraph 5.10.1or Paragraph 5.10.3 if required.

6 POST GATE CLOSURE

6.1 Bona fide changes to physical status of Facilities

1. The Market Rules **[MR 7A.2.10]** require a Market Participant, except Verve Energy in respect of the Verve Energy Balancing Portfolio, to update their Balancing Submission if after gate closure they become aware that the Balancing Submission does not reflect the physical capabilities of their Facilities.
2. If the circumstances described in Paragraph 6.1.1 occur, and reflect a reduction or expected reduction in the capability of the Market Participant's facility or facilities, the affected Market Participant must also advise System Management of the nature and extent of that reduction as soon as practicable. This notification is to initially be ~~verbal~~by telephone but then followed as soon as practicable on System Management's market system.

Comment [a10]: Requested by IMO (entered by Cameron Parrotte 11/1/2012)

3. When advised in accordance with Paragraph 6.1.2, System Management must for any Trading Intervals for which it expects to receive no further updates to the Balancing Merit Order:
    a. Assess power system security in accordance with the Power System Operating Procedure “Power System Security” and take any required actions resulting from that assessment; and
    b. Immediately issue a Dispatch Advisory notice specifying the extent of the reduction in capacity and whether the affected Facility is marginal, above or below the balancing point; and
    c. Immediately issue a Dispatch Instruction to the affected Facility as though the notification referred to in Paragraph 6.1.2 had not been received and
    d. Immediately following the issue of the Dispatch Instruction referred to in Part c, issue a new Dispatch Instruction to the affected Facility consistent with the advice referred to in Paragraph 6.1.2; and
    e. Deem the affected Facility to have refused to comply with the Dispatch Instruction referred to in Part c above; and
    f. Deem the affected Facility to have refused to comply with any future Dispatch Instruction instructing the affected Facility to operate above its advised reduced capability, notwithstanding that such a Dispatch Instruction has not yet been issued.

6.2 Commitment of generating Facilities

1. The obligations of System Management and Market Participants in respect of commitment and de-commitment of generating Facilities are set out in the Market Rules **[MR 7.9]**.
2. A Market Participant, except Verve Energy with respect to the Verve Energy Balancing Portfolio, must communicate confirmation of expected time of synchronization and de-synchronisation under the Market Rules via telephone **[MR 7.9.1].**
3. System Management must log the reasons when permission to synchronise or de-synchronise is refused.

6.3 Creation of Dispatch Instructions and Dispatch Orders

1. System Management must create Dispatch Instructions and Dispatch Orders in such a way as to ensure the Dispatch Criteria **[MR 7.6.1]** are met at all times.
2. System Management must, wherever practicable, create Dispatch Instructions and Dispatch Orders using a mathematical program.
3. The Market Rules **[MR 7.6.1A, 7.6.1AA. 7.6.1B, 7.6.1C]** stipulate the priority rules that System Management must follow in formulating Dispatch Instructions.

4. In determining which Facility or Facilities best meet the Dispatch Criteria when dispatching out-of-merit in accordance with [MR 7.6.1B (b)], System Management must consider, in order, each Facility in the Balancing Merit Order until either:
    a. System Management has determined that issuing Dispatch Instructions out of merit to either or both of the next two Facilities in the BMO would resolve the issue leading to out-of-merit dispatch; or
    b. System Management has determined that issuing Dispatch Instructions out of merit to either or both of the next two Facilities in the BMO would not resolve the issue leading to out-of-merit dispatch.
5. If System Management makes a determination in accordance with Part b of Paragraph 6.3.4, System Management must:
    a. Dispatch, in order, either or both of the next two Facilities out of merit to the extent that doing so would resolve the issue leading to out of merit dispatch; and
    b. Dispatch such other Facilities as System Management determines are required in accordance with [MR 7.6.1B (c)].

