PRINT POST APPROVED PP665002/00041

WESTERN AUSTRALIAN GOVERNMENT Gazette

ISSN 1448-949X

4193

PERTH, FRIDAY, 9 SEPTEMBER 2005 No. 171 SPECIAL

PUBLISHED BY AUTHORITY JOHN A. STRIJK, GOVERNMENT PRINTER AT 3.45 PM

ELECTRICITY INDUSTRY ACT 2004

ELECTRICITY INDUSTRY (WHOLESALE ELECTRICITY MARKET) REGULATIONS 2004

WHOLESALE ELECTRICITY MARKET RULES

AMENDING RULES

ELECTRICITY INDUSTRY ACT 2004
ELECTRICITY INDUSTRY (WHOLESALE ELECTRICITY MARKET) REGULATIONS 2004
WHOLESALE ELECTRICITY MARKET RULES
AMENDING RULES

I, Alan Carpenter, Minister for Energy for the State of Western Australia, under regulation 6(2) of the *Electricity Industry (Wholesale Electricity Market) Regulations 2004* hereby make the amending rules contained in this document.

These amending rules are to come into force on the date on which they are published in the *Government Gazette*.

Dated at Perth this day 26th of August 2005.

ALAN CARPENTER MLA, Minister for Energy.

---

(1) To replace the table following the comment box after clause 1.8.6 with the following table (noting format changes).

Chapter	Date	Clause
1—Introduction	5 Oct 2004	Entire Chapter
2—Administration	4 Jan 2005	2.1, 2.2, 2.12 2.17 to 2.23 2.28 to 2.34
	1 Jul 2006	Entire Chapter
3—Power System Security and Reliability	1 Jul 2006	Entire Chapter
4—Reserve Capacity Rules	5 Oct 2004	Entire Chapter
5—Network Control Service Procurement	1 Jul 2006	Entire Chapter
6—The Energy Market	1 Jul 2006	Entire Chapter
7—Dispatch	1 Jul 2006	Entire Chapter
8—Wholesale Market Metering	1 Jul 2006	Entire Chapter
9—Settlement	1 Jul 2006	Entire Chapter
10—Release of Market Information	4 Jan 2005	Parts of Chapter
	1 Jul 2006	Entire Chapter
11—Glossary	5 Oct 2004	Entire Chapter

2. Market Rule 2.8 amended

(1) Delete the existing clause 2.18.13(g) and replace it with the following—

(g) clauses 10.1.1, 10.1.2, 10.2.1, 10.3 and 10.4.

3. Market Rule 2.13 amended

(1) Delete the comment box after clause 2.13.9 (but before 2.13.9(a)).

(2) Delete clause 2.13.9(d) and replace it with the following—

(d) clauses 3.6.5 and 3.6.6B;

(3) Delete clause 2.13.9(e) and replace it with the following—

(e) clauses 3.16.4, 3.16.7 and 3.16.8A;

(4) Insert new clause 2.13.9(gA) and associated comment box after clause 2.13.9(g)—

(gA) clauses 3.21A.2, 3.21A.12, and 3.21A.13;

Rule Participants must seek approval of Commissioning Tests and comply with their approved test plans.

(5) Insert a new clause 2.13.9(hA) and comment box after the comment box following clause 2.13.9(h)—

(hA) clause 7.5.5;

Market Participants can only declare a change of fuel in specified situations.

(6) Delete clause 2.13.9(i) and replace it with the following—

(i) clause 7.7.6(b);

(7) Delete clause 2.13.9(j) and replace it with the following—

(j) clauses 7.10.1, 7.10.3, 7.10.6 and 7.10.6A; and

4. Market Rule 2.16 amended

(1) To amend a clause and to correct a typographical error, delete two existing clauses both referred to as 2.16.2(d) and replace them with the following—

(d) Balancing Data prices and other Standing Data prices used in Balancing;

(dA) all Reserve Capacity Auction offers;

(2) Delete the existing clause 2.16.2(g) and insert "2.16.2(g) [Blank]" instead.

(3) Insert new clauses for 2.16.2 as follows—

(gA) all Fuel Declarations;

(gB) all Availability Declarations;

(gC) all Ancillary Service Declarations;

(4) Delete the text in clause 2.16.2(n) and insert "2.16.2(n) [Blank]" instead.

(5) Insert the following new clause 2.16.4(cA)—

(cA) any consistent or significant variations between the Fuel Declarations, Availability Declarations, and Ancillary Service Declarations for, and the actual operation of, a Market Participant facility in real-time;

(6) Delete the existing comment box for clause 2.16.7 and replace it with the following comment box instead—

Note that under clauses 2.16.6 and 2.16.14, the ERA can only collect and use this data in carrying out its functions under this clause 2.16—i.e. in the case of the above data, primarily for market power assessment. Western Power is not commercially accountable to the ERA.

(7) Delete the existing clause 2.16.8 and insert the following instead—

2.16.8. Rule Participants may notify the IMO or the Economic Regulation Authority of behaviour that they consider reduces the effectiveness of the market, including behaviour related to market power, and the Economic Regulation Authority, with the assistance of the IMO, must investigate the behaviour identified in each relevant notification.

(8) Delete the existing clause 2.16.9(b)(i) replace it with the following—

i. prices in STEM Submissions, including Standing STEM Submissions, used in forming STEM Bids and STEM Offers that do not reflect the reasonable expectation of the short run marginal cost of generating the relevant electricity (including a reasonable allowance for profit after allowing for revenue provided by payments for Reserve Capacity);

(9) Delete the existing clause 2.16.9(b)(ii) and insert "2.16.9(b)(ii) [Blank]" instead.

(10) Insert new clauses for 2.16.9(b) as follows—

iii. Balancing Data price changes, and changes in other Standing Data prices used in Balancing, that cannot be justified by an underlying change in cost;

iv. Availability Declarations that may not reflect the reasonable expectation of a facility's availability, beyond outages of which System Management has been notified;

v. Ancillary Service Declarations that may not reflect the reasonable expectation of the ancillary services to be provided by a facility; and

vi. Fuel Declarations that may not reflect the reasonable expectation of the fuel that a facility will be run on in real-time.

(11) Insert new clauses, 2.16.9A to 2.16.9J, as follows—

2.16.9A. The IMO must assist the monitoring activities identified in clause 2.16.9(b)(i) by examining prices in STEM Submissions, including Standing STEM Submissions, used in forming STEM Bids and STEM Offers against information collected from Rule Participants in accordance with clauses 2.16.6 and 2.16.7.

2.16.9B. Where the IMO concludes that prices in STEM Submissions may not reflect the reasonable expectation of the short run marginal cost of generating the relevant electricity (including a reasonable allowance for profit after allowing for revenue provided by payments for Reserve Capacity) and the IMO considers that the behaviour relates to market power the IMO must—

(a) as soon as practicable, request an explanation from the Market Participant which has made the relevant STEM Submission; and

(b) by 4:00 PM on the Scheduling Day to which the Submission relates, advise the Economic Regulation Authority of its conclusions. The IMO advice must outline the reasons for the IMO's conclusions.

2.16.9C. The Market Participant must submit the explanation requested under clause 2.16.9B within 2 Business Days from receiving the request.

2.16.9D. The IMO must publish the explanation submitted under clause 2.16.9C on the Market Web Site as soon as practicable.

2.16.9E. Where the Economic Regulation Authority receives an advice from the IMO under clause 2.16.9B(b) or receives a notification from a Rule Participant under clause 2.16.8, the Economic Regulation Authority must investigate the identified behaviour. Without limitation, for this purpose the Economic Regulation Authority must examine the IMO advice, any explanation received under clause 2.16.9C, any data already in the possession of the Economic Regulation Authority or additional data it requests from the relevant Market Participant under clause 2.16.6 to assist in the investigations.

2.16.9F. The Economic Regulation Authority must publish the results of its investigations within 20 Business Days from receiving the IMO advice under clause 2.16.9B(b) or from receiving a notification from a Rule Participant under clause 2.16.8.

2.16.9G. Where the Economic Regulation Authority determines that prices in the STEM Submission, subject to the investigation, did not reflect the reasonable expectation of the short run marginal cost of generating the relevant electricity (including a reasonable allowance for profit after allowing for revenue provided by payments for Reserve Capacity), the Economic Regulation Authority must request that the IMO refers the matter to the Energy Review Board.

2.16.9H. Where the IMO receives a request under clause 2.16.9G the IMO must refer the relevant matter to the Energy Review Board requesting that a civil penalty be imposed on the relevant Market Participant.

2.16.9I. Civil penalties imposed as a result of clause 2.16.9H must apply to each single occasion where a Market Participant was determined to have submitted prices that do not reflect the reasonable expectation of the short run marginal cost of generating the relevant electricity (including a reasonable allowance for profit after allowing for revenue provided by payments for Reserve Capacity). For the avoidance of doubt, "each single occasion" in this clause relates to each Trading Interval.

This will be a category C civil penalty provision.

2.16.9J. Where a civil penalty is imposed in accordance with clause 2.16.9I, the civil penalty amount should be distributed amongst all Market Customers in proportion to their Market Fees calculated over the previous full 12 months, or part thereof if Market Commencement was less than 12 months prior to the date the civil penalty is received.

5. Market Rule 2.17 amended

(1) Delete the comment box after clause 2.17.1 (but before 2.17.1(a)).

(2) Amend clause 2.17.1(b) by adding a semi-colon to the end of the clause.

(3) Insert a new clause 2.17.1(dA) and comment box after the comment box following clause 2.17.1(d) as follows—

(dA) clauses 2.30A.2 and 2.30A.5;

Market Participant applies to the IMO for exemption from funding Spinning Reserve, or IMO decides to change the facilities status in this regard.

(4) Insert a new clause 2.17.1(dB) and comment box after the comment box following clause 2.17.1(dA) as follows—

(dB) clauses 2.30B.4. 2.30B.6 and 2.30B.7;

Market Participant applies to the IMO to be treated as an Intermittent Load, or the IMO decides to cease treating a load as an Intermittent Load.

(5) Amend clause 2.17.1(f) by adding a semi-colon to the end of the clause.

(6) Amend clause 2.17.1(g) by adding a semi-colon to the end of the clause.

(7) Amend clause 2.17.1(j) by adding a semi-colon to the end of the clause.

(8) Delete 2.17.1(k) and replace it with the following clause.

(k) clause 4.16.1;

(9) Amend clause 2.17.1(l) by replacing "clauses" with "clause" and adding a semi-colon to the end of the clause.—

(10) Delete clause 2.17.1(m) and replace it with the following clause.

(m) clauses 4.28.7 and 4.28.11;

(11) Amend clause 2.17.1(o) by adding "and" to the end of the clause after the semi-colon.

(12) Amend clause 2.17.1(p) by adding full-stop to the end of the clause.

6. Market Rule 2.26 amended

(1) Delete the existing clause 2.26.3(e) and replace it with the following—

(e) historical STEM Bids and STEM Offers and the proportion of STEM Bids and Offers with prices equal to the Energy Price Limits;

7. Market Rule 2.28 amended

(1) Delete the existing clauses 2.28.6, 2.28.7, 2.28.8 and replace them with the following—

2.28.6. Subject to clause 2.28.16, a person who owns, controls or operates a generation system which has a rated capacity that equals or exceeds 10 MW and is electrically connected to a transmission system or distribution system which forms part of the South West Interconnected System, or is electrically connected to that system, must register as a Rule Participant in the Market Generator class.

2.28.7. A person that owns, controls or operates a generation system which has a rated capacity of less than 10 MW, but which equals or exceeds 0.005 MW, and is electrically connected to a transmission system or distribution system which forms part of the South West Interconnected System, or is electrically connected to that system, may register as a Rule Participant in the Market Generator class.

2.28.8. A person who intends to own, control or operate a generation system which has a rated capacity that equals or exceeds 0.005 MW and is or will be electrically connected to a transmission system or distribution system which forms part of the South West Interconnected System, or is electrically connected to that system, may register as a Rule Participant in the Market Generator class.

(2) Delete the existing clauses 2.28.16 and replace it with the following—

2.28.16. The IMO may determine that a person is exempted from the requirement to register in accordance with clauses 2.28.2, 2.28.6, 2.28.10 or 2.28.13. An exemption may be given subject to any conditions the IMO considers appropriate.

8. Market Rule 2.29 amended

(1) Amend clause 2.29.4(a) by deleting "0.2 MW" and replacing it with "0.005 MW".

(2) Amend clause 2.29.4(b) by deleting "registered as a Non Scheduled Generator" and replacing it with "an Intermittent Generator".

(3) Delete the existing clauses 2.29.4(c) and 2.29.4(d) and replace them with the following—

(c) subject to clause 2.29.6, may register that generation system as a Scheduled Generator where the generation system is not an Intermittent Generator and has a rated capacity that equals or exceeds 0.2 MW but which is less than 10 MW; and

(d) must register that generation system as a Non-Scheduled Generator where the generation system has a rated capacity that equals or exceeds 0.005 MW and where the generation system is not otherwise required to be registered in accordance with (a) or (b) and where the option to register in accordance with (c), if applicable, is not exercised.

(4) Insert new clauses 2.29.10 and 2.29.11 as follows—

2.29.10. On request, the IMO must exempt a person from the requirement to register a generating system in accordance with this clause 2.29 if that generating system is identified by that person as supplying an Intermittent Load in accordance with clause 2.30B.2 and that generating system satisfies all the requirements of these Market Rules to serve Intermittent Load.

This exemption is an option that can be taken up by the person responsible for the generating system. However, if the option is taken up, the generating system will not be able to hold Capacity Credits and will not be able to participate in the energy market other than via its impact on the metered load. Thus there are reasons for such persons not to take up the option for this exemption.

2.29.11. With respect to the registration of a generation system to serve Intermittent Load, not more than one generation system may be registered for each Intermittent Load.

The aim of this clause is to avoid having two or more separate Scheduled Generators without their own meters being recorded by an Intermittent Load meter as it would be impossible to distinguish their output for settlement purposes. However this clause does not restrict several distinct generating units being aggregated as a single "generation system" for the purpose of registration.

9. Market Rule 2.30 amended

(1) Insert a new clause 2.30A as follows—

2.30A Exemption from Funding Spinning Reserve

2.30A.1. When registering an Intermittent Generator as a Non-Scheduled Generator, a Rule Participant, or an applicant for rule participation, may apply to the IMO for that Intermittent Generator to be exempted from funding Spinning Reserve cost.

2.30A.2. Where an application is received in accordance with clause 2.30A.1, the IMO must exempt the Intermittent Generator from funding Spinning Reserve costs where the applicant demonstrates to the satisfaction of the IMO that the shut down of the facility is a gradual process not exceeding a maximum ramp down rate equal to the installed capacity divided by 15MW/minute.

2.30A.3. The IMO must consult with System Management when assessing an application for exemption from funding Spinning Reserve costs.

2.30A.4. If the IMO approves the application for exempting an Intermittent Generator from funding Spinning Reserve costs then that facility must be excluded from the set of applicable facilities described in Appendix 2.

2.30A.5. Where the IMO considers, after consultation with System Management, that a change in the nature of an Intermittent Generator means that it should no longer be exempted from funding Spinning Reserve costs, it must—

(a) inform the relevant Market Participant of the first Trading Month from which the facility will cease to be exempted; and

(b) include that facility in the list of applicable facilities described in Appendix 2 from the commencement of that Trading Month.

2.30A.6. The IMO must document the Spinning Reserve costs exemption process in the Registration Procedure, and—

(a) applicants for exemption from Spinning Reserve costs must follow that documented Market Procedure; and

(b) the IMO and System Management must follow that documented Market Procedure when processing applications for exemption from Spinning Reserve cost funding.

(2) Insert a new clause 2.30B as follows—

2.30B Intermittent Load

2.30B.1. An Intermittent Load is a Load that satisfies the requirements of clause 2.30B.2 and is recorded in Standing Data as being an Intermittent Load.

2.30B.2. For a Load to be eligible to be an Intermittent Load the following conditions must be satisfied—

(a) a generation system must exist—

i. which can typically supply the maximum amount of that Load to be treated as Intermittent Load without requiring energy to be withdrawn from a Network;

A "Network" is a registered network. Connection assets etc that are not registered networks do not count.

ii. the output of which is netted off consumption of the Load by the meter registered to that Load; and

iii. which would in the view of the IMO, if it were not serving an Intermittent Load, be eligible to hold an amount of Certified Reserve Capacity, in accordance with clause 2.30B.4, at least sufficient to supply the amount of energy that the generation system is required by (a)(i) to be able to supply while simultaneously being able to satisfy obligations on any Capacity Credits associated with that generation system;

This previous clause, in combination with clause 2.30B.4 means that if a generating system holds Capacity Credits (which requires it to be a registered generator) then the capacity available to serve that Intermittent Load is reduced by the amount of Capacity Credits held.

(b) the Load shall reasonably be expected to have no net consumption of energy for at least 4320 Trading Intervals in any Capacity Year;

4320 Trading Intervals corresponds to 90 days.

(c) the Market Customer for that Load must have an agreement in place with a Network Operator to allow energy to be supplied to the Load from a Network; and

(d) the Load must be an Interruptible Load, Curtailable Load, or a Non-Dispatchable Load.

2.30B.3. The IMO must require that a Market Customer, or applicant to become a Market Customer, applying to register an Intermittent Load provide in regard to the generation system referred to in clause 2.30B.2(a)—

(a) the maximum capacity in MW, excluding capacity for which Capacity Credits are held, that generating system can be guaranteed to have available to supply Intermittent Load, when it is operated normally at an ambient temperature of 41°C; and

(b) at the option of the applicant,

i. the anticipated reduction, measured in MW, in the maximum capacity described in (a) when the ambient temperature is 45°C;

ii. the method to be used to measure the ambient temperature at the site of the generating system for the purpose of determining Intermittent Load Refunds, where the method specified may be either—

1. a publicly available daily maximum temperature at a location representative of the conditions at the site of the generating system as reported daily by a meteorological service; or

2. a daily maximum temperature measured at the site of the generator by the SCADA system operated by System Management.

(Where no method is specified, a temperature of 41°C will be assumed); and

Assuming 41°C will be an attractive approach for generators with capacity that have no significant temperature dependency.

(c) details of primary and any alternative fuels, including details and evidence of both firm and non-firm fuel supplies and the factors that determine restrictions on fuel availability that could prevent the Facility operating at its full capacity;

2.30B.4. The IMO must use the information provided by a Market Customer in accordance with clause 2.30B.3 to assess the additional Certified Reserve Capacity beyond the capacity required to meet Reserve Capacity Obligations on Capacity Credits actually held by the generation system referred to in clause 2.30B.2(a) that the IMO would normally assign to that generation system in accordance with Chapter 4 if—

(a) the Intermittent Load did not exist; and

(b) the generation system otherwise satisfied all requirements necessary to be treated as a Scheduled Generator entitled to hold Certified Reserve Capacity.

2.30B.5. A Market Customer, or applicant to become a Market Customer, may apply for a Load to be treated as an Intermittent Load as part of Market Customer registration (for a Non-Dispatchable Load) or Facility Registration (for an Interruptible Load or Curtailable Load).

2.30B.6. The IMO must accept an application for a Load to be an Intermittent Load if the requirements of clause 2.30B.2 are satisfied.

The process itself by which the IMO does this is via processing registration and standing data changes.

2.30B.7. The IMO may cease to treat a Load as an Intermittent Load and require a Market Participant to modify its Standing Data in accordance with clause 2.34.11 from the commencement of a Trading Month if the IMO considers that the requirements of clause 2.30B.2 are no longer satisfied.

If a Load ceases to be an Intermittent Load then its requirement to fund Reserve Capacity will increase from the next Trading Month (as implied by the equations of Appendix 5).

2.30B.8. The IMO may consult with System Management in determining whether or not to accept, or continue to accept, a Load as satisfying the requirements of clause 2.30B.2.

2.30B.9. Where an Intermittent Load is transferred from one Market Customer to another all obligations to pay Intermittent Load Refunds calculated after the date of transfer in regard to that Intermittent Load, including those Intermittent Load Refunds arising from consumption that occurred prior to the date of transfer are to be automatically transferred.

2.30B.10. For the purpose of defining Metered Schedules associated with the meter measuring an Intermittent Load, the following methodology is to apply—

(a) Define for each Trading Interval—

i. NMQ to be the net metered energy measured by the meter where a positive amount indicates supply and a negative amount indicates consumption;

ii. NS to be the net supply (supply less consumption) measured by the Intermittent Load meter which corresponds to supply and consumption, excluding consumption by Intermittent Loads, by Market Customers and Market Generators which are separately metered for the purpose of settlement under these Market Rules. This may have a positive or negative value;

iii. NL to be the maximum possible consumption behind that meter due to consumption which is not Intermittent Load but which is measured only by the meter which also measures the Intermittent Load. This has a negative value;

iv. MIL to be the maximum allowed Intermittent Load at the meter. This has a negative value;

v. MSG to be the maximum energy output from a registered generating system measured only by the Intermittent Load meter where MSG equals the greater of zero and the maximum energy output of the facility based on Standing Data less the sum of MIL and NL. This has a positive value;

vi. AMQ to be the adjusted meter quantity which equals the sum of NMQ and NS;

(b) if there is no registered generating system the output of which is measured only by the meter which also measures the Intermittent Load then—

i. if AMQ is less than or equal to MIL then—

1. for the purpose of defining its Metered Schedule the metered quantity associated with the Intermittent Load is MIL;

2. for the purpose of defining its Metered Schedule the metered quantity associated with non-Intermittent Loads only measured by the Intermittent Load meter is AMQ –MIL;

ii. if AMQ is greater than MIL then—

1. for the purpose of defining its Metered Schedule the metered quantity associated with the Intermittent Load is AMQ;

2. for the purpose of defining its Metered Schedule the metered quantity associated with non-Intermittent Loads only measured by the Intermittent Load meter is zero;

(c) if there is a registered generating system measured only by the meter that also measures the Intermittent Load then:

i. if AMQ is less than or equal to MIL then—

1. for the purpose of defining its Metered Schedule the metered quantity associated with the Intermittent Load is MIL;

2. for the purpose of defining its Metered Schedule the metered quantity associated with non-Intermittent Loads measured only by the meter that also measures the Intermittent Load is AMQ –MIL;

3. for the purpose of defining its Metered Schedule the metered quantity associated with the Scheduled Generator measured only by the meter that also measures the Intermittent Load is zero;

ii. if AMQ is greater than MIL but less than or equal to zero then—

1. for the purpose of defining its Metered Schedule the metered quantity associated with the Intermittent Load is AMQ;
2. for the purpose of defining its Metered Schedule the metered quantity associated with non-Intermittent Loads measured only by the meter that also measures the Intermittent Load is zero;
3. for the purpose of defining its Metered Schedule the metered quantity associated with the Scheduled Generator measured only by the meter that also measures the Intermittent Load is zero;

iii. if AMQ is greater than zero but less than or equal to MSG then—

1. for the purpose of defining its Metered Schedule the metered quantity associated with the Intermittent Load is zero;
2. for the purpose of defining its Metered Schedule the metered quantity associated with non-Intermittent Loads measured only by the meter that also measures the Intermittent Load is zero;
3. for the purpose of defining its Metered Schedule the metered quantity associated with the Scheduled Generator measured only by the meter that also measures the Intermittent Load is AMQ;

iv. if AMQ is greater than MSG then—

1. for the purpose of defining its Metered Schedule the metered quantity associated with the Intermittent Load is AMQ—MSG;
2. for the purpose of defining its Metered Schedule the metered quantity associated with non-Intermittent Loads measured only by the meter that also measures the Intermittent Load is zero;
3. for the purpose of defining its Metered Schedule the metered quantity associated with the Scheduled Generator measured only by the meter that also measures the Intermittent Load is MSG.