Paragraphs 6.3.4 and 6.3.5 essentially mean that System Management will only go to the next two Facilities in the BMO before it starts looking for the best Facility to resolve the issue on technical grounds. The rationale for this approach is that the further the Facility being considered is from the balancing point, the less chance the Facility will be in a position to respond. (When System Management calls a Facility under Part c, it is required to observe standing data response time).

[MR 7.6.1B states that:

"In seeking to meet the Dispatch Criteria System Management must, subject to clause 7.6.1C, issue Dispatch Instructions in the following, descending order of priority:

(a) Dispatch Instructions to Balancing Facilities in the order and for the quantities they appear in the BMO, taking into account Ramp Rate Limits;

(b) a Dispatch Instruction to a Balancing Facility Out of Merit but only to the next Facility or Facilities, and associated quantity in the BMO that System Management reasonably considers best meets the Dispatch Criteria, taking into account the associated Ramp Rate Limit;

(c) a Dispatch Instruction to any Balancing Facility Out of Merit, taking into account the Ramp Rate Limit and non-ramp rate Standing Data limitations and any other relevant information available to System Management; and

(d) a Dispatch Instruction to a Non-Balancing Facility in accordance with the Non-Balancing Dispatch Merit Order, taking into account Standing Data limitations."

6. System Management must **[MR 7.6.1A]** give priority to the dispatch of a Registered Facility under a Network Control Service (NCS) contract if doing so would assist System Management to meet the Dispatch Criteria. System

Management must consider that a Network Control Service contract would assist it to meet the Dispatch Criteria if System Management considers that:

a. The dispatch of the power system without calling upon the NCS Contract would adversely affect power system security; and

b. Dispatching the facilities covered by the NCS contract according to the terms of the contract would prevent the circumstances described in Part a above from arising or alleviate them if they have already arisen.

7. System Management may **[MR 7.6.1AA]** give priority to the issuing of Operating Instructions that call on Ancillary Services, NCS or Supplementary Capacity Contracts, or enable a Test. System Management must, as far as possible without breaching its obligations in relation to maintaining power system security, apply its discretion in the following manner:

   a. NCS Contracts must be called upon in accordance with Paragraph 6.3.6 or as agreed with the applicable Network Operator; or

   b. Ancillary Services Contracts must be called upon in accordance with the terms of the Contract; in accordance with System Management's approved Ancillary Services Plan; and in a way that at all times meets the Ancillary Services Standards; or

   c. Supplementary Capacity Contracts must be called upon in accordance with the terms of the Contract; or

   d. Tests must be scheduled in accordance with the Power System Operating Procedure "Commissioning and Testing".

~~8.Any agreements with Verve Energy in relation to the provision of Ancillary Services, including those embodied in the Verve Energy Balancing Portfolio Dispatch Guidelines, must be considered to be an Ancillary Services Contract for the purposes of Paragraph 6.3.7.~~

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Comment [a11]: AS requirements for Verve will be outlined in Verve Dispatch Plan and thus OIs for AS are not required and thus this deeming an AS Contract is not required.

~~9.~~8. System Management must **[MR 7.6.1B]** take into account ramp rate limits when formulating Dispatch Instructions in accordance with the Balancing Merit Order. For the avoidance of doubt:

   a. A facility that is below the balancing point in the BMO and is not dispatched for its full offered quantity, but that is dispatched for the maximum quantity its Ramp Rate Limit implies it is capable of achieving in the Trading Interval, must be considered to have been dispatched "in merit"; or

   b. A facility that is above the balancing point in the BMO and is dispatched for a non-zero quantity, being the minimum quantity its Ramp Rate Limit implies it is capable of achieving, must be considered to have been dispatched "in merit".

System Management will not consider Standing Data minimum generation constraints when formulating Dispatch Instructions in accordance with the BMO. Participants must prepare their balancing submissions in such a way as to achieve either dispatch above minimum generation, or de-commitment. When System

Management issues dispatch instructions out of merit in accordance with [MR 7.6.1B(b)], it will however observe minimum generation constraints.

6.4 Creation of Operating Instructions

1. System Management must issue Operating Instructions to call on services provided under Network Control Service Contract, an Ancillary Service Contract, or a Supplementary Capacity Contract; or in connection with a Test.

~~2.~~~~System Management must deem Verve Energy's obligations as the default provided of Ancillary Services to be an Ancillary Services Contract for the purposes of Paragraph 6.4.1.~~

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Comment [a12]: AS requirements for Verve will be outlined in Verve Dispatch Plan and thus OIs for AS are not required and thus this deeming an AS Contract is not required.

System Management will thus issue Operating Instructions to the Verve Balancing Portfolio and/or Verve Stand Alone Facilities when calling on Verve to provide Ancillary Services other than Load Following Ancillary Service.

~~3.~~2. Where System Management identifies, based on the BMO or Forecast BMO, that a Facility's Balancing Submission is inconsistent with an Operating Instruction to that Facility, System Management may send a warning to the market participant.

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The obligation to ensure dispatch consistent with OIs remains with the participant. Any warning from System Management is provided for information only.

~~4.~~3. Where a Market Participant with a contract to provide Ancillary Services or Network Control Service provides the contracted service automatically and in accordance with the terms of the contract, System Management must communicate the Operating Instruction to the relevant Market Participant as early as practicable.

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Where System Management is required to call on Network Control Service from a Facility whose Standing Data notice period is less than gate closure ~~two options are under consideration by IMO. These options are:~~

~~Option 1: Issue OI for NCS before gate closure to allow NCS Facility to update bids and offers in the normal timeframe; or~~

~~Option 2:~~ , SM will ~~I~~issue the OI immediately after gate closure based on forecast BMO. ~~Allow~~ The NCS Facility ~~to~~ would then update its balancing submission after gate closure, as allowed ~~. This option would require change to~~ under Rule 7A.2.10.

Note the above only applies where the NCS is for the provision of real power. Calling an NCS contract for reactive power will be done by a direction, i.e. outside the market.

6.5 Issuing of Dispatch Instructions, Dispatch Orders and Operating Instructions

1. The Market Rules detail the requirements for Dispatch Instructions **[MR 7.7.2** and **MR 7.7.3]**, Dispatch Orders and Operating Instructions **[MR 7.7.3A]**.

2. All Dispatch Instructions, Dispatch Orders and Operating Instructions for a facility remain in force until superseded by a new Dispatch Instruction, Dispatch Order or Operating Instruction.

Dispatch Instructions to curtailable loads will be expressed in terms of "quantity of curtailment".

3. System Management must issue Dispatch Instructions, Dispatch Orders, ~~and~~ Operating Instructions electronically via one of the following methods (in order of preference):
   a. SCADA, if available; or
   b. System Management's interface to its marrket system; or
   c. E-mail (SMS may be used as an adjunct to email); or
   d. Telephone, with subsequent confirmation by one of the means above.
4. Other than for Facilities which System Management has direct control and the Facility is capable of responding faster, when dispatching facilities in merit **[MR 7.6.1B(a)]** or just out of merit **[MR 7.6.1B(b)]** System Management must provide at least 3 minutes between the issuing and commencement time of Dispatch Instructions and Dispatch Orders.
5. System Management must respect standing data Minimum Response Times when issuing Dispatch Instructions or Dispatch Orders to Facilities out of merit for system security reasons, unless advised otherwise by the Market Participant concerned.
6. Where it is not practicable for System Management to issue Dispatch Instructions or Dispatch Orders in the manner described in Paragraph 6.5.3, System Management may use such other means as it deems best suited to the circumstances and the requirements of Paragraph 6.5.3 shall be deemed to have been fulfilled.
7. Where a Market Participant, for a generating facility which does not carry an obligation to provide a Spinning Reserve or Load Following ancillary service and satisfies the two following criteria:
   a. if the system frequency moves above 50.025Hz or below 49.975Hz; and
   b. if the generator facility's governor automatically moves the generator away from its most recent Dispatch Instruction or Dispatch Order to a point outside its Tolerance Range in a manner that assists reducing the frequency deviation,

   then System Management must deem the abovementioned movement to be within the Facility's Tolerance Range. To ensure a controlled restoration of the frequency back to 50Hz, SM may issue Dispatch Instructions or Dispatch Orders to hold some facilities at levels they have ~~stablisised~~stabilised at after the frequency disturbance.