Suppose the separately metered supply behind the Intermittent Load meter is 5 MWh and the separately metered consumption is -2 MWh. This means NS=5– (-2) = +7 MWh.

If the Intermittent Load has a maximum consumption of 15 MWh, normal load beyond the Intermittent Load has a maximum consumption of 20 MWh and there is a scheduled generator with the ability to generate 40 MWh then we have MIL=-15, NL=–20 and MSG = Max(0, 40 - 15—20) = +5.

If the meter reading is NMQ =—27 then AMQ = -20 and (c)(i) implies that for settlement purposes the Intermittent Load is -15, the non-Intermittent Load is -5 and the Scheduled Generator has an output of 0. Because there are penalties on exceeding Intermittent Load it is necessary to assume that meter load is Intermittent Load before allocating it to normal load.

If the meter reading is NMQ =—17 then AMQ = -10 and (c)(ii) implies that for settlement purposes the Intermittent Load is -10, the non-Intermittent Load is 0 and the Scheduled Generator has an output of 0.

If the meter reading is NMQ = -3 then AMQ = +4 and (c)(iii) implies that for settlement purposes the Intermittent Load is 0, the non-Intermittent Load is 0 , and the Scheduled Generator has an output of 4.

If the meter reading is NMQ = + 5 then AMQ = +12 and (c)(iv) implies that for settlement purposes the Intermittent Load is +7, non-Intermittent Load is 0, the Scheduled Generator has an output of 5. Note that if there were no Scheduled Generator (only unregistered generators) then Intermittent Load would be 12 in this case. This would be settled at MCAP rather than at the prices applicable to a Scheduled Generator.

(3) Insert a new clause 2.30C as follows—

2.30C. Rule Commencement and Registration Data

The purpose of this section is to provide some over-arching principles for the registration process to describe how changes in registration requirements, or changes in how participants want to be registered, are handled.

2.30C.1. The IMO must not require that an applicant for Rule Participant registration or Facility Registration provide information on any application form, or evidence to support that application form, pertaining to registration if the applicable Market Rules requiring that information to be provided have not commenced.

2.30C.2. Prior to the Appointed Day, the IMO may delay the requirement for a person to pay fees related to Rule Participant registration or Facility Registration until the Appointed Day.

The Appointed Day is a date to be announced by the Minister on which the regulation requirements to be registered take effect.

2.30C.3. Where a rule is to commence after the Appointed Day which requires additional or revised Standing Data to be maintained, the IMO must notify Rule Participants of—

(a) the additional or changed Standing Data required, and

(b) the time and date by which the additional or changed Standing Data must be provided and accepted;

where the IMO must set the time and date in (b) to allow Market Participants sufficient time to provide the requested data and for it to be accepted prior to the rule commencing.

2.30C.4. Where the IMO issues a notice in accordance with clause 2.30C.3, Rule Participants must provide the additional Standing Data requested by the time and date specified in that notice.

Note that any participant that fails to satisfy this clause will be in breach of the market rules and could be fined or, in the extreme case, could be suspended by the Energy Review Board.

10. Market Rule 2.31 amended

(1) Delete the existing clause 2.31.4 and replace with the following clause and comment box—

2.31.4. Subject to clause 2.30C.1, the IMO may, at its discretion, require that an applicant provide information that is missing from the relevant application form, or is inadequately specified. The date at which the requested information is submitted to the IMO in full is to become the date of receipt of the application for the purpose of clause 2.31.3.

Clause 2.30C.1 states that the IMO must ignore information required by clauses that are not yet active because the IMO may not have a process in place for dealing with that information and may not have defined precisely the form of data to be provided.

(2) Delete the existing clause 2.31.10(b) and replace it with the following clause—

(b) within 20 Business Days after the date of notification of receipt in the case of an application for Rule Participant registration in the Market Generator or Market Customer class; and

(3) Delete the existing clause 2.31.13(a) and 2.31.13(b) insert the following instead—

(a) subject to clause 2.30C.1, the application form, when read together with any information received after a request under clause 2.31.4, is incomplete or provides insufficient detail;

(b) subject to clause 2.30C.1, required supporting evidence is insufficient or not provided;

11. Market Rule 2.33 amended

(1) Delete the existing clause 2.33.1(g) and insert "2.33.1(g) [Blank]" instead.

12. Market Rule 2.34 amended

(1) Insert new clauses for 2.34 in their appropriate order as follows—

2.34.2A. A Rule Participant must, as soon as practical, seek to have its Standing Data revised, other than Standing Data described in clause 2.34.2B, if it becomes aware that its Standing Data is currently inaccurate or not in compliance with the requirements of these Market Rules, or will become inaccurate or will cease to be in compliance with the requirements of these Market Rules within the next 5 Business Days.

2.34.2B. A Rule Participant may seek to have the following Standing Data changed at any time—

(a) price or payment related data;

(b) whether a Load not currently treated as an Intermittent Load is treated as an Intermittent Load, provided that the Rule Participant is confident that the Load satisfies the requirements of clause 2.30B.2 and provided that the Rule Participant complies with clause 4.28.8A; and

(c) whether a Load currently treated as an Intermittent Load is to cease to be treated as an Intermittent Load.

(2) Delete the existing opening sentence for clause 2.34.3 and insert instead the following—

2.34.3. A Rule Participant that seeks to change its Standing Data, other than Standing Data changed in accordance with the processes set out in clauses 6.3C or 6.5B, must notify the IMO of—

(3) Amend clause 2.34.4 by inserting "resulting from a Planned Outage, Forced Outage or Consequential Outage." after "a Registered Facility".

(4) Delete the comment box for clause 2.34.4.

(5) Amend clause 2.34.6 by inserting "described in clause 2.34.3." after "Standing Data".

(6) Amend clause 2.34.8 by deleting the existing opening sentence and replacing it with the following—

2.34.8. Other than Standing Data changed in accordance with the processes set out in clauses 6.3C or 6.5B, the IMO must notify the Rule Participant of its acceptance or rejection of the change in Standing Data as soon as practical, and no later than three Business Days after the later of:

(7) Delete the existing clause 2.34.14(a) and comment box and replace them with the following—

(a) 8:00 AM on the Scheduling Day following the IMO's acceptance of the revised Standing Data in the case of—

i. Standing STEM Submissions;

ii. commitment and decommitment cost data and Standing Balancing Data; and

iii. Standing Data changes stemming from acceptance of an application under clause 6.6.9;

with the exception that the previous Standing Data remains current for the purpose of settling the Trading Day that commences at the same time as that Scheduling Day; and

Clause 6.6.9 refers to applications to have a non-dual fuelled generator deemed dual-fuelled for the energy market. The condition about settlement of the Trading Day that commences at the same time as that Scheduling Day is required because the old Standing Data will still apply for the settlement of that Trading Day as that old data was used in scheduling that day.

13. Market Rule 2.39 amended

(1) Amend clause 2.39.2 by deleting "[0.84]"and replacing it with "0.87".

(2) Delete the existing comment box after clause 2.39.2 and replace it with the following—

This initial prudential factor has been determined as one minus the ratio of the maximum number of days required for a participant to be suspended following a margin call which leads to a "suspension even" (as described in clause 9.23) divided by the maximum number of days between the start of a Trading Month and the non-STEM settlement statement being issued for that month. A margin call requires a response in 1 business day, a market participant can be given up to 5 business days (7 days assumed) to respond to a suspension event, and 1 day might elapse in actually suspending the participant. Hence the numerator is about 9 days. The period from the first day of a Trading Month until that month is settled is about 69 days. Hence the prudential factor is 1- (9 /69) = 0.87. This result has been tested under more detailed models and is quite robust.

(3) Insert a new clause 2.39.3 as follows—

2.39.3. Any change to the prudential factor described in clause 2.39.2 must be set on the basis that the product of the prudential factor and a Market Participant's Credit Limit will result in a Trading Limit which is sufficiently less than the Market Participant's Credit Limit, such that if the Market Participant fails to comply with a Margin Call Notice it would be expected that default event and Suspension Event procedures could be applied to the Market Participant before the Outstanding Amounts of the Market Participant exceed the Credit Limit, on the basis of trading, price and volatility assumptions used in calculating the Credit Limit for that Market Participant.

14. Market Rule 2.44 amended

(1) Between clause 2.43.1 and clause 2.44 add the heading—

"Emergency Powers"

15. Market Rule 3.6 amended

(1) Delete the existing clause 3.6.6 and replace it with the following clauses—

3.6.6. System Management must make plans for manual load shedding, and must inform Network Operators of these plans.

3.6.6A. System Management may issue manual disconnection directions to Network Operators, where such directions must be in accordance with System Management's load shedding plans.

3.6.6B. Network Operators must comply with any manual disconnection directions received from System Management.

16. Market Rule 3.9 amended

(1) In clause 3.9.5 replace the "three" with "two" after "measured over".

17. Market Rule 3.10 amended

(1) Amend clause 3.10.1(a)(ii) by deleting "; and" after "a thirty minute rolling average" and inserting a full stop "." instead.

(2) Delete the existing clause 3.10.1(b) and its associated comment box and insert "3.10.1(b) [Blank]" instead.

(3) Delete the existing clause 3.10.2(a) and replace it with the following—

(a) the level must be sufficient to cover the greater of—

i. 70% of the total output, including parasitic load, of the generation unit synchronised to the SWIS with the highest total output at that time; and

ii. the maximum load ramp expected over a period of 15 minutes;

(4) Delete the existing comment box after clause 3.10.2(b) and replace it with—

The Load Following and Load Ramp requirements will be met only by generators. The remaining part of the Spinning Reserve requirement, if any, can be met by interruptible load as well.

18. Market Rule 3.13 amended

(1) Delete the existing clause 3.13.1and insert the following instead—

3.13.1. The total payments by the IMO to the System Management business unit of Western Power for Ancillary Services in accordance with Chapter 9 comprise—

(a) [Blank]

(aA) for Load Following Service for each Trading Month—

i. a capacity payment Capacity_LF calculated as;

1. the Monthly Reserve Capacity Price in that Trading Month;

2. multiplied by LFR, the capacity necessary to meet the Ancillary Service Requirement for Load Following in that month;

ii. an availability payment Availiability_Cost_LF(m) calculated in accordance with clause 9.9.2(d) for that Trading Month;

Clause 9.9.2(d) determines the share of the total Availability Cost for Ancillary Services associated with Load Following.

(b) an amount Availability_Cost_R(m) for Spinning Reserve and Fifteen Minute Reserve for each Trading Month, which is calculated in accordance with clause 9.9.2(c) for that Trading Month; and

(c) Cost_LRD, the monthly amount for Load Rejection Reserve, System Restart, and Dispatch Support services, determined in accordance with System Management's budget process described in clause 2.23.

19. Market Rule 3.14 amended

(1) Amend clause 3.14.1(b)(i) by inserting "and" after the semi colon.

(2) Amend clause 3.14.1(b)(ii) by deleting the semi colon after "Trading Month" and replacing it with a full stop ".".

(3) Delete clause 3.14.1(b)(iii) and comment box following the clause and insert "3.14.1(b)(iii) [Blank]" instead.

(4) Delete the existing clause 3.14.2 and replace it with the following—

3.14.2. Market Participant p's share of the Spinning Reserve and Fifteen Minute Reserve services payment costs in each Trading Interval t is Reserve_Share(p,t) which equals the amount determined in Appendix 2.

20. Market Rule 3.16 amended

(1) Replace clause 3.16.8 with the following two clauses—

3.16.8. System Management must review the information provided by Rule Participants, and where necessary, seek additional information or clarifications.

3.16.8A. Rule Participants must provide any additional information or clarifications requested by System Management, within the time frame specified in the Power System Operating Procedure.

(2) Amend clause 3.16.9(h) by deleting "and" after the semi colon.

(3) Amend clause 3.16.9(i) by deleting the full stop "." at the end of the clause and replace it with "; and".

(4) Insert a new clause 3.16.9(j) as follows—

(j) for each approved Commissioning Test the Facility to be tested and the dates and times during which the Commissioning Test will be conducted.

21. Market Rule 3.17 amended

(1) Amend clause 3.17.9(h) by deleting "and" after the semi colon.

(2) Amend clause 3.17.9(i) by deleting the full stop "." at the end of the clause and replace it with "; and".

(3) Insert a new clause 3.17.9(j) as follows—

(j) for each approved Commissioning Test the Facility to be tested and the dates and times during which the Commissioning Test will be conducted.

22. Market Rule 3.18 amended

(1) Insert a new clause 3.18.2(c)(iiA) as follows—

iiA. all generation systems to which clause 2.30B.2(a) relates;

(2) Amend clause 3.18.5(a) by inserting after "must" the following ", subject to clause 3.18.5A," to read as follows—

3.18.5. Market Participants and Network Operators—

(a) must, subject to clause 3.18.5A, submit to System Management details of a proposed outage plan ("Outage Plan") at least one year in advance of the proposed outage, where:

(3) After 3.18.5(b) insert a following new clause 3.18.5A and comment box as follows—

3.18.5A. Market Participants and Network Operators may submit an Outage Plan to which clause 3.18.5(a) relates to System Management less than one year in advance of the proposed outage, but in such instances—

(a) System Management must give priority to Outage Plans to which clause 3.18.5(a) relate and which were received more than one year in advance of the commencement of the proposed outage;

(b) System Management must give priority to Outage Plans to which this clause 3.18.5A relates in the order they are received; and

(c) System Management must give no special priority to Outage Plans to which this clause 3.18.5A relates relative to Outage Plans to which clause 3.18.5(a) does not relate.

The intent of this is that if an outage with duration of more than a week is scheduled more than a year before the event then it will get priority over a similar outage scheduled less than a year before the event. An outage with a duration of more than a week scheduled less than a year before the event should be treated with the same priority as any other outage scheduled less than a year before the event, except that outages lasting more than a week will, to the extent possible, be approved in the order they are received. Note that if outage A has priority over outage B the rules do not preclude the possibility that outage B will be accepted while outage A is rejected. The intent of the rules is that to the extent that both outages could be approved without having undue impact on other outages or long term system security, but outages A and B are mutually exclusive, then outage A will be accepted ahead of outage B.

(4) Delete the existing clause 3.18.12 and instead the following instead—

3.18.12. Except to the extent required by the criteria in clause 3.18.11 and to the extent allowed by clause 3.18.5A, in evaluating Outage Plans, System Management must not show bias towards a Market Participant or Network Operator in regard to its Outage Plans.

23. Market Rule 3.19 amended

(1) Replace clauses 3.19.2 and 3.19.3 with the following clauses and comment boxes—

3.19.2. Market Participants and Network Operators may request that System Management approve an outage of a Facility or item of equipment that is not a Scheduled Outage ("Opportunistic Maintenance") to be carried out during a Trading Day at any time between 6:00 AM and 10:00 AM on the Scheduling Day for that Trading Day. The request must relate to the following Trading Day only and must include all of the information specified in clause 3.18.6, and must specify the Trading Intervals during which the Opportunistic Maintenance will occur.

3.19.3. Subject to clause 3.19.3A, System Management must assess the request for approval of a Scheduled Outage or Opportunistic Maintenance, based on the information available to System Management at the time of the assessment, and applying the criteria set out in clause 3.19.6.

3.19.3A. In assessing whether to grant a request for Opportunistic Maintenance, System Management—

(a) must not grant permission for Opportunistic Maintenance to begin prior to the first Trading Interval for which Opportunistic Maintenance is requested;

This ensures that Opportunistic Maintenance cannot be requested retrospectively.

(b) must not approve Opportunistic Maintenance for a facility on two consecutive Trading Days; and

This prevents participants using Opportunistic Maintenance to disguise Forced Outages.

(c) may decline to approve Opportunistic Maintenance for a facility where it considers that the request has been made principally to avoid exposure to Reserve Capacity refunds as described in clause 4.26 rather than to perform maintenance.

Clause (c) gives System Management the power to refuse Opportunistic Maintenance where it is being used to avoid the participant being declared as being in Forced Outage (or otherwise not complying with Reserve Capacity obligations) and where no maintenance is actually expected to be performed.

(2) Insert a new clause 3.19.12(aA) as follows—

(aA) Compensation will only be paid where details of the relevant Outage Plan have been submitted to System Management at least one year in advance of the time when the outage would have commenced.

(3) Delete clause 3.19.12(b) and replace it with the following clause—

(b) Compensation will only be paid for the additional maintenance costs directly incurred by a Market Participant or Network Operator in the deferment or cancellation of the relevant outage.

24. Market Rule 3.21 amended

(1) Insert a new clause 3.21A and heading as follows—

Commissioning Tests

3.21A Commissioning Tests

3.21A.1. A Commissioning Test ("Commissioning Test") is a test of the ability of a generating system to operate at different levels of output reliably.

3.21A.2. A Market Participant seeking to conduct a Commissioning Test for a Scheduled Generator or a candidate facility to be registered as a Scheduled Generator must request permission for such trials from System Management in accordance with clause 3.21A.4.

3.21A.3. System Management may only approve a Commissioning Test for new generating systems that are expected to be registered as Scheduled Generators, or for existing Scheduled Generators which have undergone significant maintenance.

3.21A.4. A Market Participant requesting permission for Commissioning Tests must submit to System Management the following information at least 20 Business Days in advance of the start date of the proposed trial—

(a) the name and location of the facility to be tested;

(b) the date and commencement time of all Trading Intervals during which testing will be conducted; and

(c) details of the tests to be conducted, including an indicative test program.

3.21A.5. Commissioning Test plans submitted by a Market Participant must represent the good faith intention of the Market Participant to conduct such Commissioning Test.

3.21A.6. Where a Market Participant no longer plans to conduct a Commissioning Test it must inform System Management as soon as practicable.

3.21A.7. System Management must accept a request for a Commissioning Test unless—

(a) inadequate information is provided in the request; or

(b) the conduct of the test at the proposed time would pose a threat to Power System Security or Power System Reliability.

3.21A.8. System Management must not show bias towards a Market Participant in regard to scheduling of Commissioning Tests.

3.21A.9 System Management must notify a Market Participant as to whether System Management has approved a Commissioning Test within 10 Business Days of receiving the notification described in clause 3.21A.4.

3.21A.10. Where System Management notifies a Market Participant that—

(a) a Commissioning Test has not been approved it must provide an explanation for its decision.

(b) a Commissioning Test has been approved then, subject to clause 3.21A.11, the Market Participant may proceed with that Commissioning Test.

3.21A.11. If having approved a Commissioning Test, System Management becomes aware that—

(a) the conduct of the test at the proposed time would pose a threat to Power System Security or Power System Reliability, or in the case of a Facility returning to service after extended maintenance the return to service has been delayed, then it may delay the commencement of the Commissioning Test; or

(b) the Commissioning Test is no longer required then it may revoke its approval of the Commissioning Test,

and must notify the Market Participant conducting the Commissioning Test of such delay or cancellation.

3.21A.12. In conducting a Commissioning Test a Market Participant must conform to the test plan approved by System Management.

3.21A.13. If a Market Participant conducting a Commissioning Test cannot conform to the test plan approved by System Management then it must inform System Management as soon as practicable.

3.21A.14. Where a Facility is subject to a Commissioning Test the Dispatch Schedule for that Facility during the period of the Commissioning Test is to reflect the energy produced by the facility.

Note that the previous clause is relevant primarily to IPP generation as Western Power is effectively settled at MCAP on what it produces anyway.

3.21A.15. System Management must document the procedure it follows in scheduling Commissioning Tests in the Power System Operation Procedure and System Management and Market Participants must follow that documented Market Procedure when planning and conducting Commissioning Tests.

25. Market Rule 3.22 amended

(1) Delete the existing clause 3.22.1 and replace it with the following instead—

3.22.1. The IMO must provide the following information to the Settlement System for each Trading Month—

(a) Capacity_LF as described in clause 3.13.1(aA);

(b) [Blank]

(c) Margin_Peak as described in clause 2.23.12(d)(i);

(d) Margin_Off-Peak as described in clause 2.23.12(d)(ii);

(e) Capacity_R_Peak, the requirement for Spinning Reserve for Peak Trading Intervals assumed in forming Margin_Peak;

(f) Capacity_R_Off-Peak, the requirement for Spinning Reserve for Off-Peak Trading Intervals assumed in forming Margin_Off-Peak;

(fA) LFR as described in clause 3.13.1(aA)(i)(2);

(g) Cost_LRD as described in clause 3.13.1(c); and

(h) the compensation due to changed outage plans to be paid to a Market Participant for that Trading Month as determined in accordance with clause 3.19.12(e).

26. Market Rule 4.1 amended

(1) Amend clause 4.1.28(a) by deleting "review" and replacing it with "update".

(2) Delete the existing clause 4.1.28(b) and replace it with the following—

(b) the IMO must publish updated Individual Reserve Capacity Requirements no later than by 5:00 PM on the Business Day being five Business Days prior to the commencement of the Trading Month from which the updated Individual Reserve Capacity Requirements will apply.