System Management requires that each generating unit operating in parallel with the SWIS must have its governor enabled and governor response set at 4% droop, and

have governor frequency dead band of less than 0.05 Hz, in accordance with the Technical Rules. Refer to clauses 3.3.4.4 (d) and (e) of the Technical Rules

The above paragraph is included to ensure that penalties are not imposed upon Generators that respond to assist in the event of a system emergency.

6.6 Response to Dispatch Instructions, Operating Instructions and Dispatch Orders

1. Where a Market Participant advises System Management that it cannot follow its Dispatch Instruction, Operating Instruction or Dispatch Order, System Management must:

   a. Issue a new ~~Dispatch Instruction or Dispatch Order~~ Dispatch Instruction, Operating Instruction or Dispatch Order Dispatch Instruction, Operating Instruction or Dispatch Order to the Market Participant consistent with their advised capability, and tag the original ~~Dispatch Instruction or Dispatch Order~~ Dispatch Instruction, Operating Instruction or Dispatch Order for non-compliance; and

System Management is obliged to use the generator to the maximum extent possible: If the Dispatch Instruction says move upwards from A to C and the generator advises it can only deliver B, System Management must take B and cannot direct the generator to remain at A.

   b. Issue Dispatch Instructions or Dispatch Orders to other Facilities as required; and

   c. Issue a Dispatch Advisory notice to advise the market of dispatch out of merit.

2. Where System Management does not receive confirmation that a ~~Dispatch Instruction or Dispatch Order~~ Dispatch Instruction, Operating Instruction or Dispatch Order has been received within 60 seconds of the time of issuance, System Management must deem the ~~Dispatch Instruction or Dispatch Order~~ Dispatch Instruction, Operating Instruction or Dispatch Order to have been refused. System Management must then:

   a. Send the Market Participant concerned a new ~~Dispatch Instruction or Dispatch Order~~ Dispatch Instruction, Operating Instruction or Dispatch Order instructing them to stay at the output specified on their last accepted Dispatch Instruction or Dispatch Order; and

   b. Tag the ~~Dispatch Instruction or Dispatch Order~~ Dispatch Instruction, Operating Instruction or Dispatch Order to which the Facility did not respond as non-compliant; and

   c. Issue Dispatch Instructions or Dispatch Orders s to other Facilities as required; and

   d. Issue a Dispatch Advisory notice to advise the market of dispatch out of merit.

3. Where System Management has operational control of a facility, System Management must deem any Dispatch Instruction, Dispatch Order or Operating Instruction issued to that facility to have been accepted.

For the avoidance of doubt, System Management is still required to issue Dispatch Instructions to facilities under its operational control.

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6.7 Dispatch of generating Facility for system security

1. System Management may issue a Dispatch Instruction or Dispatch Order requiring a Facility to move from zero generation to positive generation, or vice versa, where doing so is necessary to maintain power system security.

Dispatch Instructions / Dispatch Orders referred to in Paragraph 6.7.1 are implicitly instructions to synchronise and operate (commit) or de-synchronise (de-commit). The Dispatch Instruction protocol does not allow for explicit commit / de-commit instructions.

2. When the system is forecast to move into a High Risk Operating State, System Management must observe as far as practicable the BMO or Forecast BMO for the trading intervals in which the threat to power system security occurs when selecting the Facility or Facilities to commit.
3. When the system is in a high risk operating state, is in, or is forecast to move into, an Emergency Operating State, System Management should select the Facility or Facilities to commit that provide the most flexibility for System Management to deal with current or potential threats to power system security.

In general, Paragraph 6.7.3 will result in the preferential commitment of large, fast-moving and/or flexible generating units.

6.8 Activation of Load Following Ancillary Service

1. System Management must activate Load Following Ancillary Service from units scheduled to provide the service via System Management's AGC system.

7 TRADING INTERVAL

7.1 Real-time monitoring during trading interval

1. System Management must monitor the operation of the power system in real time and must issue Dispatch Instructions to re-balance if it considers that it is prudent to do so.
2. System Management must not ~~routinely~~ re-balance during a Trading Interval (including to return load following facilities to their base point prior to the end to the interval) ~~but must re-balance "on demand"~~except to the extent that re-

balancing is required to maintain system security; in the event of contingencies; ~~and~~ or ~~on the half-hour~~in accordance with the BMO.

3. In determining whether it is prudent to re-balance, System Management must consider a range of factors including but not limited to one or more of the following:
   a. System frequency; or
   b. Position of LFAS Facilities relative to their AGC control target; or
   c. Any reduction in Spinning Reserve; or
   d. The behaviour of Balancing Facilities, in particular Facilities outside their Tolerance Range; or
   e. Significant changes in load or wind forecasts; or
   f. The behaviour of commissioning generators; or
   g. The time remaining till end of interval.

System Management will establish Tolerance Range [MR 2.13.6D] and Facility Tolerance Ranges [MR 2.13.6E] according to the requirements of the Market Rules.

4. If the Facility is outside its Tolerance Range and System Management determines it is prudent to re-balance, System Management must:
   a. Tag the affected Facility as non-compliant with their Dispatch Instruction; and
   b. Issue the affected Facility with a new Dispatch Instruction to stay at its current output level; and
   c. Issue new Dispatch Instructions as required in accordance with the BMO, skipping the affected Facility.
5. If the Facility is outside its Tolerance Range and System Management determines that no re-balancing is required, System Management must tag the affected Facility as non-compliant with their Dispatch Instruction.

System Management may follow up verbally with the Market Participant but will take no further action for so long as re-balancing is not required.

7.2 Formulation and issuing of intermediate Dispatch Instructions, ~~and~~ Dispatch Orders and Operating Instructions

1. System Management may issue one or more Dispatch Instructions to a single facility within an interval.

System Management will need to issue intermediate Dispatch Instructions and Dispatch Orders to manage intra-period changes in ramp rate, contingency events, fluctuations in net system load outside the load following range, and for other reasons. Ancillary Services monitoring and activation

2. Where the applicable Ancillary Services Contract allows for the automatic activation of the service, System Management must issue an Operating Instruction ~~in advance~~ in accordance with Paragraph 6.4.4.

Where the Verve Portfolio is providing Spinning Reserve or Load Rejection, the Operating Instruction will be issued to the Verve Portfolio and individual Facilities dispatched in accordance with the Verve Dispatch Guidelines.

3. If, in the opinion of System Management, a Facility providing Load Following Ancillary Service is not performing adequately and either:
   a. the Facility comprises more than 20% of the LFAS requirement; or
   b. The LFAS output on other LFAS Facilities, in aggregate, is greater than 70% range,

   then System Management must enable LFAS allocation on the Verve Energy back up load following Facility and disable LFAS allocation on the non-performing Facility.
4. In all other cases where, in the opinion of System Management, a Facility providing Load Following Ancillary Service is not performing adequately, System Management must investigate the reasons for non-performance and may at its discretion initiate the disabling of the non-performing LFAS Facility and enabling of the Verve backup LFAS Facility.
5. In the event of an LFAS Facility trip, System Management must immediately enable the backup Verve LFAS Facility.