27. Market Rule 4.4 amended

(1) Insert a new clause 4.4.1(b)(iA) as follows—

iA. a non-Intermittent Generator not serving Intermittent Load;

(2) Delete the existing clause 4.4.1(b)(ii) and insert instead the following—

ii. a non-Intermittent Generator serving Intermittent Load; or

(3) Insert a new clause 4.4.1(cA) as follows—

(cA) for non-Intermittent Generators serving Intermittent Load, the maximum capacity anticipated to be required to serve the Intermittent Load;

28. Market Rule 4.5 amended

(1) Amend clause 4.5.2(c) by deleting "and" after the semi colon.

(2) Amend clause 4.5.2(d) by deleting full stop "." after "losses and constraints" and replacing it with "; and".

(3) Insert a new clause 4.5.2(e) as follows—

(e) the capacity described in clause 4.5.2A.

(4) Insert a new clause 4.5.2A and comment box as follows—

4.5.2A. The IMO must determine an estimate of the Reserve Capacity required to cover the forecast cumulative needs of Intermittent Loads such that—

(a) this Reserve Capacity estimate is in addition to the Reserve Capacity required to satisfy the Planning Criterion in the situation where there were no Intermittent Loads; and

(b) this Reserve Capacity estimate must be set by the IMO to equal the sum over all expected Intermittent Loads of their forecast maximum possible Intermittent Load levels multiplied by—

i. the ratio of—

1. the Reserve Capacity Target for the relevant Capacity Year as described in clause 4.5.10(b)(i); and

2. the expected peak demand for the relevant Capacity Year as described in clause 4.5.10(b)(ii);

ii. minus one.

In the above clause, clause (a) means that capacity required to serve the Planning Criterion for regular loads cannot count as capacity to cover Intermittent Loads. The ratio in clause (b) is just the reserve margin for the year (e.g. 115%) and clause (b) ensures that the Reserve Capacity associated with any Intermittent Load will equal the capacity margin (e.g. 15%) required for a normal Load beyond the capacity required to cover the load itself. Note that clause (b) may force some iteration into the process, as the amount of Reserve Capacity required for Intermittent Loads will influence the values specified in clause 4.5.10(b).

(5) Insert a new clause 4.5.3A and comment box as follows—

4.5.3A. The information requested by the IMO under clause 4.5.3 must include a request for Market Customers to provide the following information pertaining to Intermittent Loads and Loads that are expected to be registered and operating as Intermittent Loads during the second Capacity Year commencing during the Long Term PASA Study Horizon—

The Long Term PASA Study Horizon begins on 1 October of the year following a Reserve Capacity auction, so the Capacity Year applicable to that auction is the second Capacity Year of the Long Term PASA Study Horizon.

The information requested is for forecasting purposes only and is not binding on Intermittent Loads.

(a) the amount of capacity required to serve that Load in the event of a failure of on-site generation where this amount of capacity cannot exceed the greater of—

i. either—

1. for an existing Intermittent Load, the maximum allowed level of Intermittent Load specified in Standing Data for that Intermittent Load at the time of providing the data; or

2. for an Intermittent Load that is yet to be registered with the IMO, zero; and

ii. the Contractual Maximum Demand associated with that Intermittent Load to apply during the Capacity Year to which the nomination relates. The Market Customer must provide evidence to the IMO of this Contractual Maximum Demand level unless the IMO has previously been provided with that evidence; and

(b) for each Intermittent Load that is yet to be registered with the IMO—

i. the location of the Load; and

ii. evidence that the Load can be expected to satisfy the requirements to be registered as an Intermittent Load during the second Capacity Year within the Long Term PASA Study Horizon.

(6) Delete the existing clause 4.5.9(a) and insert the following instead—

(a) meet the forecast peak demand (including transmission losses and allowing for Intermittent Loads) supplied through the SWIS even after the outage of the largest generation unit and while maintaining the Minimum Frequency Keeping Capacity for normal frequency control. The forecast peak demand should be calculated to a probability level that the forecast would not be expected to be exceeded in more than one year out of ten; and

(7) Insert a new clause 4.5.13(a)(vA) as follows—

vA. the amount of Reserve Capacity forecast to be required to serve the aggregate Intermittent Load;

29. Market Rule 4.8 amended

(1) Amend clause 4.8.2 by deleting "4.12.4" and inserting "4.12.5" instead.

30. Market Rule 4.10 amended

(1) Delete the existing clauses 4.10.1(e)(ii) and 4.10.1(e)(iii) and insert the following instead—

ii. the maximum sent out capacity, net of Intermittent Loads, embedded and parasitic loads, that can be guaranteed to be available for supply to the relevant Network from the Facility when it is operated normally at an ambient temperature of 41oC;

iii. the maximum sent out capacity, net of Intermittent Loads, embedded and parasitic loads, beyond the capacity described in (ii), that can be made available for supply to the relevant Network from the Facility at an ambient temperature of 41oC and any restrictions on the availability of that capacity, including limitations on duration;

31. Market Rule 4.11 amended

(1) Delete the existing clauses, 4.11.1 and 4.11.2, and insert the following instead—

4.11.1. Subject to clause 4.11.7, the IMO must apply the following principles in assigning a quantity of Certified Reserve Capacity to a Facility for the Reserve Capacity Cycle to which the application relates—

(a) subject to paragraphs (d) and (e) and clause 4.11.2, the Certified Reserve Capacity for a Facility for a Reserve Capacity Cycle is not to exceed the IMO's reasonable expectation as to the amount of capacity likely to be available from that Facility, after netting off capacity required to serve Intermittent Loads, embedded loads and parasitic loads, at daily peak demand times in the period from the start of December in Year 3 of the Reserve Capacity Cycle to the end of July in Year 4 of the Reserve Capacity Cycle, assuming an ambient temperature of 41oC;

(b) where the Facility is a generation system (other than an Intermittent Generator), the Certified Reserve Capacity must not exceed the sum of the capacities specified in clauses 4.10.1(e)(ii) and 4.10.1(e)(iii);

(c) the IMO must not assign Certified Reserve Capacity to a Facility for a Reserve Capacity Cycle if—

i. that Facility is not operational or is not scheduled to commence operation for the first time so as to meet its Reserve Capacity Obligations by 30 November of Year 3 of that Reserve Capacity Cycle; or

ii. that Facility will cease operation permanently, and hence cease to meet Reserve Capacity Obligations, from a time earlier than 1 August of Year 4 of that Reserve Capacity Cycle;

(d) the IMO must assign Certified Reserve Capacity for Intermittent Generators that are already operating equal to the Relevant Level determined in accordance with clause 4.11.3A but subject to (b), (c), (f), (g), (h) and (i).

(e) the IMO must assign Certified Reserve Capacity to an Intermittent Generator that is yet to commence operation based on —

i. the Certified Reserve Capacity estimate contained in any report provided by the applicant in accordance with clause 4.10.3, where—

1. the report was produced by an expert accredited by the IMO in accordance with clause 4.11.6; and

2. the estimate reflects what the expert considers the Certified Reserve Capacity of the Facility would have been for the purposes of clause 4.11.2(b) had a history of performance been available.

(f) the IMO must not assign Certified Reserve Capacity to a Facility that is not expected to be Registered Facility by the time its Reserve Capacity Obligations for the Reserve Capacity Cycle would take effect;

(g) in respect of a Facility that will be subject to a Network Control Service contract, the IMO must not assign Certified Reserve Capacity in excess of the capacity that the IMO believes that Facility can usefully contribute given its location and any transmission constraints that are likely to occur;

(h) the IMO may decide not to assign Certified Reserve Capacity to a Facility if—

i. the Facility has operated for at least 36 months and has had a Forced Outage rate of greater than 15% or a combined Planned Outage rate and Forced Outage rate of greater than 30% over the preceding 36 months; or

ii. the Facility has operated for less than 36 months, or is yet to commence operation, and the IMO has cause to believe that over a period of 36 months the Facility is likely to have a Forced Outage rate of greater than 15% or a combined Planned Outage rate and Forced Outage rate of greater than 30%,

where the Planned Outage rate and the Forced Outage rate for a Facility for a period will be calculated in accordance with the Power System Operation Procedure. (The IMO may consult with System Management in deciding whether or not to refuse to grant Certified Reserve Capacity under this paragraph); and

The percentages specified here are unlikely to be an issue for existing generators in the SWIS and are intended to discourage the installation of unreliable facilities purely so as to gain access to Reserve Capacity payments.

(i) the Certified Reserve Capacity assigned to a Facility is to be expressed to a precision of 0.1 MW.

4.11.2. Where an applicant nominates under clause 4.10.1(i) to have the IMO use the methodology described in clause 4.11.2(b) to apply to a Scheduled Generator or a Non-Scheduled Generator, the IMO—

(a) may reject the nomination if the IMO reasonably believes that the capacity of the Facility has permanently declined, or is anticipated to permanently decline prior to or during the Reserve Capacity Cycle to which the Certified Reserve Capacity relates. If the IMO rejects such a nomination it must process the application as it would if no nomination to use the method described in clause 4.11.2(b) had been made;

(b) if it has not rejected the nomination under paragraph (a), must assign a quantity of Certified Reserve Capacity to the relevant Facility for the Reserve Capacity Cycle equal to the Relevant Level determined in accordance with clause 4.11.3A, but subject to clauses 4.11.1(b), 4.11.1(c), 4.11.1(f), 4.11.1(g), 4.11.1(h) and 4.11.1(i).

(2) Insert a new clause 4.11.3A as follows—

4.11.3A. The Relevant Level in respect of a Facility at a point in time is determined by the IMO following these steps—

(a) take all the Trading Intervals that fell within the last three years up to, and including, the last Hot Season;

(b) determine the amount of electricity (in MWh) sent out by the Facility in accordance with metered data submissions received by the IMO in accordance with clause 8.4 during these Trading Intervals;

(c) If the Generator has not entered service, or if it entered service during the period referred to in step (a), estimate the amount of electricity (in MWh) that would have been sent out by the facility, had it been in service, for all Trading Intervals occurring during the period referred to in (a) which are prior to it entering service;

(d) set the Relevant Level as the sum of the quantities determined in (b) and (c) divided by 52,560.

The Certified Reserve Capacity is calculated as the average output (in MW) during each trading interval over the past three complete years. In the event that the Facility has not been in service for three years, the average is calculated based on the actual output for the period when the Facility was in operation and the estimated output for the period before it entered service.

32. Market Rule 4.12 amended

(1) Amend clause 4.12.1(a) by inserting—

", less double the total MWh quantity to be provided as Ancillary Services as specified by the IMO for that Market Participant in accordance with clause 6.3A.2(e)(i)."

at the end of the section after the last "Market Participants".

(2) Amend clause 4.12.1(b) by inserting—

", less double the total MWh quantity to be provided as Ancillary Services as specified by the IMO for Western Power in accordance with clause 6.3A.2(e)(i)."

at the end of the section after the last "Trading Interval".

(3) Delete the comment box after clause 4.12.1(b)(iii).

(4) Amend clause 4.12.1(c) by deleting the text "clauses 7.6 and 7.7" and replacing it with "Chapter 7".

(5) Amend clause 4.12.4 by deleting "clauses 4.12.4, 4.12.5 and 4.12.6" and inserting "clause 4.12.5" instead.

(6) Amend clause 4.12.4(b) by deleting "4.12.3" and inserting "4.12.4" instead.

(7) Amend clause 4.12.4(b)(i) by deleting "clauses" in the two places it appears and in each case replacing it with "clause".

(8) Amend clause 4.12.4(b)(ii) by deleting "4.12.3(b)(i) and inserting "4.12.4(b)(i)" instead.

(9) Amend clause 4.12.4(c) by deleting "4.12.3" and inserting "4.12.4" instead.

(10) Amend clause 4.12.5 by inserting "initial" in the first sentence so that it reads "For the first Reserve Capacity Cycle, the initial Reserve Capacity Obligation Quantity".

(11) Amend clause 4.12.6 to read.

4.12.6. Subject to clause 4.12.7, any initial Reserve Capacity Obligation Quantity set in accordance with clause 4.12.4 or clause 4.12.5 is to be reduced once the Reserve Capacity Obligations take effect, as follows—

(12) Amend clause 4.12.6(a) by deleting "and" after the semi colon.

(13) Delete the existing clause 4.12.6(b) and insert the following instead—

(b) subject to clause 4.27.9, during Trading Intervals where there is a Planned Outage for a Facility approved by System Management or a Consequential Outage, the IMO must reduce the Reserve Capacity Obligation Quantity for that Facility, after taking into account any adjustments in accordance with paragraph (a), to reflect the amount of capacity unavailable due to that outage; and

(14) Insert a new clause 4.12.6(c) as follows—

(c) if the Facility is subject to a Commissioning Test during a Trading Interval then the Reserve Capacity Obligation Quantity for that Facility must be zero during that Trading Interval.

33. Market Rule 4.13 amended

(1) Amend clause 4.13.10(b) by deleting the reference to "4.13.12" and replacing it with "4.13.11".

34. Market Rule 4.20 amended

(1) Amend the comment box following 4.20.1(e) by deleting the reference to "4.12.5" and replacing it with "4.12.6".

35. Market Rule 4.22 amended

(1) Amend clause 4.22.3(b) by deleting the word "zero" and replacing it with "unity".

36. Market Rule 4.24 amended

(1) Delete clause 4.24.6(h) and replace it with the following comment box and clause.

A process for determining the price cap for Supplementary Capacity Contracts will eventually be added to the rules/procedures. These amendments are not urgently required as it will not be possible under these Market Rules to tender for a Supplementary Capacity Contract until the start of 2006.

(h) the location of copies of the standard Supplementary Capacity Contracts on the Market Web Site; and

37. Market Rule 4.25 amended

(1) Insert a new clause 4.25.3A as follows—

4.25.3A. The IMO must not subject a Facility to a test of Reserve Capacity if that Facility is—

(a) undergoing a Scheduled Outage or Opportunistic Outage which has been approved in accordance with clause 3.19, or

(b) if the facility has advised System Management of a Forced Outage or Consequential Outage in accordance with clause 3.21.4; or

(c) if the Facility is undergoing Commissioning Test approved in accordance with clause 3.21A.

(2) Amend the comment box following 4.25.4(b) by deleting the reference to "4.12.5" in the second paragraph and replacing it with "4.12.6".

38. Market Rule 4.26 amended

(1) Remove the comma following the full stop at the end of the first sentence of clause 4.26.1.

(2) Amend the Refund Table within clause 4.26.1 by deleting the existing Maximum Seasonal Rate row and replacing it with the following—

Maximum Seasonal Rate ($ per average MW shortfall per Trading Interval over a Season)	0.6 x Y (Cold)	0.6 x Y (Intermediate)	1.8 x Y (Hot)

(3) Within the comment box following the Refund Table in 4.26.1, delete the existing final three paragraphs and replace them with the following—

> Suppose on a given Trading Day a facility offers only 20 MWh in each of 10 Trading Intervals when it should have offered 50 MWh. This corresponds to shortage of 30 MWh per Trading Interval or 60 MW for each Trading Interval. Suppose Y is $5/MW/Trading Interval and the shortage occurs during the peak hours of the peak season. The charge that applies is 8 x Y = $40 per MW per Trading Interval. Given that 60 MW of capacity was unavailable for 10 Trading Intervals the total charge is $40 x 10 x 60 = $24,000 for the Trading Day.
>
> But the daily cap is 5 x Y = $25/MW/Trading Interval. The average MW short over the day is (60x10)/48 = 12.5 MW. That is, on average, the facility falls 12.5 MW short of its requirement in every Trading Interval. Thus the maximum daily charge over 48 Trading Intervals is 12.5 x 25 x 48= $15,000. Hence the generator will only be charged $15,000 for the day rather than $24,000.
>
> The seasonal and maximum charge caps will have similar effects. The season cap for the hot season is 1.8 × Y. At most, this penalty could be applied for 121 days or 5808 trading intervals. The participant would have to refund 10454.4 Trading Intervals worth of payments. The total number of trading intervals in a year is 365 times 48 or 17520, so this refund corresponds to returning 60% of the value of the contract over the year. In the worse case scenario, the season caps for the cold and intermediate seasons cause 30% and 10% of the contract to be refunded respectively. The result should be that the longer non-compliance lasts, the higher the total charge will be (up to the value of the contract), but the rate of growth in charge declines with duration.

(4) Amend clause 4.26.2(b)(iii) by deleting "and" after the semi colon and replacing it with "plus".

(5) Insert a new clause 4.26.2.(b)(iv) as follows—

iv. double the total MWh quantity to be provided as Ancillary Services as specified by the IMO in accordance with clause 6.3A.2(e)(i) for that Market Participant; and

(6) Amend clause 4.26.2(c)(iii) by deleting "and" after the semi colon and replacing it with "plus".

(7) Insert a new clause 4.26.2(c)(iv) as follows—

iv. double the total MWh quantity to be provided as Ancillary Services as specified by the IMO in accordance with clause 6.3A.2(e)(i) for Western Power.

(8) Amend clause 4.26.2(c) by deleting the existing definition for MSQ and inserting a comment box and new definition for MSQ as follows—

> In the following clause MSQ is based on the greater of zero and the metered schedule because if a generator has embedded load and is not running then the metered schedule could be less than zero. E.g. a 100 MW generator with 40 MW of embedded load might only have 60 MW of capacity credits. If it is dispatched to a level of 60 MW but its metered schedule is negative 40 MW, then its reserve capacity shortfall should be 60—Max(0,-40) = 60 MW. Without this adjustment the generator would have to pay a refund for capacity it is not obliged to provide.

MSQ(p,d,t) is a MW quantity calculated by doubling the MWh value of the sum over all of the Facilities registered by Market Participant p of the greater of zero and each Facility's Metered Schedule for Trading Interval t of Trading Day d, corrected for loss factor adjustments so as to be a sent out quantity.

(9) Delete clause 4.26.3(c)(i) and replace it with the following clause

i. the Maximum Daily Rate determined in accordance with the Refund Table for Trading Day d multiplied by the sum over all Trading Intervals t in Trading Day d of the Capacity Shortfall in Trading Interval t; and

39. Market Rule 4.27 amended

(1) Amend clause 4.27.9(b) by deleting the reference to "4.12.5(b)" and replacing it with "4.12.6(b)".

(2) Replace the comment box following clause 4.27.9(b)(ii) with the following comment box—

> While the next two clauses relate to facilities that are yet to enter service, they are included in this performance monitoring section as the IMO has to be able to monitor their performance in achieving the schedule in clause 4.10.1(c)(iii). Note that the disincentive for being late with a facility is that the market participant operating the facility will have to refund Reserve Capacity payments in accordance with clause 4.26 until the Facility is operating and if the facility is too late, it can lose its Reserve Capacity Security Deposit. Note that the capacity credits associated with a facility that is late in entering service are still available to cover retailer requirements for capacity credits.

40. Market Rule 4.28 amended

(1) Insert a new clause 4.28.4(bA) as follows—

(bA) the Intermittent Load Refunds for that Trading Month; less

(2) Amend clause 4.28.7(a) by inserting "and clause 4.28.7A" after "Appendix 5".

(3) Insert a new clause 4.28.7A as follows—

4.28.7A. The IMO must set the Intermittent Load Reserve Capacity Requirement to apply for the first Trading Month of the Capacity Year for each Intermittent Load for which a Market Customer provided the IMO with the information specified in clause 4.28.8(c) in accordance with Appendix 4A.

(4) Insert a new clause 4.28.8(c) as follows—

(c) nominations of capacity requirements for Intermittent Loads, expressed in MW, where the nominated quantity cannot exceed the greater of—

i. the maximum allowed level of Intermittent Load specified in Standing Data for that Intermittent Load at the time of providing the data; and

ii. the maximum Contractual Maximum Demand expected to be associated with that Intermittent Load during the Capacity Year to which the nomination relates. The Market Customer must provide evidence to the IMO of this Contractual Maximum Demand level unless the IMO has previously been provided with that evidence.

(5) Insert new clauses 4.28.8A, comment box and 4.28.8B as follows—

4.28.8A. Any Intermittent Load that was not registered by the date and time specified in clause 4.1.23 must provide the IMO with the information described in clause 4.28.8(c) no later than 5 Business Days prior to the date and time specified in clause 4.1.28(b) where that date and time relates to the Trading Month in which the Intermittent Load will first commence operation.

The timing is dictated by the requirement for the IMO to update Individual Reserve Capacity Requirements.

4.28.8B. The IMO must accept a nomination for capacity from a Market Customer if that nomination is made in accordance with clauses 4.28.8 or 4.28.8A provided that the IMO is satisfied of the accuracy of the data and evidence provided in accordance with clause 4.28.8(c)(ii).

(6) Amend clause 4.28.10 by deleting "value of TDL(i) as determined in accordance with Appendix 5 for Market Customer i" and replacing it with "peak consumption associated with the applicable Market Participant".

(7) Amend clause 4.28.11 by deleting "[To be inserted]" and its associated comment box and replacing it with the following—

4.28.11. The IMO must determine and publish an updated Individual Reserve Capacity Requirement for each Market Customer by the date and time specified in clause 4.1.28(b) where this Individual Reserve Capacity Requirement—

(a) is determined using the methodology described in Appendix 5 and based on Individual Reserve Capacity Requirements for Intermittent Loads determined for each Trading Month in accordance with Appendix 4A; and

(b) applies from the commencement of the first Trading Month commencing after the date of publication of the updated Individual Reserve Capacity Requirement.

(8) Insert a new clause 4.28A, titled Intermittent Load Refunds, as follows—

Intermittent Load Refunds

4.28A. Intermittent Load Refunds

Intermittent Loads are usually supplied by their own generators. For this reason the generator does not need to go through the normal reserve capacity process while the load does not need to fund reserve capacity, except for its contribution to the system reserve margin. If the Intermittent Loads generator fails for any reason other than an approved outage then it is necessary for the Intermittent Load to pay refunds similar to Reserve Capacity Refunds. Were this not to be the case then generators supplying Intermittent Loads would face a lower cost for outages than generators with Reserve Capacity obligations. This is implemented by applying a refund based on the amount of Intermittent Load that occurs during each Trading Interval for which the generator is not on an approved outage.

4.28A.1 The IMO must determine for each Intermittent Load registered to Market Participant p the amount of the refund ("Intermittent Load Refund") to be applied for each Trading Month m in respect of that Intermittent Load using the methodology for determining Capacity Cost Refunds as described in clause 4.26.3 assuming—

(a) that the applicable value of Y in the Refund Table described in clause 4.26.1 is that which applies for Scheduled Generators;

(b) that the Maximum Refund defined in the Refund Table described in clause 4.26.1 is, for a given Intermittent Load and Trading Month, set to equal the value of Reserve Capacity payments that would have been made to the generation system described in clause 2.30B.2(a) for the 12 Trading Months commencing at the start of the Trading Day of the previous 1 October assuming that the IMO had procured Reserve Capacity from it for each of those months equal to the quantity nominated for that Intermittent Load by its Market Customer in accordance with clause 4.28.8(c) at the prevailing Monthly Reserve Capacity Price.

If an Intermittent Load is registered and commences operation during a Capacity Year then this maximum value will not be reduced. However, the seasonal caps will tend to limit the refunds anyway.

(c) that the Capacity Shortfall for Trading Interval t of Trading Day d and Trading Month m is the greater of zero and—

i. double the MWh Intermittent Load metered during that Trading Interval, less;

ii. if the generating system described in clause 2.30B.2(a) is undergoing a Planned Outage or a Consequential Outage, the quantity nominated for that Intermittent Load by its Market Customer in accordance with clause 4.28.8(c); less

iii. 3% of the quantity nominated for that Intermittent Load by its Market Customer in accordance with clause 4.28.8(c); less

iv. for Trading Intervals where the temperature data described in clause 4.28A.2 shows a temperature in excess of 41oC and the generating system described in clause 2.30B.2(a) is not undergoing a Planned Outage, Forced Outage or a Consequential Outage, the capacity reduction, if any, specified in accordance with clause 2.30B.3(b)(i).

Clause (i) uses positive Intermittent Load metered values as the basis of applying refunds. These are doubled to convert them to equivalent MW figures. If the generation system serving that load is not on an outage then the amount in clause (i) should be zero, and any excess will be subject to the refund. However, if the generation system is on an approved outage then clause (ii) subtracts the nominated capacity from the number in clause (i), meaning that refunds will only apply if the Market Customer consumes more than it nominated.

Clause (iii) applies a tolerance that applies in all situations.

Clause (iv) further reduces exposure to refunds in situations where the generation system is operational but the ambient temperature is very high. This parallels reductions contemplated in Chapter 4 for generators providing Reserve Capacity.

4.28A.2. To support the implementation of clause 4.28A.1(c)(iv)

(a) the IMO must record the following temperature data for generation systems in respect of which this clause 4.28A applies and for which, in accordance with clause 2.30B.3(b)(ii), a valid method for measuring ambient temperature was indicated—

i. the publicly available maximum daily temperature associated with those generating systems for which temperature is defined in accordance with clause 2.30B.3(b)(ii)(1); and

ii. temperatures provided by System Management for those generating systems for which temperature is defined in accordance with clause 2.30B.3(b)(ii)(2).

(b) System Management must provide the temperatures described in clause 4.28A.2(a)(ii) for a Trading Month to the IMO not later than two Business Days prior to the relevant Non-STEM Settlement Statement Date.

4.28A.3 The IMO must document the procedure the IMO must follow in calculating Intermittent Load Refunds in the Reserve Capacity Procedure, and the IMO must follow that documented Market Procedure when calculating Intermittent Load Refunds.

41. Market Rule 4.29 amended

(1) Insert a new clause 4.29.3(dA) as follows—

(dA) for each Market Participant, the Intermittent Load Refund to be paid by the Market Participant to the IMO for each of its Intermittent Loads;

42. Market Rule 6 amended

(1) Amend clause 6 by deleted the existing information box after the title "Energy Scheduling Timetable and Process" and it replacing with the following—

The energy scheduling process comprises—

Any time

Standing STEM Submissions and Standing Balancing Data (i.e. pay-as-bid balancing prices) submitted.

Between a week ahead and a day ahead

Bilateral submissions, which contain schedules of bilateral contracts, submitted by generators.

A day ahead

STEM Submissions, from which the IMO determines STEM Bids and STEM Offers given each Market Participant's Net Bilateral Position. Standing STEM Submissions are used if this data is not provided.

A STEM auction run by the IMO, using STEM Bids and STEM Offers.

Resource Plan submissions, which detail how the participant will use their generation facilities to meet their net contract position.
Balancing Data submissions, which detail the pay-as-bid Balancing Prices to be paid for increases and decreases in energy output stemming from Dispatch Instructions. Standing Balancing Data is used if this data is not provided. Note that this data does not include commitment and decommitment costs—this requires evidence to be provided and hence is only recorded in Standing Data.

43. Market Rule 6.1 amended

(1) Delete the existing clause 6.1 and insert "6.1 [Blank]" instead.

44. Market Rule 6.2 amended

(1) Delete the existing comment box after 6.2 and replace it with the following—

Market Generators can make a bilateral submission for a Trading Day at any time between the Wednesday prior to the Friday that starts the Trading Week, up to 8:00 AM on the day before the Trading Day. However, only one submission for each Trading Day is allowed.

(2) Amend clause 6.2.3 by deleting "9.00 AM" and replacing it with "8.35 AM" instead.

(3) Amend clause 6.2.3(a)(i) by deleting "within the past 24 hours" and replacing it with "for the Trading Day" instead.

(4) Delete the existing clause 6.2.4 and replace it with the following—

6.2.4. Where a Bilateral Submission is not accepted by the IMO in accordance with clause 6.2.3(a)(ii), or the IMO fails to acknowledge receipt of a Bilateral Submission, the Market Generator has until 8:50 AM on the relevant Scheduling Day to submit a revised Bilateral Submission for the Trading Day in accordance with the process described in clause 6.2.4A.

(5) Insert a new clause 6.2.4A as follows—

6.2.4A. Where clause 6.2.4 applies to a Market Participant—

(a) the Market Participant may continue to resubmit Bilateral Submissions to the IMO until 8:50 AM or until the IMO confirms receipt of the Bilateral Submission in accordance with (c), which ever is earlier;

(b) any revised Bilateral Submission issued by the Market Participant to the IMO must conform to the requirements of clause 6.7;

(c) within 5 minutes of submitting a revised Bilateral Submission, the Market Participant must communicate with the IMO to establish whether or not the IMO has received the resubmission;

(d) the IMO must indicate in the communication referred to in (c) if it has received a Bilateral Submission from the Market Participant; and

(e) if the IMO has confirmed receipt of a resubmitted Bilateral Submission in accordance with (d) then by 9:00 AM the IMO must notify the submitting Market Participant whether or not the IMO accepts the STEM Submission as conforming to the requirements of clause 6.7.

(6) Amend clause 6.2.5 by inserting "prior to 8:50 AM" after "IMO" at the end of the clause.

(7) Delete the existing clause 6.2.6 and replace it with the following—

6.2.6. Where the IMO receives a communication referred to in clause 6.2.5 prior to 8:50 AM, the IMO must verify that the information released in accordance with clause 6.2.3(b) matches the information that the IMO received in the relevant Bilateral Submission—

(a) where the IMO finds that it has incorrectly recorded a Bilateral Submission, it must correct the error prior to running the STEM Auction for that day; and

(b) where (a) applies or where the IMO finds that the information released does not match the information that the IMO has received, the IMO must re-release the corrected information referred to in clause 6.2.3(b) as soon as practicable.

45. Market Rule 6.3 amended

(1) Delete the existing clause 6.3 and insert "6.3 [Blank]" instead.

(2) Insert new market clauses, 6.3A to 6.3C, as follows—

6.3A. Information to Support the Bilateral and STEM Submission Process

6.3A.1. The IMO must publish the following information—

(a) by 8:00 AM of each Scheduling Day to support the Bilateral Submission process the Load Forecast in MWh and MW as measured at the Reference Node for each of the Trading Intervals of the Trading Day determined in accordance with clauses 7.2.1(a) as provided to the IMO by System Management in accordance with clauses 7.2.3B or 7.2.3C;

(b) by 9:00 AM of each Scheduling Day to support the STEM Submission process—

i. the total energy, in MWh as measured at the Reference Node, scheduled with the IMO under bilateral contracts for each of the Trading Intervals of the Trading Day; and

ii. the estimated residual Reserve Capacity available in each of the Trading Intervals of the Trading Day after netting off the quantity in (a).

This will have to be an estimate since Reserve Capacity is a capacity quantity whereas the energy traded is a MWh quantity.

6.3A.2. By 9:00 AM on the Scheduling Day the IMO must have calculated and released to each Market Participant the following parameters to be respected by that Market Participant in forming its STEM Submissions for each Trading Interval in the Trading Day—

In what follows, the Maximum Supply Capability is the maximum gross generation capacity for a Market Participant. If the capability varies based on fuel that generators run on, then the maximum capacity is used. It does not matter that this may slightly exceed the actual capability of a market participant (as the requirement on market participant's to declare what fuel they assumed in forming the curve will discourage them from abusing this feature).

(a) the Maximum Supply Capability where this equals the maximum Loss Factor adjusted quantity of energy, in units of MWh, that could be supplied during the Trading Interval based on the Standing Data of that Market Participant's Scheduled Generators and Non-Scheduled Generators and assuming the use of the fuel which maximises the capacity of each Facility—

i. less an allowance for outages of which the IMO has been made aware by System Management in accordance with clauses 7.3.4 or 7.3.6; and

ii. less, for each Market Participant that is a provider of Ancillary Services, the estimated Loss Factor adjusted quantity of energy , in units of MWh, that could potentially be called upon by System Management from that Market Participant after 1:00 PM on the Scheduling Day to meet Ancillary Service requirements for each Trading Interval of the Trading Day, as provided to the IMO by System Management in accordance with clauses 7.2.3B or 7.2.3C;

(b) the Maximum Consumption Capability where this equals the maximum Loss Factor adjusted quantity of energy, in units of MWh, that could be consumed during a Trading Interval by that Market Participant's Non-Dispatchable Loads, Interruptible Loads, Curtailable Loads and Dispatchable Loads based on the Standing Data maximum consumption quantities for those Facilities and Non-Dispatchable Loads, less an allowance for outages of which the IMO has been made aware by System Management in accordance with clauses 7.3.4 or 7.3.6;

(c) for each Scheduled Generator and Non-Scheduled Generator that is registered as being able to run on liquid fuel only, the maximum Loss Factor adjusted quantity of energy, in units of MWh, that could be supplied during the Trading Interval based on the Standing Data of that Scheduled Generator or Non-Scheduled Generator less an allowance for outages of which the IMO has been made aware by System Management in accordance with clauses 7.3.4 or 7.3.6; and

(d) for each Scheduled Generator and Non-Scheduled Generator that is registered as being able to run on both liquid and non-liquid fuel, the maximum Loss Factor adjusted quantity of energy, in units of MWh, that could be supplied during the Trading Interval when run on each of liquid and non-liquid fuels based on the Standing Data of that Scheduled Generator or Non-Scheduled Generator less an allowance for outages of which the IMO has been made aware by System Management in accordance with clauses 7.3.4 or 7.3.6.

(e) in the case of each Market Participant that is a provider of Ancillary Services—

i. the estimated Loss Factor adjusted quantity of energy, in units of MWh, 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; and

ii. the list of Facilities that System Management might reasonably expect to call upon to provide the energy described in (i),

as provided to the IMO by the System Management in accordance with clauses 7.2.3B or 7.2.3C.

The Maximum Supply Capability and Maximum Demand Capability define the maximum quantity that can be supplied or consumed via bilateral contracts and STEM submissions. The reason for determining the available capacity for each generator in (c) and (d) is so that Market Participants can confirm the factors they must respect when making their STEM submissions. Note that if for any reason System Management has not notified the IMO of an outage, then the IMO is just restating Standing Data values.

A Market Participant must not exceed its Maximum Supply Capability or Maximum Demand Capability in forming STEM Submissions for a Trading Interval. The amount of generation it can offer at the Alternative Maximum STEM Price will be the sum of all the energy from generators described in (c) and the sum of the energy from those generators described in (d) for which the Market Participant makes a Fuel Declaration stating that the facility will be running on liquid fuel for the Trading Interval.

6.3B. STEM Submissions Timetable and Process

STEM Submissions are for the Trading Day that commences at 8:00 AM on the following day.

6.3B.1. A Market Participant may make a single STEM Submission for a Trading Day to the IMO between 9:00 AM and 9:30 AM on the Scheduling Day.

A Market Participant holding Capacity Credits must submit daily STEM Submissions (or have a Standing STEM Submission) that covers the obligations of their Capacity Credits.

6.3B.2. For the purposes of clauses 6.3B.3(c) and 6.3B.5(e), the IMO must assess a received STEM Submission against the Reserve Capacity Obligations of the Market Participant that apply at 41oC.

6.3B.3. By 9:35 AM of the Scheduling Day the IMO must communicate to each Market Participant—

(a) whether or not it has received a STEM Submission from that Market Participant;

(b) whether or not the IMO accepts a received STEM Submission as conforming to the requirements of clause 6.6; and

(c) the extent to which the IMO considers that a received STEM Submission is consistent with the Market Participant's Reserve Capacity Obligations assessed under clause 6.3B.2.

6.3B.4. Where a STEM Submission is not accepted by the IMO in accordance with clause 6.3B.3(b) or the IMO notifies the Market Participant that the received STEM Submission is not consistent with the Market Participant's Reserve Capacity Obligations in accordance with clause 6.3B.3(c), or the IMO fails to acknowledge receipt of a STEM Submission that has been sent, the Market Participant may submit a revised STEM Submission in accordance with the process described in clause 6.3B.5.

6.3B.5 Where clause 6.3B.4 applies to a Market Participant—

(a) the Market Participant may continue to resubmit STEM Submissions to the IMO until 9:50 AM of the Scheduling Day or until the IMO confirms receipt of the STEM Submission in accordance with (c), which ever is earlier;

(b) any revised STEM Submission issued by the Market Participant to the IMO must conform to the requirements of clause 6.6;

(c) within 5 minutes of submitting a revised STEM Submission, the Market Participant must communicate with the IMO to establish whether or not the IMO has received the resubmission;

(d) the IMO must indicate in the communication referred to in (c) if it has received a STEM Submission from the Market Participant; and

(e) if the IMO has confirmed receipt of a resubmitted STEM Submission in accordance with (d) then by 10:00 AM of the Scheduling Day the IMO must notify the submitting Market Participant—

i. whether or not the IMO accepts the STEM Submission as conforming to the requirements of clause 6.6; and

ii. the extent to which the IMO considers that the STEM Submission is consistent with the Markets Participant's Reserve Capacity Obligations assessed under clause 6.3B.2.

6.3B.6. A STEM Submission accepted by the IMO in accordance with clause 6.3B.5(e) replaces any STEM Submission accepted by the IMO in accordance with clause 6.3B.3 for the same Trading Day.

Clause 6.3B.6 is required because the IMO may have accepted a STEM submission but informed the Market Participant that the submission fails to satisfy the Market Participant's Reserve Capacity Obligations.

6.3B.7. Where the IMO does not receive a STEM Submission from a Market Participant by 10:00 AM on the Scheduling Day which is accepted by the IMO in accordance with clause 6.3B.3(b) or clause 6.3B.5(e) and a Standing STEM Submission exists for that Market Participant, the IMO must use that Standing STEM Submission for the relevant Trading Day in the STEM Auction for that Trading Day.

6.3B.8. Where the IMO does not receive a STEM Submission from a Market Participant by 10:00 AM on the Scheduling Day, which is accepted in accordance with clause 6.3B.3(b) or clause 6.3B.5(e) and there is no Standing STEM Submission available, then the IMO must record that no STEM Submission has been made.

6.3C. Standing STEM Submission Timetable and Process

A Standing STEM Submission is for the Trading Day that commences at 8:00 AM on the day following the next day (see clause 2.34.14)

6.3C.1. A Market Participant may make a single Standing STEM Submission for a Trading Day to the IMO between 1:00 PM and 2:00 PM on any day.

6.3C.2. For the purposes of clauses 6.3C.3(c) and 6.3C.5(e), the IMO must assess a received Standing STEM Submission against the Reserve Capacity Obligations of the Market Participant that apply at 41°C.

6.3C.3. By 2.15 PM each day the IMO must communicate to each Market Participant that made a Standing STEM Submission on that day in accordance with clause 6.3C.1—

(a) whether or not the IMO accepts a received Standing STEM Submission as conforming to the requirements of clause 6.6; and

(b) the extent to which the IMO considers that a received Standing STEM Submission is consistent with the Markets Participant's Reserve Capacity Obligations assessed under clause 6.3C.2 in each Trading Interval of the next seven Trading Days.

A Standing STEM Submission includes seven Trading Days worth of data (where each applies for a different day of the week). Given that a Market Participant's Reserve Capacity Obligations could be changing over time (due to Planned Outages etc) then the test in (b) is rather crude, but there is little more that can be done. Note that failure to cover Reserve Capacity Obligations will not cause the IMO to reject a Standing STEM Submission. The information provide to Market Participants in (b) is simply to warn them that they may be exposed to Reserve Capacity Refunds.

6.3C.4. Where a Standing STEM Submission is not accepted by the IMO in accordance with clause 6.3C.3(a) or the IMO notifies the Market Participant that the received Standing STEM Submission is not consistent with the Market Participant's Reserve Capacity Obligations in accordance with clause 6.3C.3(b), or the IMO fails to acknowledge receipt of a Standing STEM Submission that has been sent, the Market Participant may submit a revised STEM Submission in accordance with the process described in clause 6.3C.5.

6.3C.5. Where clause 6.3C.4 applies to a Market Participant—

(a) the Market Participant may continue to resubmit Standing STEM Submissions to the IMO until 2:50 PM of the day of submission or until the IMO confirms receipt of the STEM Submission in accordance with (c), which ever is earlier;

(b) any revised Standing STEM Submission issued by the Market Participant to the IMO must conform to the requirements of clause 6.6;

(c) within 5 minutes of submitting a revised Standing STEM Submission, the Market Participant must communicate with the IMO to establish whether or not the IMO has received the resubmission;

(d) the IMO must indicate in the communication referred to in (c) if it has received a Standing STEM Submission from the Market Participant; and

(e) if the IMO has confirmed receipt of a resubmitted Standing STEM Submission in accordance with (d) then by 3 PM of the day of submission the IMO must notify the submitting Market Participant—

i. whether or not the IMO accepts the STEM Submission as conforming to the requirements of clause 6.6; and

ii. the extent to which the IMO considers that the STEM Submission is consistent with the Markets Participant's Reserve Capacity Obligations assessed under clause 6.3C.2 in each Trading Interval of the next seven Trading Days.

6.3C.6. A Standing STEM Submission accepted by the IMO in accordance with clause 6.3C.5(e) replaces any Standing STEM Submission accepted by the IMO in accordance with clause 6.3C.3.

Clause 6.3C.6 is required because the IMO may have accepted a STEM submission but informed the Market Participant that the submission fails to satisfy the Market Participant's Reserve Capacity Obligations.

6.3C.7. The IMO is to commence using an accepted Standing STEM Submission in accordance with the times specified in clause 2.34.14(a).

6.2C.8 The Standing STEM Submission data to be used for Trading Interval r of the Trading Day q of the Trading Week if no STEM Submission is made is the data for Trading Interval (48× (q-1) + r) of the Trading Week recorded in the Standing STEM Submission.

q=1, r=1 gives 1, q=7, r=48 gives 336, the number of Trading Intervals in a Trading Week.

6.3C.9. If a Market Participant's ability to consume or supply energy in any Trading Interval of a Trading Day is less than the maximum level of its STEM supply or consumption as indicated by its current Standing STEM Submission data then that Market Participant must either—

(a) submit to the IMO a revised Standing STEM Submission; or

(b) for each Trading Day for which the current Standing STEM Submission over-states the Market Participants supply or consumption capabilities, submit a valid STEM Submission to the IMO on the Scheduling Day immediately prior to that Trading Day.

46. Market Rule 6.4 amended

(1) Delete the comment box prior to 6.4.1.

(2) Delete the existing clause 6.4.2 and replace it with the following—

6.4.2. The IMO must communicate to System Management the total quantity of energy scheduled to be supplied under Bilateral Contracts and in the STEM Auction, by each Market Participant, for each Trading Interval of a Trading Day by 10:30 AM on the relevant Scheduling Day.

47. Market Rule 6.5 amended

(1) Delete the existing clause 6.5.3 and replace it with the following—

6.5.3. Where a Resource Plan Submission is not accepted by the IMO in accordance with clause 6.5.2(b), or the IMO fails to acknowledge receipt of a Resource Plan Submission the Market Participant must submit a revised Resource Plan Submission in accordance with the process described in clause 6.5.3A.

(2) Insert a new clause 6.5.3A as follows—

6.5.3A Where clause 6.5.3 applies to a Market Participant—

(a) the Market Participant may continue to resubmit Resource Plan Submissions to the IMO until 12:50 PM of the Scheduling Day or until the IMO confirms receipt of the Resource Plan Submission in accordance with (c), which ever is earlier;

(b) any revised Resource Plan Submission issued by the Market Participant to the IMO must conform to the requirements of clause 6.11.2;

(c) within 5 minutes of submitting a revised Resource Plan Submission, the Market Participant must communicate with the IMO to establish whether or not the IMO has received the resubmission;

(d) the IMO must indicate in the communication referred to in (c) if it has received a Resource Plan Submission from the Market Participant; and

(e) if the IMO has confirmed receipt of a resubmitted Resource Plan Submission in accordance with (d) then by 1:00 PM of the Scheduling Day the IMO must notify the submitting Market Participant whether or not the IMO accepts the Resource Plan Submission as conforming to the requirements of clause 6.11.2.

(3) Delete the existing clause 6.5.5 and insert "6.5.5 [Blank]" instead.

(4) Insert new clauses 6.5A and 6.5B as follows—

6.5A. Balancing Data Submission Timetable and Process

A Balancing Data Submission contains pay-as-bid price data to be used in balancing. If no submission is provided then Standing Data will be used. Note that commitment costs are not included in balancing data as Appendix 1 requires that supporting evidence be provided for changes to that data. The timelines and processes parallel those for Resource Plan Submissions. These rules have not been merged with the Resource Plan rules because Balancing Data Submissions are optional and because Curtailable Loads can be included in Balancing Data Submissions but are not included in Resource Plans.