7.3 Constrained operation of a Non-Scheduled Generator

1. System Management may 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 are not being met, to restrict the variability that is occurring in the MW output from the Facility, if a High Risk Operating State or Emergency Operating State exists, or if adherence to the Balancing Merit Order requires it.
2. The reasons for non-observance of the limits of SWIS operation as defined in the Technical Envelope that may include, but not be limited to one or more of the following:
   a. the Ancillary Service Requirements are not being satisfied; or
   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; or
   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 deviations to exceed the normal frequency operating range.

3. In determining whether to constrain the operation of a Non-Scheduled Generator, System Management must take account of the extent of any difference between the current operation of the generator, and any forecast of that generator's operation used to set the requirement for Load Following Ancillary Service.

Except where required by the BMO, System Management will generally only constrain non-scheduled generator operation if the intermittency of that generator significantly exceeds what was planned for when setting the LFAS requirement.

Turn-down price, except for a marginal non-scheduled generator being dispatched in accordance with the BMO, plays no role in SM's decisions with respect to constraining non-scheduled generation.

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7.4 Constraining operation of multiple Non-Scheduled Generators.

1. Where there are a number of Non-Scheduled Generators operating at high output during light system demand conditions, a reduction in the output of one or more Intermittent Generators may be needed to meet the dispatch criteria.
2. Where the requirement for a reduction or constraint in the output of Intermittent Generators can be attributed to a single Non-Scheduled Generator, a Dispatch Instruction requiring output to be constrained down must be issued to that Non-Scheduled Generator.
3. The quantity of output reduction sought from the Non-Scheduled Generator in Paragraph 7.4.2 is the quantity that ensures that Non-Scheduled Generator is not the source of the conflict with the Dispatch Criteria
4. Where System Management considers that the conflict with the Dispatch Criteria is due to the operation of two or more Non-Scheduled Generators, then System Management must constrain down the Non-Scheduled Generators in proportion to their contribution to the conflict with the Dispatch Criteria.

7.5 Voltage control

1. System Management may, in accordance with the technical Rules, direct a Facility to change its reactive power output to assist with voltage control on the SWIS.

The present Technical Rules require "The overriding objective of a generating Facility's voltage control system is to maintain the specified voltage range at the connection point. Each Generator must therefore provide sufficient reactive power injection into, or absorption from, the transmission or distribution system to meet the reactive power requirements of its loads, plus all reactive power losses required to deliver its real power output at system voltages within the ranges specified in the relevant connection agreement for normal operation and contingency conditions."

2. If a direction pursuant to Paragraph 7.5.1 reduces the MW output capacity of the Facility below its DI, System Management must deem this reduction to be a consequential outage due to a network constraint.

SM would then have to increase MW output from the next generator on the BMO. SM would issue a Dispatch Advisory and Dispatch Istructions for this instance. Similarly if voltage issues on the network required SM to modify the generation plan across the SWIS (say move MW generation from one part of the SWIS to another to remove the voltage constraint), SM would have to issue a Dispatch Advisory, dispatch as per BMO if market did respond or dispatch out of merit as per standing data if market didn't respond.

8 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 in accordance with the IMO – System Management Interface Document.
3. The IMO must confirm to System Management receipt of the data in accordance with the IMO – System Management Interface Document.
4. If System Management has not received confirmation of receipt of the data by 12.10 PM on the required business day, System Management must re-send the data.
5. If System Management has not received confirmation of receipt of the data by 12.10 PM, System Management and IMO should confirm the cause of the data failure and if necessary, transfer the data in accordance with the backup procedures defined in the IMO – System Management Interface Document.

8.1 Quantification of Constrained off Quantities.

1. Where System Management requires a Non-Scheduled Generator to reduce output, 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 **[MR 7.13.1.eC]**.
2. System Management must make an estimate of the actual output of the Non-Scheduled 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 Non-Scheduled Generator MW output using System Management's SCADA system, and integrating these measurements over each Trading Interval to produce a MWh estimate.
3. System Management must make an assessment of the MWh output that would have been achieved by the Non-Scheduled Generator should the

Dispatch Instruction not have been issued. The assessment must be produced using the algorithm chosen for this purpose (refer Paragraph 8.2.1).