6.5A.1. Market Participants other than Western Power that are Market Generators or that are Market Customers with Dispatchable Loads or Curtailable Loads may make a single Balancing Data Submission for a Trading Day to the IMO between 11:00 AM and noon on the relevant Scheduling Day.

6.5A.2. By 12:30 PM on the relevant Scheduling Day the IMO must communicate the following information in relation to a Trading Day to each Market Participant from which it has received a Balancing Data Submission—

(a) that it has received a Balancing Data Submission from that Market Participant; and

(b) whether or not the IMO accepts a received Balancing Data Submission as meeting the acceptance criteria specified in clause 6.11A.2.

6.5A.3. Where a Balancing Data Submission is not accepted by the IMO in accordance with clause 6.5A.2(b), or the IMO fails to acknowledge receipt of a Balancing Data Submission the Market Participant may submit a revised Balancing Data Submission in accordance with the process described in clause 6.5A.4.

6.5A.4. Where clause 6.5A.3 applies to a Market Participant—

(a) the Market Participant may continue to resubmit Balancing Data Submissions to the IMO until 12:50 PM of the Scheduling Day or until the IMO confirms receipt of the Balancing Data Submission in accordance with (c), which ever is earlier;

(b) any revised Balancing Data Submission issued by the Market Participant to the IMO must conform to the requirements of clause 6.11A.2;

(c) within 5 minutes of submitting a revised Balancing Data Submission, the Market Participant must communicate with the IMO to establish whether or not the IMO has received the resubmission;

(d) the IMO must indicate in the communication referred to in (c) if it has received a Balancing Data Submission from the Market Participant; and

(e) if the IMO has confirmed receipt of a resubmitted Balancing Data Submission in accordance with (d) then by 1:00 PM of the Scheduling Day the IMO must notify the submitting Market Participant whether or not the IMO accepts the Balancing Data Submission as conforming to the requirements of clause 6.11A.2.

6.5A.5. If the IMO has not accepted a Balancing Data Submission for a Trading Day from a Market Participant by 1:00 PM on the relevant Scheduling Day, then the corresponding Balancing Data maintained in Standing Data must be used in forming the Dispatch Merit Order and in calculating the Dispatch Instruction Payment described in clause 6.17.6.

6.5B. Standing Balancing Data Submission Timetable and Process

Standing Balancing Data is for the Trading Day that commences at 8:00 AM on the day following the next day (see clause 2.34.14).

6.5B.1. A Market Participant may make a single Standing Balancing Data submission for a Trading Day to the IMO between 1:00 PM and 2:00 PM on any day.

6.5B.2. By 2:15 PM each day the IMO must communicate to each Market Participant that made a Standing Balancing Data submission on that day in accordance with clause 6.5B.1 whether or not the IMO accepts a received Standing Balancing Data submission as conforming to the requirements of clause 6.11A.2; and

6.5B.3. Where a Standing Balancing Data submission is not accepted by the IMO in accordance with clause 6.5B.2, or the IMO fails to acknowledge receipt of a Standing Balancing Data submission that has been sent, the Market Participant may submit a revised Standing Balancing Data submission in accordance with the process described in clause 6.5B.4.

6.5B.4. Where clause 6.5B.3 applies to a Market Participant—

(a) the Market Participant may continue to resubmit Standing Balancing Data submission to the IMO until 2:50 PM of the day of submission or until the IMO confirms receipt of the Standing Balancing Data submission in accordance with (c), which ever is earlier;

(b) any revised Standing Balancing Data submission issued by the Market Participant to the IMO must conform to the requirements of clause 6.11A.2;

(c) within 5 minutes of submitting a revised Standing Balancing Data submission, the Market Participant must communicate with the IMO to establish whether or not the IMO has received the resubmission;

(d) the IMO must indicate in the communication referred to in (c) if it has received a Standing Balancing Data submission from the Market Participant; and

(e) if the IMO has confirmed receipt of a resubmitted Standing Balancing Data submission in accordance with (d) then by 3:00 PM of the day of submission the IMO must notify the submitting Market Participant whether or not the IMO accepts the Standing Balancing Data submission as conforming to the requirements of clause 6.11A.2.

6.5B.5. The IMO is to commence using an accepted Standing Balancing Data submission in accordance with the times specified in clause 2.34.14(a).

48. Market Rule 6.6 amended

(1) Delete the existing title for clause 6.6 and replace it with "Format of STEM Submission and Standing STEM Submission Data".

(2) Delete the existing clause 6.6.1 and replace it with the following instead—

6.6.1. A Market Participant making a STEM Submission or a Standing STEM Submission must include in the submission—

(a) the identity of the Market Participant making the submission;

(b) [Blank]

(c) for a STEM Submission, for each Trading Interval in the next Trading Day—

i. a Fuel Declaration;

ii. an Availability Declaration;

iii. if the Market Participant is a provider of Ancillary Services, an Ancillary Service Declaration;

iv. a Portfolio Supply Curve; and

v. a Portfolio Demand Curve;

(d) for a Standing STEM Submission, for each of 336 Trading Intervals representing in chronological sequence each Trading Interval in a Trading Week—

i. a Fuel Declaration;

ii. an Availability Declaration;

iii. if the Market Participant is a provider of Ancillary Services, an Ancillary Service Declaration;

iv. a Portfolio Supply Curve; and

v. a Portfolio Demand Curve.

For a Standing STEM Submission the Availability Declaration and Ancillary Service Declarations still need to be provided, even though this may be prior to outage data being finalised and prior to Ancillary Service requirements being specified. Thus we might expect such values to be conservative.

(5) Delete the existing clause 6.6.2 and insert "6.6.2 [Blank]" instead.

(6) Insert a new clause 6.6.2A as follows—

6.6.2A. For—

(a) a Fuel Declaration—

i. the Market Participant must declare for each of its dual fuel Facilities whether or not that Facility was assumed to be operating on liquid fuels or non-liquid fuels in forming the Portfolio Supply Curve;

(b) an Availability Declaration—

The declaration is of capacity not available, as such declarations should be rarely required. If the declaration was for capacity available then (a) it would have to be made every day and (b) creates risk of having a submission rejected if it exceeds the IMO's expectations.

i. the Market Participant must declare for each of its Scheduled Generators and Non-Scheduled Generators—

1. the quantity specified for that Facility in clause 6.3A.2(d) for the fuel indicated in its Fuel Declaration; less

2. the quantity of energy assumed to be available from that Facility in forming the Portfolio Supply Curve for the Trading Interval,

if this quantity is greater than zero. The quantity declared must be in units of MWh;

(c) an Ancillary Service Declaration—

i. a Market Participant which is a provider of Ancillary Services must declare—

1. the MWh quantity of energy from non-liquid fuelled facilities (as defined by the Fuel Declaration) that the Market Participant has not committed for inclusion in the Portfolio Supply Curve because it expects to have to maintain surplus capacity with which to provide Ancillary Services;

2. the MWh quantity of energy from liquid fuelled facilities (as defined by the Fuel Declaration) that the Market Participant has not committed for inclusion in the Portfolio Supply Curve because it expects to have to maintain surplus capacity with which to provide Ancillary Services,

where the sum of the quantities in 1 and 2 must equal the amount specified in clause 6.3A.2(e)(i) for that Market Participant;

(d) a Portfolio Supply Curve—

i. one or more Price-Quantity Pairs may be specified;

ii. the cumulative MWh quantity over all Price-Quantity Pairs must not exceed the greater of zero and—

1. the Market Participant's Maximum Supply Capability as described in clause 6.3A.2(a); less

2. the total MWh quantity specified by the Market Participant in its Availability Declaration; and

3. the total MWh quantity specified by the Market Participant in its Ancillary Service Declaration as being unavailable; and

Points (i) and (ii) taken together mean that a Market Participant with no supply must issue a Portfolio Supply Curve having one step of zero quantity. The price is therefore arbitrary as it will not have any impact.

iii. the cumulative MWh quantity over all Price-Quantity Pairs with prices exceeding the Maximum STEM Price must not exceed—

1. the sum over all Facilities declared in the Fuel Declaration to be operating on liquid fuels of the MWh quantity specified in clause 6.3A.2(d); less

2. the total MWh quantity specified by the Market Participant in its Availability Declaration as being unavailable from Facilities declared in its Fuel Declaration to be operating on liquid fuels; less

3. the MWh quantity declared in its Ancillary Service Declaration as being unavailable from liquid fuelled Facilities;

(e) a Portfolio Demand Curve—

i. one or more Price-Quantity Pairs may be specified; and

ii. the cumulative quantity included in the Price-Quantity Pairs must not exceed the Market Participant's Maximum Consumption Quantity as described in clause 6.3A.2(b).

Points (i) and (ii) taken together mean that a Market Participant with no demand must still submit a Portfolio Demand Curve with zero quantity. That is, one Price-Quantity Pair must be provided but since the Maximum Consumption Quantity is zero the quantity must be zero.

(6) Delete the existing clause 6.6.3 and insert "6.6.3 [Blank]" instead.

(7) Delete the existing clause 6.6.4 and comment box and replace it with the following—

6.6.4. The maximum number of Price-Quantity Pairs which a Market Participant may include in a Portfolio Supply Curve is the greater of—

(a) 10; and

(b) the value of—

i. the limit on the cumulative MWh quantity over all Price-Quantity Pairs as defined in clause 6.6.2A(d)(ii);

ii. divided by 30 MW,

rounded down to the nearest integer.

A participant with 100 MW of generation would be allowed 10 Price-Quantity Pairs in their Portfolio Supply Curve.

A participant with 1600 MW of generation would be allowed 1600/30 = 53 Price-Quantity Pairs in their Portfolio Supply Curve.

(8) Delete the existing clause 6.6.5 and replace it with the following—

6.6.5. For Price-Quantity Pairs in Portfolio Supply Curves—

(a) each Price-Quantity Pair must comprise one price and one quantity;

(b) each Price-Quantity Pair price must be—

i. in units of $/MWh expressed to a precision of $0.01/MWh;

ii. [Blank]

iiA. set such that—

1. the sum of the Price-Quantity Pair quantities from Price-Quantity Pairs in the Portfolio Supply Curve with prices exceeding the Maximum STEM Price must not exceed the cumulative MWh quantity that the Market Participant can offer at the Alternative Maximum STEP Price, as defined in clause 6.6.2A(d)(iii)

2. the prices for Price-Quantity Pair in the Portfolio Supply Curve to which 1 does not relate must not exceed the Maximum STEM Price;

iii. greater than or equal to the Minimum STEM Price;

iv. [Blank]

v. set such that no two Price-Quantity Pairs in a Portfolio Supply Curve have the same price;

The condition in v is required to avoid a situation where there would be more than one possible way of merging Portfolio Supply Curves and Portfolio Demand Curves into a single curve where there were multiple steps in one curve with the same price, and at least one step in the other curve with that price.

(c) each Price-Quantity Block quantity must be

i. in units of MWh expressed to a precision of 0.1/MWh;

ii. Loss Factor adjusted; and

(d) a Price-Quantity Pair means that the Market Participant is prepared to sell a quantity of energy into the STEM for that Price-Quantity Pair equal to—

i. 0 MWh if the STEM Clearing Price is less than the Price-Quantity Pair price;

ii. the Price-Quantity Pair quantity if the STEM Clearing Price is greater than the Price-Quantity Pair price; and

iii. an amount between 0 MWh and the Price-Quantity Pair quantity if the STEM Clearing Price equals the Price-Quantity Pair price.

Clause (d) means that for any price we can define the quantity to be supplied from that Price-Quantity Pair. This definition makes it simple to describe in Appendix 6 how to combine the Portfolio Supply Curve and Portfolio Demand Curves.

(9) Delete the existing clause 6.6.6 and insert "6.6.6 [Blank]" instead.

(10) Amend clause 6.6.7 by deleting "Gross" and replace it with "Portfolio".

(11) Delete the existing clause 6.6.7(b)(i) and replace it with the following—

i. the Market Participant's Maximum Consumption Capability as described in clause 6.3A.2(b);

(12) Amend clause 6.6.8 by deleting "Gross" and replacing it with "Portfolio".

(13) Insert a new clause 6.6.8(a)(iv) and comment box as follows—

iv. set such that no two Price-Quantity Pairs in a Portfolio Demand Curve have the same price.

This last condition is required to avoid a situation where there would be more than one possible way of merging Portfolio Supply Curves and Portfolio Demand Curves into a single curve where there were multiple steps in one curve with the same price, and at least one step in the other curve with that price.

(14) Amend clause 6.6.8(b)(ii) by deleting the full stop "." and replacing it with "; and".

(15) Insert a new clause 6.6.8(c) and comment box as follows—

(c) a Price-Quantity Pair means that the Market Participant is prepared to buy a quantity of energy from the STEM for that Price-Quantity Pair equal to—

i. 0 MWh if the STEM Clearing Price is greater than the Price-Quantity Pair price;

ii. the Price-Quantity Pair quantity if the STEM Clearing Price is less than the Price-Quantity Pair price; and

iii. an amount between 0 MWh and the Price-Quantity Pair quantity if the STEM Clearing Price equals the Price-Quantity Pair price.

Clause (c) means that for any price we can define the quantity to be supplied from that Price-Quantity Pair. This definition makes it simple to describe in Appendix 6 how to combine the Portfolio Supply Curve and Portfolio Demand Curves.

(16) For the comment box for clause 6.6.9, delete the existing first paragraph and replace it with the following paragraph—

The Market Generator can apply for non-dual fuel plant to be "deemed" dual-fuel capable, which will allow it to submit a greater proportion of its generation output at the Alternative Maximum STEM Price. The application must be done in advance, takes affect from the Scheduling Day following approval and stands until the relevant fuel contracts expire.

(17) Delete the existing comment box for 6.6.11 and replace it with the following—

The Standing Data will be updated at the start of the next Scheduling Day.

49. Market Rule 6.8 amended

(1) Delete the existing section 6.8 and insert "6.8 [Blank]" instead.

50. Market Rule 6.9 amended

(1) Delete the existing clause 6.9.3 and replace it with the following:

6.9.3. Subject to clause 6.9.4, the IMO must determine STEM Offers and STEM Bids for each Market Participant for each Trading Interval in accordance with Appendix 6 using the valid STEM Submissions and Bilateral Submissions relating to that Trading Interval.

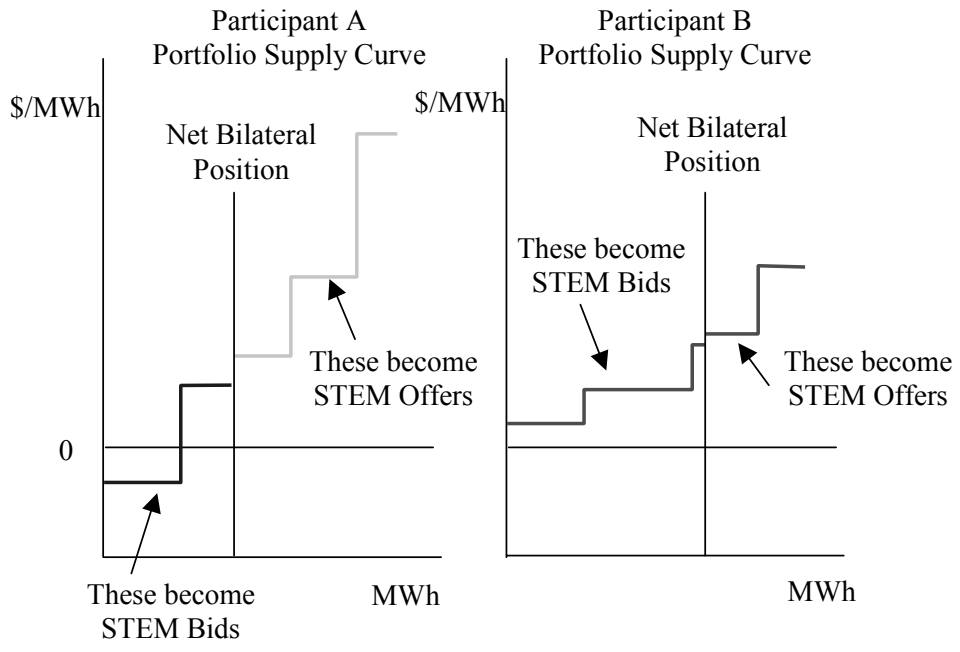
(2) Delete the existing clause 6.9.4 and replace it with the following:

6.9.4. Where the IMO has recorded in accordance with clause 6.3B.8 that a Market Participant has not made a STEM Submission for a Trading Interval the IMO must not determine STEM Offers, STEM Bids or MCAP Price Curves for that Market Participant in that Trading Interval.

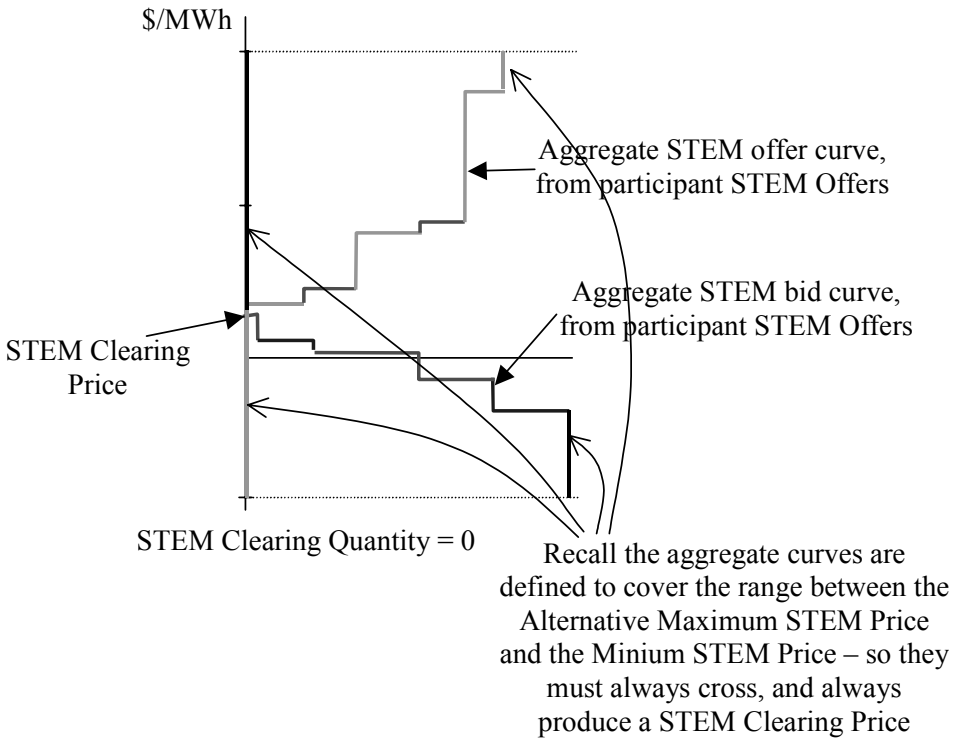
(3) Amend clause 6.9.8 by replacing the box text from "Example 4" with the following—

EXAMPLE 4

If no Portfolio Demand Curves are submitted, the IMO still generates STEM Offers and STEM Bids from the Portfolio Supply Curves and the Net Bilateral Positions.



The IMO can clear the market using these generated STEM Offers and Bids. The diagram below shows the STEM being cleared.



Even though no quantity has cleared, the STEM still produces a price that reflects the marginal cost of energy around the bilateral quantities—in this case the price a generator was willing to pay to reduce its generation below the level of its bilateral contract and instead supply the contract with energy purchased in the STEM (although no such energy was actually purchased).

51. Market Rule 6.11 amended

(1) Amend clause 6.11 by deleting the existing title of "Resource Plans" and replacing it with "Resource Plans and Balancing Data".

(2) Insert a new clause 6.11.2(bA) as follows—

(bA) it must not include a Scheduled Generator for any Trading Interval if that Scheduled Generator is under going a Commissioning Test during that Trading Interval;

(3) Insert a new clause 6.11A as follows—

6.11A. Format of Balancing Data

The balancing data allows a market participant to specify different pay-as-bid balancing prices for a day (for changes in energy schedules). Commitment cost data and compensation for decreasing the output of non-scheduled generators are not included in Balancing Data (but can be changed via the normal standing data change process).

6.11A.1. A Market Participant making a Balancing Data Submission or submitting Standing Balancing Data must include in the submission—

(a) the identity of the Market Participant making the submission;

(b) for each Scheduled Generator registered by the Market Participant—

i. the name of the Facility;

ii. if the Facility is registered as being capable of running on non-liquid fuels, the following prices to apply for the Trading Day—

1. a Non-Liquid Supply Increase Price for Peak Trading Intervals;

2. a Non-Liquid Supply Decrease Price for Peak Trading Intervals, where this price must be not greater than that in (1);

3. a Non-Liquid Supply Increase Price for Off-Peak Trading Intervals; and

4. a Non-Liquid Supply Decrease Price for Off-Peak Trading Intervals, where this price must be not greater than that in (3),

where these prices must be not less than the Minimum STEM Price, not more than the Maximum STEM Price, and must be expressed in units of $/MWh to a precision of $0.01/MWh; and

iii. if the Facility is registered as being capable of running on liquid fuels, the following prices to apply for the Trading Day—

1. a Liquid Supply Increase Price for Peak Trading Intervals;
2. a Liquid Supply Decrease Price for Peak Trading Intervals, , where this price must be not greater than that in (1);
3. a Liquid Supply Increase Price for Off-Peak Trading Intervals; and
4. a Liquid Supply Decrease Price for Off-Peak Trading Intervals, where this price must be not greater than that in (3),

where these prices must be not less than the Minimum STEM Price, not more than the Alternative Maximum STEM Price, and must be expressed in units of $/MWh to a precision of $0.01/MWh;

(c) for each Dispatchable Load registered by the Market Participant—

i. the name of the Facility;

ii. the following prices to apply for the Trading Day—

1. a Consumption Increase Price for Peak Trading Intervals;
2. a Consumption Decrease Price for Peak Trading Intervals, where this price must be not greater than that in (1);
3. a Consumption Increase Price for Off-Peak Trading Intervals; and
4. a Consumption Decrease Price for Off-Peak Trading Intervals, where this price must be not greater than that in (3),

where these prices must be not less than the Minimum STEM Price, not more than the Alternative Maximum STEM Price, and must be expressed in units of $/MWh to a precision of $0.01/MWh; and

(d) for each Interruptible Load registered by the Market Participant—

i. the name of the Facility;

ii. the following prices to apply for the Trading Day—

1. A Consumption Decrease Price for Peak Trading Intervals;
2. A Consumption Decrease Price for Off-Peak Trading Intervals,

where these prices must be not less than the Minimum STEM Price, not more than the Alternative Maximum STEM Price, and must be expressed in units of $/MWh to a precision of $0.01/MWh.

6.11A.2. For a Balancing Data Submission or a Standing Balancing Data Submission to be valid—

(a) it must conform to the format specified in clause 6.11A.1; and

(b) it must only include Facilities registered by the submitting Market Participant.

52. Market Rule 6.12 amended

(1) For the comment box for clause 6.12, delete the second paragraph and replace it with the following paragraph—

The IMO calculates the Dispatch Merit Orders daily using the applicable Balancing Data and standing data prices listed in Appendix 1 (for decommitment costs and non-scheduled facilities), and provides the Dispatch Merit Orders and the Market Participant Fuel Declarations to System Management in accordance with clause 7.5.

(2) Amend clause 6.12.1(a) by deleting the following sentence—

"By 1.00 pm on the Wednesday prior to the start of each Trading Week, the IMO must determine the Dispatch Merit Orders identified in paragraphs (b) to (g). "

and replace it with the following sentence—

"By 1:30 PM on the Scheduling Day, the IMO must determine the Dispatch Merit Orders identified in paragraphs (b) to (g)."

(3) Delete the existing clause 6.12.1(b)(ii) and replace it with the following—

ii. this Dispatch Merit Order must be determined applying the Market Participant Balancing Data applicable to the Trading Day by ranking the Registered Facilities referred to in (i) in increasing order of the—

1. Non-Liquid Supply Increase Price for Peak Trading Intervals;
2. Liquid Supply Increase Price for Peak Trading Intervals; or
3. Consumption Decrease Price for Peak Trading Intervals,

as applicable;

(4) Delete the existing clause 6.12.1(c)(ii) and replace it with the following—

ii. this Dispatch Merit Order must be determined applying the Market Participant Balancing Data applicable to the Trading Day by ranking the Registered Facilities referred to in paragraph (i) in decreasing order of the—

1. Non-Liquid Supply Decrease Price for Peak Trading Intervals;
2. Liquid Supply Decrease Price for Peak Trading Intervals; or
3. Consumption Increase Price for Peak Trading Intervals,

as applicable;

(5) Amend clause 6.12.1(d)(ii) by inserting "described in Appendix 1(c)(i)(2)" after "Standing Data".

(6) Amend clause 6.12.1(d)(ii) by inserting a new comment box, after the clause, as follows—

> Note that since there is only one decommitment price, the peak and off-peak Dispatch Merit Orders for decommitment will be identical.

(7) Delete the existing clause 6.12.1(e)(ii) and replace it with the following—

ii. this Dispatch Merit Order must be determined applying the Market Participant Balancing Data applicable to the Trading Day by ranking the Registered Facilities referred to in paragraph (i) in increasing order of the—

1. Non-Liquid Supply Increase Price for Off-Peak Trading Intervals;
2. Liquid Supply Increase Price for Off-Peak Trading Intervals; or
3. Consumption Decrease Price for Off-Peak Trading Intervals,

as applicable;

(8) Delete the existing clause 6.12.1(f)(ii) and replace it with the following—

ii. this Dispatch Merit Order must be determined applying the Market Participant Balancing Data applicable to the Trading Day by ranking the Registered Facilities referred to in paragraph (i) in decreasing order of the—

1. Non-Liquid Supply Decrease Price for Off-Peak Trading Intervals;
2. Liquid Supply Decrease Price for Off-Peak Trading Intervals; or
3. Consumption Increase Price for Off-Peak Trading Intervals;

as applicable;

(9) Amend clause 6.12.1(g)(ii) by inserting "described in Appendix 1(c)(i)(2)" after "Standing Data".

(10) Amend clause 6.12.1(g)(ii) by inserting a new comment box, after the clause, as follows—

> Note that since there is only one decommitment price, the peak and off-peak Dispatch Merit Orders for decommitment will be identical.

(11) Delete the existing clause 6.12.1(h) and replace it with the following clause and comment box—

(h) Where the prices in Balancing Data or payments described in Standing Data, as applicable, for two or more Market Participants are equal, then for the purpose of determining the ranking in any Dispatch Merit Order other than those for decommitment, the IMO must rank a Registered Facility with a greater sent out capacity registered in Standing Data before a Registered Facility with a lesser sent out capacity. For a Dispatch Merit Order for decommitment, the IMO must rank a Registered Facility with a greater name plate capacity registered in Standing Data before a Registered Facility with a lesser name plate capacity.

> Given that dispatch instructions for energy will be for capacity available to the market, it is appropriate that ties be broken based on sent out capacity. However, for decommitment, it is more appropriate to break ties based on name plate capacity.

53. Market Rule 6.14 amended

(1) Delete the existing clause 6.14.2(b)(i)(1) and insert "6.14.2(b)(i)(1) [Blank]" instead.

(2) Delete the existing clause 6.14.3(a) and replace it with—

(a) subject to clause 6.9.4 the IMO must determine MCAP Price Curves for each Market Generator for the relevant Trading Interval in accordance with Appendix 6 using the valid STEM Submissions and Bilateral Submissions relating to that Trading Interval;

(3) Delete the existing clause 6.14.4(a) and replace with it with—

(a) the "Operational System Load Estimate" for a Trading Interval is the estimate that the IMO receives from System Management of the total Loss Factor adjusted MWh consumption supplied via the SWIS during that Trading Interval. This estimate equals the total loss adjusted generator sent out energy as estimated from generator operational meter data and the use of state estimator systems;

54. Market Rule 6.15 amended

(1) Insert a comment box before clause 6.15.1 as follows—

> The references to clause 4.25.10 and 3.21A.14 in the following clause relate to scheduled generators subject to Commissioning Trials or Reserve Capacity testing.

(2) Delete the opening sentence for the existing clause 6.15.1 and insert the following instead—

6.15.1. For a Market Participant other than Western Power, the Dispatch Schedule for a Trading Interval for a Scheduled Generator (excluding those to which clauses 3.21A.14 or 4.25.10 apply) or Dispatchable Load is—

(3) Insert a new clause 6.15.2(aA) as follows—

(aA) a Scheduled Generator to which clauses 3.21A.14 or 4.25.10 apply;

55. Market Rule 6.17 amended

(1) Amend clause 6.17.3 by inserting ", other than those to which clauses 3.21A.14 or 4.25.10 apply," after "Registered Facilities".

(2) Amend clause 6.17.3 by inserting "The reference to clauses 3.21A.14 and 4.25.10 exempts Facilities subject to Commissioning Tests and Reserve Capacity tests from exposure to UDAP." at the end of the paragraph within the comment box after 6.17.3(b).

(3) Amend clause 6.17.4 by inserting ", other than those to which clauses 3.21A.14 or 4.25.10 apply," after "Registered Facilities".

(4) Amend clause 6.17.4 by inserting "The reference to clauses 3.21A.14 and 4.25.10 exempts Facilities subject to Commissioning Tests and Reserve Capacity tests from exposure to DDAP." at the end of the paragraph within the comment box after 6.17.4(b).

(5) Amend clause 6.17.6(b)(ii)(2) by deleting "Standing Data".

(6) Amend clause 6.17.6(c)(ii) by inserting "defined in Appendix 1(e)(v)" after "the Standing Data price".

(7) Delete the existing clause 6.17.7(a) and replace it with the following—

(a) if the Dispatch Schedule for a Registered Facility for Trading Interval t is greater than the Resource Plan schedule for the Registered Facility for Trading Interval t, then the applicable price is the Balancing Data price or the price defined in Appendix 1(e)(v) (depending on the context) that was current at the time of Trading Interval t for the Registered Facility, based on Fuel Declarations as modified by data provided by System Management in accordance with clause 7.13.1(eA), for an increase in generation or decrease in consumption, accounting for—

(8) Delete the existing 6.17.7(b) and replace it with the following—

(b) if paragraph (a) does not apply, then the applicable price is the Balancing Data price that was current at the time of Trading Interval t for the Registered Facility, based on Fuel Declarations as modified by data provided by System Management in accordance with clause 7.13.1(eA), for a decrease in generation or increase in consumption, accounting for—

(9) Amend clause 6.17.8(a) by inserting "Balancing Data or" after the opening words of "if the applicable".

56. Market Rule 6.18 amended

(1) Delete the existing clause 6.18.2 and replace it with the following—

6.18.2. Subject to clause 6.18.3, the Commitment Compensation equals the sum of—

The options in this rule have been simplified as there is only one commitment and decommitment cost specified in Appendix 1 and there is no obvious reason why different values should apply at peak and off-peak times, especially since the cap on how large the shut down cost can be is the same at all times of the day.

(a) for each additional start up required of a Scheduled Generator during a Peak Trading Interval or Off-Peak Trading Interval the dollar amount for a commitment of the Facility specified in Standing Data, as defined in Appendix 1(c)(i); and

(b) [Blank]

(c) for each additional shut down required of a Scheduled Generator during a Peak Trading Interval or Off-Peak Trading Interval the dollar amount for a de-commitment of the Facility specified in Standing Data as defined in Appendix 1(c)(i).

57. Market Rule 6.21 amended

(1) Amend clause 6.21.2 by inserting "in" after Trading Interval" within the opening sentence.

58. Market Rule 7.1 amended

(1) Insert a new rule 7.1.1(jA) as follows—

(jA) the Fuel Declarations received from the IMO in accordance with clause 7.5;

(2) Amend clause 7.1.1(k) by deleting "; and" after "clause 7.5" and inserting a full stop "." instead.

(3) Amend clause 7.1.1(l) by deleting "." after "clause 4.24" and inserting "; and" instead.

(4) Insert a new rule 7.1.1(m) as follows—

(m) Network Control Service Contract data, if any, received from the IMO in accordance with clause 5.7.1.

59. Market Rule 7.2 amended

(1) Delete the existing clause 7.2.1 and replace it with the following—

7.2.1. System Management must prepare—

(a) 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; and

(b) a Load Forecast for a Trading Day by 1:30 PM on the Scheduling Day for the Trading Day, where this Load Forecast is to be used in the dispatch process.

(2) Amend clause 7.2.2 by deleting "The Load Forecast for a Trading Day must:" and replacing it with the following—

"The Load Forecasts for a Trading Day described in clause 7.2.1 must:"

(3) Amend clause 7.2.3 by inserting "described in clause 7.2.1(b)," after "Trading Day".

(4) Delete the existing comment box after 7.2.3(c) and replace it with the following—

System Management will provide the Load Forecasts it uses in the dispatch process for each Trading Interval to the IMO with settlement data.

(5) Insert new clauses, 7.2.3A to 7.2.3D, as follows—

7.2.3A. By 8:30 AM on the Scheduling Day, System Management must determine for each Market Participant that is a provider of Ancillary Services—

(a) an estimate of the Loss Factor 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 described in clause 3.10; and

(b) a list of Facilities that it might reasonably expect to call upon to provide the energy described in (a).

7.2.3B. System Management must provide—

(a) the information determined in clauses 7.2.1(a) to the IMO by 7:30 AM on the Scheduling Day; and

(b) the information determined in clauses 7.2.3A to the IMO by 8:30 AM on the Scheduling Day.

7.2.3C. If the IMO does not receive information described in clause 7.2.3B by the required time, it must arrange for System Management to provide the information by alternative means prior to 7:50 AM in the case of the information described in clause 7.2.3B(a) and 8:50 AM in the case of the information described in clause 7.2.3B(b).

7.2.3D. The IMO must confirm receipt of the submissions described in clauses 7.2.3B and 7.2.3C to System Management within five minutes of receiving the submission.

(6) Amend clause 7.2.4 by inserting the word "actual" after "System Management must determine the".

60. Market Rule 7.3 amended

(1) Amend clause 7.3 by deleting the existing heading and replacing it with "Outages".

(2) Amend clause 7.3.3 by deleting the existing rule and its associated comment box and inserting "7.3.3 [Blank]" instead.

(3) Delete the existing clause 7.3.4 together with its associated comment box and replace it with the following—

7.3.4. System Management must provide to the IMO the following information—

(a) a schedule of Planned Outages, Forced Outages and Consequential Outages for each Registered Facility of which System Management is aware at that time;

(b) [Blank]

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.

(4) Delete the existing clause 7.3.5 and comment box and insert "7.3.5 [Blank]" instead.

(5) Delete the existing clause 7.3.6 and replace it with the following—

7.3.6. If the IMO does not receive the information described in clause 7.3.4 by the required time, it must arrange for System Management to provide the information by alternative means prior to 9:00 AM.

61. Market Rule 7.5 amended

(1) Amend clause 7.5 by deleting the existing title and replacing it with "Dispatch Merit Orders and Fuel Declarations".

(2) Delete the existing clauses 7.5.1 to 7.5.3 and replace them with the following—

7.5.1. 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.

7.5.2. 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.

7.5.3. In the event that the IMO does not receive confirmation of receipt of the Dispatch Merit Orders and Fuel Declarations for a Trading Week from System Management within 5 minutes of submission, then the IMO must contact System Management. If System Management has not received the Dispatch Merit Orders and Fuel Declarations, then the IMO must make alternative arrangements to communicate the information.

(3) Insert new clauses 7.5.4 to 7.5.7 as follows—

7.5.4. Subject to clause 7.5.5, a Market Participant other than Western Power may at any time between 1:30 PM on the Scheduling Day and 30 minutes prior to the commencement of the Trading Interval described in (b) notify System Management that the Market Participant will change the fuel upon which a Scheduled Generator registered to it will operate on from a liquid fuel to a non-liquid fuel, or vice versa, where the notification must include—

(a) the identity of the Scheduled Generator;

(b) the first Trading Interval in the Trading Day from which the fuel change will take effect;

(c) the last Trading Interval in the Trading Day for which the fuel change will apply; and

(d) the fuel (liquid or non-liquid) to be used;

7.5.5. A Market Participant may only issue a notification in accordance with clause 7.5.4 for a Scheduled Generator if:

(a) the Scheduled Generator is switching from non-liquid fuels to liquid fuels because it has lost its supply of non-liquid fuel; or

(b) the Scheduled Generator is switching from liquid fuels to non-liquid fuels because it has obtained a new supply of non-liquid fuel.

A notification that breaches clause 7.5.5. would effectively be fraud and should be subject to a significant Civil Penalty.

7.5.6. System Management must retain a record of all notifications provided to it in accordance with clause 7.5.4.

7.5.7. In employing the Dispatch Merit Orders, System Management must assume that a Facility is operating on the fuel indicated for that Facility in the applicable Fuel Declaration except for Trading Intervals where the most recent notification received in accordance with clause 7.5.4 implies an alternative fuel is being used.

62. Market Rule 7.6 amended

(1) Amend clause 7.6.5 by inserting "subject to clause 7.6.5A," after "in accordance with clause 7.6.3 or clause 7.6.4 but,".

(2) Insert a new clause 7.6.5A and comment box as follows—

7.6.5A. System Management must not issue a Dispatch Instruction solely because a Market Participant has notified it of a change in fuel in accordance with clause 7.5.4, with the exception that if a Market Participant notifies System Management of a change in fuel after System Management has issued a Dispatch Instruction then System Management may change that Dispatch Instruction accordingly.

Clause 7.6.5A is included to make it clear that if a Facility must change to operating on a high cost fuel then this is no grounds for System Management to dispatch that facility down. However, System Management may dispatch it down if other factors come into play, such as system security, or if the market participant declares it has changed its fuel AFTER a dispatch instruction has been issued (This provides a counter measure to the problem that a declared fuel change could be issued falsely by a market participant so as to ensure a higher pay-as-bid balancing price).

63. Market Rule 7.7 amended

(1) Delete the existing clause 7.7.6 and replace it with the following.

7.7.6. Subject to clause 7.7.7—

(a) 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; and

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

64. Market Rule 7.9 amended

(1) Delete the existing clause 7.9.12(b) and replace it with the following—

(b) if System Management refused to allow desynchronisation of a Facility but the Market Participant did desynchronise that Facility then System Management must record the desynchronisation as a Forced Outage.

65. Market Rule 7.10 amended

(1) Delete the existing clause 7.10.1(c) and replace it with the following—

(c) a direction given to the Market Participant under clauses 7.6 or 7.10.7(a).

(2) Delete the existing clause 7.10.3 and replace it with the following—

7.10.3. Where a Market Participant cannot meet its Resource Plan, Dispatch Instruction, or direction given under clauses 7.6 or 7.10.7(a), as applicable, it must inform System Management as soon as practicable.

(3) Amend clause 7.10.5 by deleting the following text—

"System Management must warn the Market Participant about the deviation and request—

(a) an explanation for the deviation; and

(b) cessation of the behaviour within a time that System Management considers reasonable."

And replacing it with—

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

(4) Add a new clause 7.10.6A following clause 7.10.6—

7.10.6A. A Market Participant that cannot comply with a request under clause 7.10.5 must notify System Management as soon as practicable and must include an explanation in that notification.

(5) Delete the existing clause 7.10.7(b)(ii) and replace it with the following—

ii. any explanation offered by the Market Participant as provided in accordance with clause 7.10.6A;

66. Market Rule 7.11 amended

(1) Add a new clause 7.11.3A following clause 7.11.3

7.11.3A 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.

(2) Delete clauses 7.11.5 to 7.11.7 including associated text boxes and add.

7.11.5. 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 if 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) [Blank]

(h) [Blank]

(i) the system is in, or is expected to be in, a High Risk Operating State or an Emergency Operating State.

7.11.6. A Dispatch Advisory must contain the following information—

(a) [Blank]

(b) the date and time that the Dispatch Advisory is released;

(c) the time period for which the Dispatch Advisory is expected to apply;

(cA) the operating state to be applicable, or expected to be applicable, at different times during the time period to which the Dispatch Advisory relates;

(d) details of the situation that the Dispatch Advisory relates to, including the location, extent and seriousness of the situation;

(e) any actions System Management plans to take in response to the situation;

(f) any actions Market Participants and Network Operators are required to take in response to the situation; and

(g) any actions Market Participants may voluntarily take in response to the situation.

7.11.6A. 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.

It would be better if System Management had to inform the Market Participant or Network Operator of the operating state prior to issuing the direction, but this may not be possible because of time constraints or because the action taken is via automated systems.

7.11.7. Subject to clause 7.11.8, Market Participants and Network Operators must comply with directions that System Management issues in any Dispatch Advisory under clause 7.11.6(f), or directly to the Market Participant or Network Operator under clause 7.11.6A.

This will be a civil penalty provision.

67. Market Rule 7.13 amended

(1) Amend clause 7.13.1(b) by inserting "(b)" after "7.2.1" and before the semi colon.

(2) Amend clause 7.13.1(d)(v) by deleting "7.6.12" and inserting "7.6.13" at the end of the sentence and before the semi colon.

(3) Insert a new clause 7.13.1(eA) as follows—

(eA) details of notifications received by System Management in accordance with rule 7.5.4;

(4) Deleting the existing clause 7.13.1(f) and insert "7.13.1(f) [Blank]" instead.

(5) Amend clause 7.13.1(g) by deleting the full stop "." after "Trading Day" and inserting "; and" instead.

(6) Insert a new clause 7.13.1(h) as follows—

(h) the identity of the Facilities which were subject to either a Commissioning Test or a test of Reserve Capacity for each Trading Interval of the Trading Day.

(7) Insert a new clause 7.13.2 as follows—

7.13.2. System Management must maintain systems capable of providing the data described in clause 10.5.1(y) to the Market Web Site as soon as practicable following the completion of a Trading Interval.

68. Market Rule 9.3 amended

(1) Delete the existing clause 9.3.2 and instead the following instead—

9.3.2. Metering Data Agents must provide to the Settlement System, settlement ready metering data in accordance with Chapter 8.

(2) Delete the existing clause 9.3.4 and instead the following instead—

9.3.4. Subject to clause 2.30B.10, the Metered Schedule for a Trading Interval for a Facility is the net quantity of energy generated and sent out into the relevant Network or consumed by the Facility during that Trading Interval, Loss Factor adjusted to the Reference Node, and determined from meter data submissions received by the IMO in accordance with clause 8.4.

69. Market Rule 9.7 amended

(1) Amend clause 9.7.1 by inserting "- Intermittent Load Refund(p,m)" after "- Capacity Cost Refund(p,m)" to read as follows—

"- Capacity Cost Refund(p,m)
—Intermittent Load Refund(p,m)
+ Supplementary Capacity Payment(p,m)"

(2) Amend clause 9.7.1 by deleting the final line of calculation which is

" + (Cost_LF + Capacity_Cost_R(m)) × Capacity Share(p,m)"

and replacing it with the following—

" + Capacity_LF(m) × Capacity Share(p,m)".

(3) Amend clause 9.7.1 by deleting the first comment box under this Market Rule and replacing it with—

Note that the load following costs that generators pay for Ancillary Services are based on the total cost of that capacity, but Market Customers have already contributed to those costs via the Reserve Capacity Market. Consequently, it is necessary to rebate some of the payments for Ancillary Services by generators back to Market Customers. The Capacity_LF term represents the share of the Load Following capacity cost component payment by generators. This cost is rebated to Market Customers in proportion to the Individual Reserve Capacity Requirements to counter-act this effect.

(4) After the following paragraph in 9.7.1—

"Capacity Cost Refund(p,m) is the Capacity Cost Refund payable to the IMO by Market Participant p in respect of that Market Participant's Capacity Credits for Trading Month m, as specified in rule 4.29.3(d)(vi);"

the following new paragraph is inserted—

Intermittent Load Refund(p,m) is the sum over all of Market Participant p's Intermittent Loads of the Intermittent Load Refund payable to the IMO by Market Participant p in respect of each of its Intermittent Loads for Trading Month m, as specified in clause 4.28A.1;

(5) Amend clause 9.7.1 by deleting the information below, contained in the final two paragraphs prior to 9.7.2—

"Cost_LF (m) is the total Load Following service payment cost for Trading Month m as specified by IMO under clause 3.22.1(a); and

Capacity_Cost_R(m) is the total Spinning Reserve and Fifteen Minute Reserve capacity payment cost for Trading Month m as specified by IMO under clause 3.22.1(b)."

and replacing it with the following instead—

Capacity_LF(m) is the total Load Following service capacity payment cost for Trading Month m as specified by IMO under clause 3.22.1(a).