4. 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 (Paragraph 8.1.2) from the assessment of output that would otherwise have occurred (Paragraph 8.1.3).

8.2 Choice of Algorithm for Assessing Constrained off MWh Quantities

1. System Management may use, at its discretion, any of the following means to estimate the quantity referred to in Paragraph 8.1.4:
   a. a predictive algorithm provided by the Market Participant, providing an assessment of generator MWh output from relevant independent variables over the Trading Interval; or
   b. a predictive algorithm provided by System Management, providing an assessment of generator MWh output from relevant independent variables over the Trading Interval; or
   c. an assessment by System Management based on output of the ~~Intermittent~~ Non-Scheduled Generator in a past Trading Interval under similar conditions; or
   d. an estimate using Participant data provided to System Management that uses output data from particular generating Facilities that continue to operate unconstrained after the Dispatch Instruction, with the output data subsequently grossed up to represent the output from all generating Facilities that otherwise would have operated.
2. System Management must, from time to time, consult with the relevant Market ~~Generator~~ Participant concerning the choice of option selected by System Management in Paragraph 8.2.1.

9 ADMINISTRATION AND REPORTING IN RELATION TO VERVE ENERGY

1. The requirements of Sections 9.2, 9.3 and 9.4 shall apply only to Sections 4 and 5.7 of this Procedure.

9.1 Reporting in relation to Verve Energy's Market Rules obligations

1. The requirements for System Management to report to the IMO any instance where it believes that Verve Energy has failed to meet its obligations under this procedure are specified in the Market Rules **[MR 7.6A.5(c)], [MR 7.6A.5(e)].**
2. The reports referred to in Paragraph 9.1.1 must be submitted to the IMO within 5 business days of the occurrence of the event, or within 5 business days of either party becoming aware of the event.

9.2 Appointment of Representative

1. Verve Energy and System Management shall:
    a. each appoint a representative who must act as the formal point of contact with regard to the operation of this procedure; and
    b. provide each other and the IMO with the name, title and contact details of its representative; and
    c. maintain the appointed representative's currency.

9.3 Keeping of Records

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

9.4 Failure to Agree on an issue within the Procedure

1. The requirements for System Management and Verve Energy 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, the party seeking arbitration must, in good faith, seek to agree with the other party on an arbitrator.
3. If, within 7 days, the parties are unable to agree on an arbitrator, the IMO shall be the arbitrator.
4. Within 7 days of the appointment of an arbitrator, the party seeking arbitration must provide the arbitrator with a report setting out:
    a. a description of the issue in dispute; and
    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.
5. 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 arbitrator.
6. The other party must submit its own report on the issue to the arbitrator within 2 business days of the receipt of the report referred to in Paragraph 9.4.5..
7. In reviewing the issue, the arbitrator must have regard to the following, in order of precedence:
    a. the Market Rules; and
    b. This Procedure; and
    c. Other Market Procedures and Power System Operating Procedures; and

d. the alignment of the above to the Market Objectives in the context of the issue.

8. The arbitrator may seek further information from either party, and this information should be provided within 2 Business Days of receipt of the request.
9. The arbitrator must provide its draft recommendation to Verve Energy 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.
10. The arbitrator must, within 2 Business Days of receiving comments, issue a binding decision.

APPENDIX 1: LIST OF DISPATCH ADVISORY NOTICE TYPES

DA type code	Description
A	Change in Power System Operating State
B	Energy shortfall
C	Energy surplus
D	Ramp rate shortfall
E	Ancillary Service shortfall
F	Ready Reserve shortfall
G	Change in outage status
H	Out-of-merit dispatch
I	Excessive intermittency
J	Commitment risk
K	Communications / IT issue
L	Fuel management issue
Z	Other