70. Market Rule 9.9 amended

(1) Delete the existing clauses 9.9.1 and 9.9.2 and comment boxes and replace them with the following—

9.9.1. The Ancillary Service settlement amount for Market Participant p for Trading Month m is—

ASSA(p,m) = Western Power AS Provider Payment(p,m)
—Load_Following_Share(p,m) × (Capacity_LF(m) + Availability_Cost_LF(m))
—Reserve_Cost_Share(p,m)
—Consumption_Share(p,m) × Cost_LRD(m)

Where

Western Power AS Provider Payment(p,m) =
0 if Market Participant p is not Western Power and
(Availability_Cost_R(m) + Availability_Cost_LF(m) + Cost_LRD(m))

otherwise.

The payment for Ancillary Services to Western Power does not include the capacity components of the Ancillary Service costs, since the Reserve Capacity payment has already covered these costs. Note that users of the Load Following service pay the full cost, including capacity costs. Market Customers paying for Reserve Capacity receive a rebate on their Reserve Capacity payments equal to the amount paid by the users of the Load Following service. This means that the IMO does not collect the money twice. Users of Spinning Reserve only pay the Availability Cost for these services, with Market Customers fully funding the capacity costs of these services.

Load_Following_Share(p,m) is the share of the Cost_LF(m) allocated to Market Participant p in Trading Month m, where this is to be determined by the IMO using the methodology described in clause 3.14.1;

Reserve_Cost_Share(p,m) is defined in clause 9.9.2(b);

Consumption_Share(p,m) is the proportion of consumption associated with Market Participant p for Trading Month m determined by the IMO in accordance with clause 9.3.7;

Capacity_LF(m) is the total Load Following service payment cost for Trading Month m as specified by the IMO under clause 3.22.1(a);

Availability_Cost_R(m) is the total Spinning Reserve and Fifteen Minute Reserve availability payment costs, excluding Load Following costs, for Trading Month m, as calculated under clause 9.9.2(c);

Availability_Cost_LF(m) is the Load Following availability payment costs for Trading Month m, as calculated under clause 9.9.2(d); and

Cost_LRD(m) is the total Load Rejection Reserve, System Restart, and Dispatch Support services payment costs for Trading Month m as specified by the IMO under clause 3.22.1(g).

Note that ASSA will tend to be positive for Western Power and negative for other Market Participants. Thus Western Power will receive payment from the IMO, while other market participants will make payments to the IMO.

9.9.2. The following terms related to Ancillary Service availability costs—

(a) the total availability cost for Trading Month m—

Availability_Cost(m) =
0.5 × (Margin_Peak(m) × Sum(d∈D,t∈Peak,MCAP(d,t)) × Capacity_R_Peak(m))
+ 0.5 × (Margin_Off-Peak(m) × Sum(d∈D,t∈Off-Peak,MCAP(d,t)) × Capacity_R_Off-Peak(m))

(b) the Spinning Reserve Cost Share for Market Participant p, which is a Market Generator, for Trading Month m—

Reserve_Cost_Share(p,m) =
0.5 × (Margin_Peak(m) × Sum(d∈D,t∈Peak,MCAP(d,t) × Reserve_Share(p,t) × (Capacity_R_Peak(m)—0.5 LFR(m))
+ 0.5 × (Margin_Off-Peak(m) × Sum(d∈D,t∈Off-Peak,MCAP(d,t) × Reserve_Share(p,t)) × (Capacity_R_Off-Peak(m)—0.5 × LFR(m))

This new term in (b) is introduced because the Reserve Share is now determined for each Trading Interval, so rather than multiplying the Availability Cost by the Reserve Share, we must merge Reserve Share with the calculation of Availability Cost. Note that Load Following is part of Spinning Reserve and hence a unit of capacity can be providing both Spinning Reserve and Load Following. Load Following availability costs are accounted separately, so to remove them from the calculation we subtract half of the Load Following Reserve (LFR) capacity from the required Spinning Reserve capacity. The factor of a half appears because the same unit of capacity is getting half its payment as Load Following and half as Spinning Reserve.

Note that there is no apparent distinction between peak and off-peak load following requirements in clause 3.13.1(aA)(i)(2), so no distinction has been made between these in (b). The terms in (b) are summed to give a total Spinning Reserve availability payment in (c), and this total is subtracted from the total Availability Cost determined in (c) to determine the total Load Following Availability Cost in (d).

(c) the total Spinning Reserve Availability Cost for Trading Month m—

Availability_Cost_R(m) =
Sum(p∈P, Reserve_Cost_Share(p,m))

(d) the total Load Following Availability Cost for Trading Month m—

Availability_Cost_LF(m) =
Availability_Cost(m)—
Availability_Cost_R(m)

Where

Reserve_Share(p,m) is the share of the Cost_R(m) allocated to Market Participant p in Trading Month m, where this is to be determined by the IMO using the methodology described in clause 3.14.2;

Margin_Peak(m) is the reserve availability payment margin applying for Peak Trading Intervals for Trading Month m as specified by the IMO under clause 3.22.1(c);

Margin_Off-Peak(m) is the reserve availability payment margin applying for Off-Peak Trading Intervals for Trading Month m as specified by the IMO under clause 3.22.1(d);

Capacity_R_Peak(m) is the capacity necessary to cover the Ancillary Services Requirement for Spinning Reserve and Fifteen Minute Reserve for Peak Trading Intervals for Trading Month m as specified by the IMO under clause 3.22.1(e);

Capacity_R_Off-Peak(m) is the capacity necessary to cover the Ancillary Services Requirement for Spinning Reserve and Fifteen Minute Reserve for Off-Peak Trading Intervals for Trading Month m as specified by the IMO under clause 3.22.1(f);

LFR(m) is the capacity necessary to cover the Ancillary Services Requirement for Load Following for Trading Month m as specified by the IMO under clause 3.22.1(fA);

MCAP(d,t) has the meaning given in clause 9.8.1;

Peak denotes the set of Trading Intervals occurring during Peak Trading Intervals, where "t" refers to a Trading Interval during a Trading Day;

Off-Peak denotes the set of Trading Intervals occurring during Off-Peak Trading Intervals, where "t" refers to a Trading Interval during a Trading Day; and

D denotes the set of Trading Days within Trading Month m , where "d" is used to refer to a member of that set.

71. Market Rule 10.1 amended

(1) Delete the existing clause 10.1.1 and insert the following—

10.1.1. The IMO must develop and publish a list of all information and documents that relate to the Wholesale Electricity Market activities that Rule Participants must retain.

10.1.2. Effective from the date that the IMO publishes a list containing the relevant information or document, Rule Participants must retain any information or documents of that kind for a period of seven years from the date it is created, or such longer period as may be required by law.

72. Market Rule 10.3 amended

(1) Insert the new clauses 10.3.3 to 10.3.5 as follows—

10.3.3. Where these Market Rules require System Management to provide information and documents to the IMO to be published on the Market Web Site, and the IMO is not required to approve or alter such information or documents, then, with System Management's agreement, the IMO may delegate to System Management the authority to directly post such information or documents on the Market Web Site. The IMO retains the right to cancel such delegation without consultation with System Management.

10.3.4. Where the IMO allows System Management to post information or documents on the Market Web Site in accordance with clause 10.3.3 the IMO's obligation under these Market Rules to publish such information or documents will transfer to System Management.

10.3.5. The IMO must document the protocols by which System Management and the IMO can change the Market Web Site in a Market Procedure and the IMO and System Management must comply with that documented Market Procedure in respect of changing the Market Web Site.

73. Market Rule 10.5 amended

(1) Delete the existing clause 10.5.1(i)(ii) and replace it with the following—

ii. for each Trading Interval in each completed Trading Week during the 12 calendar months ending on the last day of the calendar month two months prior to the current calendar month—

1. the STEM Offers by Market Participant;
2. the STEM Bids by Market Participant;
3. the quantity bought or sold in the STEM by Market Participant; and
4. the Fuel Declaration, Availability Declaration and, if applicable, Ancillary Service Declaration made by the Market Participant;

(2) Amend clause 10.5.1(j)(ii) by deleting "load forecast" and replacing it with "Load Forecasts".

(3) Amend clause 10.5.1(u) by deleting "and" after the semi colon.

(4) Amend clause 10.5.1(v)(iv) by deleting the full stop "." and replacing it with a semi colon ";".

(5) Amend clause 10.5.1 by inserting the following new clauses and comment box—

(w) the STEM Price for each Trading Interval of the current Trading Month for which STEM auction results have been released to Market Participants; and

(x) for each Trading Interval of the current Trading Month for which balancing price results have been released to Market Participants;

i. the values of MCAP, UDAP and DDAP; and

ii. the load forecast prepared by System Management in accordance with clause 7.2.1(b).

(y) for each completed Trading Interval of the current Trading Month, where these values are to be published as soon as possible after real-time—

i. the total generation in that Trading Interval;

ii the total spinning reserve in that Trading Interval

iii an initial value of the Operational System Load Estimate, taken directly from System Management's EMS/SCADA system.

This is called an "initial value" since the final value provided by System Management after the Trading Day may need to be refined to clean up any data errors.

74. Market Rule 10.7 amended

(1) Delete the existing clauses 10.7.1(c) and 10.7.1(d) and insert the following instead—

(c) Market Customer specified Individual Capacity Reserve Requirements partitioned into those associated with Intermittent Loads and those not associated with Intermittent Loads;

(d) for each completed Trading Day for the past 12 months—

i. Market Participant specific Bilateral Submissions, Resource Plan Submissions, Balancing Data Submissions and Standing Balancing Data submissions used in the absence of a Balancing Data Submission;

ii. Market Participant specific STEM Submissions and Standing STEM Submissions used in the absence of a STEM Submission except that information published in accordance with clause 10.5.1(i);

75. Glossary amended

(1) The Glossary is amended by deleting the existing definitions for the terms below and inserting new definitions as follows—

Alternative Maximum STEM Price: The maximum price set in accordance with clause 6.20.3 that may be associated with a Portfolio Supply Curve for a portfolio including Facilities expected to run on liquid fuel or any Portfolio Demand Curve forming part of a STEM Submission or Standing STEM Submission.

Fifteen Minute Reserve: Has the meaning given in clause 3.9.4.

Maximum Consumption Capability: For each Market Participant is as calculated in accordance with clause 6.3A.2(b).

Maximum STEM Price: The price determined in accordance with clause 6.20.2 as the maximum price that may be associated with a Portfolio Supply Curve for a portfolio including no Facilities expected to run on liquid fuel forming part of a STEM Submission or Standing STEM Submission.

Maximum Supply Capability: For each Market Participant is as calculated in accordance with clause 6.3A.2(a).

Minimum STEM Price: The price determined in accordance with clause 6.20.4 as the minimum price that may be associated with a Portfolio Supply Curve or a Portfolio Demand Curve forming part of a STEM Submission or Standing STEM Submission.

Price-Quantity Pair: In the context of Reserve Capacity Offers, Supply Portfolio Curves and STEM Offers, a quantity that will be provided to the IMO by a Market Participant for a price equalling or exceeding the specified price. In the context of Demand Portfolio Curves and

STEM Bids, a quantity that will be purchased from the IMO by a Market Participant for a price equalling or less than the specified price.

Reserve Capacity Obligation Quantity: The specific amount of capacity required to be provided in a Trading Interval as part of a Reserve Capacity Obligation set by the IMO in accordance with clauses 4.12.4 and 4.12.5 as adjusted from time to time in accordance with these Market Rules, including under clause 4.12.6.

STEM Submission: A submission to the IMO made in accordance with clause 6.3B.1 containing the information set out in, and in the format prescribed by, clause 6.6.

(2) The Glossary is amended by inserting new definitions in their appropriate alphabetical order as follows—

Ancillary Service Declaration: A declaration included with a STEM Submission or Standing STEM Submission made by a Market Participant which is a provider of Ancillary Services and which includes the information described in clause 6.6.2A(c).

Appointed Day: Means the day fixed by the Minister by order published in the *Government Gazette*.

Availability Declaration: A declaration included with a STEM Submission or Standing STEM Submission and which includes the information described in clause 6.6.2A(b).

Balancing Data: A set of prices to be used in forming Dispatch Merit Orders and in settling Balancing transactions for a Trading Day as provided by a Market Participant to the IMO in a Balancing Data Submission or as Standing Balancing Data.

Balancing Data Submission: A submission of Balancing Data to the IMO made in accordance with clause 6.5A.1 containing the information set out in, and in the format prescribed by, clause 6.11A.

Commissioning Test: Has the meaning given in clause 3.21A.1.

Consumption Decrease Price: A price specified in Balancing Data to apply in forming the Dispatch Merit Order for a Trading Interval for a Dispatchable Load and in the calculation of the Dispatch Instruction Payment for that Dispatchable Load for that Trading Interval. Different values apply for Peak Trading Intervals and Off-Peak Trading Intervals.

Consumption Increase Price: A price specified in Balancing Data to apply in forming the Dispatch Merit Order for a Trading Interval for a Dispatchable Load and in the calculation of the Dispatch Instruction Payment for that Dispatchable Load for that Trading Interval. Different values apply for Peak Trading Intervals and Off-Peak Trading Intervals.

Fuel Declaration: A declaration included with a STEM Submission or Standing STEM Submission and which includes the information described in clause 6.6.2A(a).

Intermittent Load: A type of Load defined under clause 2.30B.1.

Intermittent Load Refund: Has the meaning given in clause 4.28A.1.

Liquid Supply Decrease Price: A price specified in Balancing Data to apply in forming the Dispatch Merit Order for a Trading Interval for a Scheduled Generator declared to be operating on liquid fuel and in the calculation of the Dispatch Instruction Payment for that Scheduled Generator when declared to be operating on liquid fuel during that Trading Interval. Different values apply for Peak Trading Intervals and Off-Peak Trading Intervals.

Liquid Supply Increase Price: A price specified in Balancing Data to apply in forming the Dispatch Merit Order for a Trading Interval for a Scheduled Generator declared to be operating on liquid fuel and in the calculation of the Dispatch Instruction Payment for that Scheduled Generator when declared to be operating on liquid fuel during that Trading Interval. Different values apply for Peak Trading Intervals and Off-Peak Trading Intervals.

MW: Means megawatt.

MWh: Means megawatt-hour.

Non-Liquid Supply Decrease Price: A price specified in Balancing Data to apply in forming the Dispatch Merit Order for a Trading Interval for a Scheduled Generator declared to be operating on non-liquid fuel and in the calculation of the Dispatch Instruction Payment for that Scheduled Generator when declared to be operating on non-liquid fuel during that Trading Interval. Different values apply for Peak Trading Intervals and Off-Peak Trading Intervals.

Non-Liquid Supply Increase Price: A price specified in Balancing Data to apply in forming the Dispatch Merit Order for a Trading Interval for a Scheduled Generator declared to be operating on non-liquid fuel and in the calculation of the Dispatch Instruction Payment for that Scheduled Generator when declared to be operating on non-liquid fuel during that Trading Interval. Different values apply for Peak Trading Intervals and Off-Peak Trading Intervals.

Portfolio Demand Curve: A curve describing the STEM Price at which a Market Participant will purchase different levels of energy from the market having the form given in clause 6.6.2A(e).

Portfolio Supply Curve: A curve describing the STEM Price at which a Market Participant will provide the market with different levels of energy supply having the form given in clause 6.6.2A(d).

Standing Balancing Data: A submission of Balancing Data to the IMO made in accordance with clause 6.5B.1 containing the information set out in, and in the format prescribed by, clause 6.11A.

Standing STEM Submission: A submission to the IMO made in accordance with clause 6.3C.1 containing the information set out in, and in the format prescribed by, clause 6.6.

(3) The Glossary definition below is amended in its format, the definition continues to carry the same meaning—

Trading Day: A period of 24 hours commencing at 8:00 AM on any day after Energy Market Commencement, except where the IMO declares that part of a Trading Day is to be treated as a full Trading Day under clause 9.1.1, in which case that part is a Trading Day.

(4) The definitions below are deleted from the Glossary—

Buy Price: A price associated with a Price-Quantity Block that is to apply when that Price-Quantity Block is used by IMO to determine a STEM Bid.

Fuel Constraint Notification: Has the meaning given in clause 6.8.6.

Gross Demand Curve: A demand curve forming part of a STEM Submission submitted by a Market Participant.

Gross Supply Curve Type 1: A supply curve forming part of a STEM Submission submitted by a Market Participant that covers the aggregate capacity of the following Facilities registered by the Market Participant—

(a) all Non-Scheduled Generators; and

(b) all Scheduled Generators that cannot use liquid fuel.

Gross Supply Curve Type 2: A supply curve forming part of a STEM Submission submitted by a Market Participant that covers the aggregate capacity of all Scheduled Generators registered by the Market Participant that are dual-fuel capable, determined assuming each Scheduled Generator is generating using its primary fuel. For this purpose, if the IMO approves an application made under clause 6.6.9 in respect of a Scheduled Generator in accordance with rule 6.6.10, the Scheduled Generator will be treated as if it is dual-fuel capable for the period the approval applies.

Gross Supply Curve Type 3: A supply curve forming part of a STEM Submission submitted by a Market Participant that covers the aggregate capacity of all Scheduled Generators registered by the Market Participant that are dual-fuel capable, determined, assuming each Scheduled Generator is generating using its secondary fuel. For this purpose, if the IMO approves an application made under clause 6.6.9 in respect of a Scheduled Generator in accordance with clause 6.6.10, the Scheduled Generator will be treated as if it is dual-fuel capable for the period the approval applies.

Gross Supply Curve Type 4: A supply curve forming part of a STEM Submission submitted by a Market Participant that covers the aggregate capacity of all Scheduled Generators registered by the Market Participant that can use only liquid fuel.

Nominated Maximum Demand Quantity: A quantity in a STEM Quantity Nomination Submission expressing a Market Participant's desired maximum Net Contract Position in a Trading Interval.

Nominated Maximum Type 1 Quantity: A quantity in a STEM Quantity Nomination Submission expressing a Market Participant's desired maximum energy that Market Participant wants to trade in the STEM for the non-liquid fuel capacity range of its weekly Gross Supply Curve.

Nominated Maximum Type 2 Quantity: A quantity in a STEM Quantity Nomination Submission expressing a Market Participant's desired maximum energy that Market Participant wants to trade in the STEM for the duel fuel capacity range of its weekly Gross Supply Curve.

Nominated Maximum Type 4 Quantity: A quantity in a STEM Quantity Nomination Submission expressing a Market Participant's desired maximum energy that Market Participant wants to trade in the STEM for the liquid fuel capacity range of its weekly Gross Supply Curve.

Nominated Minimum Demand Quantity: A quantity in a STEM Quantity Nomination Submission expressing a Market Participant's desired minimum Net Contract Position in a Trading Interval.

Nominated Secondary Fuel Quantity: A quantity in a STEM Quantity Nomination Submission expressing a Market Participant's desired quantity of energy that Market Participant wants to trade in the STEM for the duel fuel capacity range of its weekly Gross Supply Curve which is to be generated using utilisation of secondary fuel or fuels as advised to the IMO in accordance with clause 6.8.6.

Price-Quantity Block: Part of a Gross Supply Curve Type 1, Gross Supply Curve Type 2, Gross Supply Curve Type 3, Gross Supply Curve Type 4 or Gross Demand Curve, comprising a MWh quantity, a Buy Price and a Sell Price.

Sell Price: A price supplied with a Price-Quantity Block that is to apply when that Price-Quantity Block is used to generate a STEM Offer.

STEM Quantity Nomination Submission: A submission to the IMO in relation to a Trading Day containing the information and in the format described in clause 6.8.

76. Appendix 1 amended

(1) Insert a new clause for Appendix 1, (b)(iiA), as follows—

iiA. the minimum load at the connection point of the generator that will automatically trip off if the generator fails, expressed in MW;

(2) Insert a new clause for Appendix 1, (b)(iiiA), as follows—

iiiA. the dependence of capacity on the type of fuel used by the facility for each fuel described in (xi);

(3) Delete the existing clause (c)(ii) in Appendix 1 and insert "(c)(ii) [Blank]" instead.

(4) Delete the existing clause (c)(iii) in Appendix 1 and insert "(c)(iii) [Blank]" instead.

(5) Delete the existing clause (c)(iv) in Appendix 1 and insert "(c)(iv) [Blank]" instead.

(6) Insert new clauses for Appendix 1, as follows—

v. Standing Balancing Data for Scheduled Generators registered as being capable of running on non-liquid fuel comprising—

1. a Non-Liquid Supply Increase Price for Peak Trading Intervals;
2. a Non-Liquid Supply Increase Price for Off-Peak Trading Intervals;
3. a Non-Liquid Supply Decrease Price for Peak Trading Intervals;
4. a Non-Liquid Supply Decrease Price for Off-Peak Trading Intervals;

vi. Standing Balancing Data for Scheduled Generators registered as being capable of running on liquid fuel comprising—

1. a Liquid Supply Increase Price for Peak Trading Intervals;
2. a Liquid Supply Increase Price for Off-Peak Trading Intervals;
3. a Liquid Supply Decrease Price for Peak Trading Intervals;
4. a Liquid Supply Decrease Price for Off-Peak Trading Intervals;

(7) Delete the existing clause (d) in Appendix 1 and insert "(d) [Blank]" instead.

(8) Amend Appendix (e)(ii) after "expressed in MW:" delete the following—

The requirement to provide a model for forecasting output has been removed—it is probably easier for System Management to estimate the impact on net load of these facilities in aggregate, based on historical data and extrapolations.

(9) Insert a new clause (e)(iiA) in Appendix 1 as follows—

iiA. the minimum load at the connection point of the generator that will automatically trip off if the generator fails, expressed in MW;

(10) Delete the existing clauses (f)(iv) and (f)(v) in Appendix 1 and replace those clauses and insert new clauses as follows—

iv. the Metering Data Agent for the Market Customer;

v. the metering points at which the quantity of electricity, delivered to the Market Customer is to be measured;

vi. the identity of metering points serving Intermittent Loads that are Non-Dispatchable Loads;

vii. for each metering point identified in (iv) the maximum allowed level of Intermittent Load, where this cannot exceed the quantity in (iii);

viii. for each metering point identified in (vi) the maximum level of net consumption at that meter which is not separately metered and which is not Intermittent Load; and

ix. for each metering point identified in (vi) the separately metered generating systems and loads behind that meter which are not to be included in the definition of that Intermittent Load.

(11) Delete the existing clauses (g)(ix) and (g)(x) in Appendix 1 and replace those clauses and insert new clauses as follows—

ix. the network nodes at which the facility can connect;

x. the short circuit capability of facility equipment;

xi. whether the Interruptible Load is an Intermittent Load;

xii. if the Interruptible Load is an Intermittent Load, the maximum allowed level of Intermittent Load, where this cannot exceed the quantity in (i);

xiii. the maximum level of net consumption behind the meter associated with the Interruptible Load which is not separately metered and which is not Intermittent Load; and

xiv. the separately metered generating systems and loads behind that meter which are not to be included in the definition of that Intermittent Load.

(12) Delete the existing clause (h)(vi) in Appendix 1 and replace it with the following—

vi. for a facility that is registered to a Market Participant other than Western Power, Standing Balancing Data comprising;

1. a Consumption Decrease Price for Peak Trading Intervals; and
2. a Consumption Decrease Price for Off-Peak Trading Intervals;

(13) Delete the existing clauses (h)(x) and (h)(xi) in Appendix 1 and replace those clauses and insert new clauses as follows—

x. the network nodes at which the facility can connect;

xi. the short circuit capability of facility equipment;

xii. whether the Curtailable Load is an Intermittent Load;

xiii. if the Curtailable Load is an Intermittent Load, the maximum allowed level of Intermittent Load, where this cannot exceed the quantity in (i);

xiv. the maximum level of net consumption behind the meter associated with the Curtailable Load which is not separately metered and which is not Intermittent Load; and

xv. the separately metered generating systems and loads behind that meter which are not to be included in the definition of that Intermittent Load.

(14) Insert a new clause (i)(xA) in Appendix 1 as follows—

xA. for a facility that is registered to a Market Participant other than Western Power, Standing Balancing Data comprising—

1. a Consumption Increase Price for Peak Trading Intervals;
2. a Consumption Increase Price for Off-Peak Trading Intervals;
3. a Consumption Decrease Price for Peak Trading Intervals; and
4. a Consumption Decrease Price for Off-Peak Trading Intervals;

(15) Amend Appendix 1(i)(xi) by reformatting the indentation to read as below, the meaning remains the same—

xi. the minimum response time before the facility can begin to respond to an instruction from System Management to change its output;

(16) Delete the existing clause (j) in Appendix 1 and insert "(j) [Blank]" instead.

(17) Delete the existing clause (l) in Appendix 1 and replace it with the following—

(l) For each Market Customer—

i. the Individual Reserve Capacity Requirement for the Market Customer;

ii. a list of Non-Temperature Dependent interval meters; and

iii. a Standing STEM Submission (if provided by the Market Participant) comprising for each Trading Interval for a Trading Week—

1. a Fuel Declaration;
2. an Availability Declaration;
3. if the Market Participant is a provider of Ancillary Services, an Ancillary Service Declaration;
4. a Portfolio Supply Curve; and
5. a Portfolio Demand Curve;

(18) Insert a new clause (m) in Appendix 1 as follows—

(m) For each Intermittent Facility, whether it is exempted from funding Spinning Reserve costs.

77. Appendix 2 amended

(1) Delete the existing Appendix 2 and replace it with the following—

This methodology resembles the current allocation of spinning reserves, except that it does not distinguish different stages of spinning reserve.

This Appendix determines the value of Reserve_Share(p,t) of the Spinning Reserve and Fifteen Minute Reserve services payment costs in Trading Interval t to be borne by Market Participant p.

In this Appendix the relevant Market Participant p is the Market Participant to whom a facility is registered, with the exception that in the case of unregistered generation systems serving Intermittent Loads, the relevant Market Participant p is the Market Participant to whom the Intermittent Load is registered.

The calculations in this Appendix are based on data for a set of applicable facilities (indexed by f) where this set comprises all Scheduled Generators and all Non-Scheduled Generators registered during Trading Interval t, except those Intermittent Generators exempted under clause 2.30A.2. This set also includes all unregistered generation systems serving Intermittent Loads.

For the purpose of determining the Reserve_Share(p,t) values, each applicable facility f has an applicable capacity associated with it for Trading Interval t.

- If facility f is an Intermittent Generator with an interval meter then this is double the MWh average interval meter reading for the Trading Month containing Trading Interval t.
- If facility f is a Scheduled Generator with an interval meter then this is double the MWh interval meter reading for Trading Interval t.

- If facility f is a Western Power Intermittent Generator without an interval meter then this is double the average monthly MWh sent out generation of that facility based on SCADA data over the Trading Month containing Trading Interval t.
- If facility f is a Western Power Scheduled Generator without an interval meter or an unmetered generation system serving Intermittent Load then this is double the MWh sent out generation of that facility based on SCADA data for Trading Interval t.

The methodology makes use of the data in Table 1.

Block Number	Block Range (MW)	Block Size (MW)
1	> 200	100
2	125—200	75
3	65—125	60
4	45—65	20
5	10—45	35

Table 1: Data for Determine Reserve_Share(p,m)

For each Block, indicated by block number b, in Table 1, the Reserve Block Share is—

RBS(b) = [Block Size(b) / Sum(i, Block Size(i))] / Sum(f(i≤b), TIS(f))

Where

Block Size(i) is the size of the Block with block number i listed in Table 1.

f(i≤b) is the subset of applicable facilities that had applicable capacities for Trading Interval t lying within the block range of any Block with a block number value of b or less.

TIS(f) is 1 if the applicable facility f was synchronised to the SWIS during Trading Interval t, and is zero otherwise.

This is analogous to SRPBlockX on page 9 of the WP document "Support Services Prices for the South West Interconnected System 2003/2004"

For each Block b in Table 1, the Reserve Generator Share is—

RGS(b) = Sum(i≥b, RBS(i))

Where

i≥b is the set of Blocks listed in Table 1 that have a block number i greater than or equal to b.

This is analogous to SRPGenX on page 10 of the WP document "Support Services Prices for the South West Interconnected System 2003/2004"

For each Market Participant p, its unadjusted share of the Spinning Reserve and Fifteen Minute Reserve services payment costs for the Trading Interval is—

USHARE(p) = Sum(f(p), RGS(b(f)) x TIS(f))

Where

f(p) is the set of applicable facilities for the Market Participant p that have applicable capacities within one of the block ranges listed in Table 1.

b(f) is the block number of the Block in Table 1 that has a block range that corresponds to the applicable capacity of the applicable facility f.

TIS(f) is 1 if the applicable facility f was synchronised to the SWIS during Trading Interval t, and is zero otherwise.

Note that if Market Participant p has no applicable facilities then f(p) is an empty set so USHARE(p) =0 and in the following equation Reserve_Share(p,t) =0 so there will be no Spinning Reserve costs allocated to Market Participant p.

For each Market Participant p, its adjusted share of the Spinning Reserve services payment costs for Trading Interval t is—

Reserve_Share(p,t) = USHARE(p) / sum(q, USHARE(q))

Where

q is the index of the set of all Market Participants.

78. Appendix 3 amended

(1) Replace the first paragraph of Appendix 3 with the following—

This appendix describes a single algorithm which performs two functions. One version of the algorithm is used to prevent the IMO accepting bilateral trades that have insufficient availability to usefully address the Reserve Capacity Requirement. Another version of the algorithm is used in the conduct of the Reserve Capacity Auction as required by clause 4.19.1.

(2) Replace the following text, being the last bullet point in Step 3 of Appendix 3—

- Offers are to be accepted in the order in the order the capacity secured Certified Reserve Capacity;

with the clause—

- Offers are to be accepted in the order the capacity secured Certified Reserve Capacity;

79. Appendix 4 amended

(1) Insert a new Appendix 4A as follows—

Appendix 4A: Intermittent Load Individual Reserve Capacity Requirements

This Appendix describes how Individual Reserve Capacity Requirements are derived for Intermittent Loads.

We define—

- MaxL(k) is the nominated load level for Intermittent Load k as specified in clause 4.28.8(c);
- RM is the reserve margin for the Reserve Capacity Cycle defined as negative one plus the ratio of the Reserve Capacity Target for the relevant Capacity Year as described in clause 4.5.10(b)(i) and the expected peak demand for the relevant Capacity Year as described in clause 4.5.10(b)(ii);

Calculate Req(k), which equals MaxL(k) multiplied by RM.

When setting the Intermittent Load Reserve Capacity Requirements in accordance with clause 4.28.7A—

- If Intermittent Load k is registered and operating or the IMO reasonably expects it to be registered and operating during the first Trading Month of the Capacity Year (based on information provided to the IMO in accordance with clause 4.28.8(c)), then set the Intermittent Load Reserve Capacity Requirement for Intermittent Load k equal to Req(k).
- If IMO reasonably expects Intermittent Load k not to be registered or operating during the first Trading Month of the Capacity Year (based on information provided to the IMO in accordance with clause 4.28.8(c)), then set the Intermittent Load Reserve Capacity Requirement for Intermittent Load k equal to zero.

When revising Intermittent Load Reserve Capacity Requirements in accordance with clause 4.28.11, and after allowing for additional nominations by Intermittent Loads that have commenced operation during the Capacity Year—

- If Intermittent Load k is registered and operating or the IMO reasonably expects it to be registered and operating during the next Trading Month to commence during the Capacity Year (based on information provided to the IMO in accordance with clause 4.28.8A), then set the Intermittent Load Reserve Capacity Requirement for Intermittent Load k equal to Req(k).
- If IMO reasonably expects Intermittent Load k not to be registered or operating during the next Trading Month to commence during the Capacity Year (based on information provided to the IMO in accordance with clause 4.28.8A), then set the Intermittent Load Reserve Capacity Requirement for Intermittent Load k equal to zero.

Thus if an Intermittent Load was registered and operating from the start of the Capacity Year and its Market Customer nominates that it requires Reserve Capacity for its 100 MW of intermittent load, and if the Reserve Margin is 15%, then the Market Customer will face an Individual Reserve Capacity Requirement of 15 MW. This will be settled based on the prevailing Reserve Capacity price unless the Market Customer procures capacity bilaterally. If the Intermittent Load was registered and commenced operating during the third Trading Month of the Capacity Year then the Market Customer will only face an Individual Reserve Capacity Requirement of 15 MW from the start of the third Trading Month of the Capacity Year.

80. Appendix 5 amended

(1) Amend Appendix 5 by deleting the existing Appendix 5 and replacing it with the following—

This Appendix presents the method for annually setting and monthly adjusting Individual Reserve Capacity Requirements.

The steps 1 to 5 describe how the Individual Reserve Capacity Requirement to apply for the first Trading Month of the Capacity Year is set. Steps 7 to 10 describe how this value is updated in each subsequent month.

STEP 1: Define the 12 peak Trading Intervals during the preceding Hot Season as corresponding to the 3 highest demand Trading Intervals on each of the 4 days with the highest daily demand, where demand refers to total demand, net of embedded generation, in the SWIS.

STEP 2: For each meter, u, measuring Non-Temperature Dependent Load determine NTDL(u) and d(u,i), where:

NTDL(u,i) is the contribution to the system peak load of meter u during the preceding Hot Season where this contribution is double the median value of the metered consumption during the 12 peak Trading Intervals; and

d(u,i) = 1 if meter v is registered to Market Customer i and is not measuring Intermittent Load, d(u,i) = 0 otherwise.

The doubling of quantities in steps 2 and 3 is required to convert MWh metered quantities into equivalent MW quantities.

STEP 3: For each meter, v, measuring Temperature Dependent Load determine TDL(v) and d(v,i), where:

TDL(v,i) is the contribution to the system peak load of meter v during the preceding Hot Season where this contribution is double the median value of the metered consumption during the 12 peak Trading Intervals; and

d(v,i) = 1 if meter v is registered to Market Customer i and is not measuring an Intermittent Load, d(v,i) = 0 otherwise.

STEP 4: For each Intermittent Load meter w set its Individual Intermittent Load Reserve Capacity Requirement, IILRCR(w), to equal the amount defined in accordance with clause 4.28.7A.

STEP 5: For each Market Customer, i, calculate

NTDLRCR(i) = Sum(u, NTDL(u) × d(u,i)) × NRR/FL

TDLRCR(i) = (Sum(v,TDL(v) × d(v,i))—DSM(i)) × (NRR—Sum(j, NTDLRCR(j))) / Sum(j, Sum(v,TDL(v,j))—DSM(j))

ILRCR(i) = Sum(w, IILRCR(w) × d(w,i))

NRR = RR—Sum(i, ILRCR(i))

where

- j indicates Market Customers
- ILRCR(i) is the Intermittent Load Reserve Capacity Requirement for Market Customer i.
- RR is the Reserve Capacity Requirement
- FL is the peak demand associated with that Reserve Capacity Requirement as specified in clause 4.6.2.
- DSM(i) is the MW quantity of additional Demand Side Management demonstrated and agreed by the IMO to be available by the next Hot Season

This last clause effectively pro-rates the Reserve Capacity Requirement not associated with the Non Temperature Dependent Loads amongst Market Customers in proportion to the previous loads that are temperature dependent after allowing for future demand side measures. The total Reserve Capacity associated with Intermittent Loads is deducted from the Reserve Capacity Requirement (RR) so that we get no double counting. We do not similarly deduct this capacity from the forecast peak demand (FL) because the Reserve Capacity to cover Intermittent Loads is only intended to cover the system's reserve margin, not the original load itself.

STEP 6: The Individual Reserve Capacity Requirement of Market Customer i for the first Trading Month of a Capacity Year is the sum of NTDLRCR(i), TDLRCR(i) and ILRCR(i).

STEP 7: For Trading Month n ≥ 1 (where n ≤12) identify meters that were not registered with the IMO at the time of determining the Individual Reserve Capacity Requirement for Trading Month 1 but which were registered by the start of Trading Month n.

In other words we only consider meters which were not included in the initial calculation but for which data was available for all of Trading Month n.

For a new meter u that measures Non-Temperature Dependent Load set NMNTCR(u) equal to the Contractual Maximum Demand associated with that meter if the consumption at that meter has a Contractual Maximum Demand figure specified in its Arrangement for Access, otherwise set NMNTCR(u) to be 1.1 times the MW figure formed by doubling the maximum Trading Interval demand for that meter during Trading Month n.

For a new meter v that measures Temperature Dependent Load set NMTDCR(v) equal to the Contractual Maximum Demand associated with that meter if the consumption at that meter has a Contractual Maximum Demand figure specified in its Arrangement for Access, otherwise set NMTDCR(v) to be 1.1 times the MW figure formed by doubling the maximum Trading Interval demand for that meter during Trading Month n.

For a new meter w that measures Intermittent Load set IILRCR(w) in accordance with Appendix 4A to the value applicable to Trading Month n.

STEP 8: Update the values of d(u,i) for Non-Temperature Sensitive Load, d(v,i) for Temperature Dependent Loads and d(w,i) for Intermittent Loads such that—

- d(u,i) has a value of zero if meter u measures Intermittent Load or was not registered to Market Customer i during Trading Month n, otherwise it has a value equal to the number of full Trading Days the meter was registered to Market Customer i in Trading Month n divided by the number of days in Trading Month n.
- d(v,i) has a value of zero if meter v measures Intermittent Load or was not registered to Market Customer i during Trading Month n, otherwise it has a value equal to the number of full Trading Days the meter was registered to Market Customer i in Trading Month n divided by the number of days in Trading Month n.
- d(w,i) has a value of zero if meter w was not registered to Market Customer i during Trading Month n, otherwise it has a value of one if Market Customer i nominated capacity for the Intermittent Load measured by meter w in accordance with clause 4.28.8(c), with the exception that if the Intermittent Load was for Load at a meter registered to Market Customer i for only part of Trading Month n, then it has a value

equal to the number of full Trading Days that meter was registered to Market Customer i in Trading Month n divided by the number of days in Trading Month n.

So, for a month with 30 days, if meter u was registered to Market Customer A for 10 days, for Market Customer B for 20 days and Market Customer C for 0 days then d(v,A)=0.33, d(v,B)=0.66 and d(v,C) = 0, unless this meter was an Intermittent Load meter in which case all values would be zero. The value of d(w,i) is determined in the same way but the definition is modified to account for the treatment of Intermittent Loads.

Note that meters that have been de-registered will have a d(v,i) or d(u,i) value of 0 for all Market Customers. If Load ceases to be Intermittent Load then d(w,i) will be zero for all Market Customers

STEP 9: For each Market Customer, i, calculate

NTDLRCR(i)*, TDLRCR(i)*, ILRCR(i)* as the values of NTDLRCR(i), TDLRCR(i) and ILRCR(i), respectively, in STEP 5 recalculated using the identical equations and data as used in STEP 5 but using the d(u,i), d(v,i), d(w,i) and IILRCR(w) values applicable to Trading Month n and setting NTDL(u) and TDL(v) to be zero for any meters not registered at the time of the original STEP 5 calculation. Note that IILRCR(w) is updated monthly in accordance with clause 4.28.11 and Appendix 4A.

X(i) = Sum(i, ILRCR(i)* + NTDLRCR(i)* + TDLRCR(i)*) + Sum(u, NMNTCR(u) × d(u,i)) + Sum(v, NMTDCR(v) × d(v,i))

The first three terms in X(i) reflect the IRCR for Market Customer i associated with meters and interruptible loads . The last two terms are the contribution of new meters.

STEP 11: The Individual Reserve Capacity Requirement of Market Customer i for Trading Month n of a Capacity Year equals (X(i) × RR/Y) where

- Y = Sum(i,X(i))
- RR is the Reserve Capacity Requirement

This equation should generally have the effect that as demand grows during a year, the monthly cost of reserve capacity associated with load that has existed all year will decline. Note also that if a load disappears then the reserve capacity it funded will be allocated amongst all Market Customers in proportion to their capacity requirements.

81. Appendix 6 amended

(1) Amend Appendix 6 by deleting the existing appendix and replacing it with the following—

Appendix 6: STEM Bid, STEM Offer and MCAP Price Curve Determination

The first part of this appendix describes a process for converting a Market Participant's Portfolio Supply Curve and Portfolio Demand Curve into a single STEM Price Curve and to then convert a Market Participant's STEM Price Curve into STEM Bids and STEM Offers relative to its Net Bilateral Position.

Clause 6.9.4 states that no STEM Bids or Offers or MCAP Price Curves are to be determined if the IMO has recorded that the Market Participant has not made a STEM Submission.

For each Market Participant and for each Trading Interval in the Trading Day except those for which the IMO has recorded that the Market Participant has not made a STEM Submission—

(a) Determine for every price between the Minimum STEM Price and the Alternative Maximum STEM Price—

i. the maximum cumulative quantity the Market Participant is prepared to sell into the STEM from all of its Price-Quantity Pairs in its Portfolio Supply Curve;

ii. the minimum cumulative quantity the Market Participant is prepared to sell into the STEM from all of its Price-Quantity Pairs in its Portfolio Supply Curve;

iii. the maximum cumulative quantity the Market Participant is prepared to buy from the STEM from all of its Price-Quantity Pairs in its Portfolio Demand Curve;

iv. the minimum cumulative quantity the Market Participant is prepared to buy from the STEM from all of its Price-Quantity Pairs in its Portfolio Demand Curve;

v. the STEM Price Curve quantity for that price where

1. the minimum STEM Price Curve quantity for that price equals the value in (ii) less the value in (iii);

2. the maximum STEM Price Curve quantity for that price equals the value in (i) less the value in (iv); and

3. the STEM Price Curve for that price includes all quantities between those in (1) and (2).

Suppose we have a Portfolio Supply Curve comprising the following Price Quantity Pairs: 20 MWh @ $50/MWh and a Portfolio Demand Curve comprising the following Price Quantity Pairs 5 MWh @ $50/MWh, 10 MWh @ $100/MWh.

At a price above $100 the values in (a) are (i) 20 (ii) 20 (iii) 0 (iv) 0 so (v)(1) = 20, v(2)=20. Hence at any price above $100 up to the Alternative Maximum STEM Price the STEM Price Curve quantity is +20 MWh, meaning that the participant is a net supplier of 20 MWh.

At a price of $100 the values in (a) are (i) 20 (ii) 20 (iii) 10 (iv) 0 so (v)(1) = 10, v(2)=20. Hence at price of $100 the STEM Price Curve quantity is all values between +10 MWh and +20 MWh.

At a price of $100 the values in (a) are (i) 20 (ii) 20 (iii) 10 (iv) 0 so (v)(1) = 10, v(2)=20. Hence at price of $100 the STEM Price Curve quantity is all values between +10 MWh and +20 MWh.

At a price of $51 the values in (a) are (i) 20 (ii) 20 (iii) 10 (iv) 10 so (v)(1) = 10, v(2)=10. Hence at price of $51 the STEM Price Curve quantity is +$10 MWh.

At a price of $50 the values in (a) are (i) 20 (ii) 0 (iii) 15 (iv) 10 so (v)(1) = -15, v(2)=10. Hence at price of $50 the STEM Price Curve quantity is all values between—15 MWh and +10 MWh. That is, at a price of $50/MWh the supply could be 20 MWh and demand 10 MWh (STEM Price Curve quantity +10 MWh) or supply could be 0 MWh and demand could be 15 MWh (STEM Price Curve Quantity of—10 MWh).

At a price below $50 the values in (a) are (i) 0 (ii) 0 (iii) 15 (iv) 15 so (v)(1) = -15, v(2)=-15. Hence at any price below $50 down to the Minimum STEM Price the STEM Price Curve quantity is -15 MWh, meaning that the Market Participant is a net consumer.

(b) If the minimum quantity in a STEM Price Curve is greater than the Net Bilateral Position of the Market Participant then extend the STEM Price Curve to include the range between the Net Bilateral Position and the minimum quantity in the STEM Price Curve where this range is priced at the Minimum STEM Price.

If a Market Participants Net Bilateral Position is 15 MWh and their STEM Price Curve covers the range 20 MWh to 100 MWh the this will be interpreted as meaning that the participant is prepared to sell 5 MWh as a price taker. That is, the participant is prepared to supply 5 MWh at any price, so should be scheduled. Hence we extend the STEM Price Curve to start at 15 MWh where the first 5 MWh is priced at the Minimum STEM Price. Likewise if the Net Bilateral Position were -15 MWh and the STEM Price Curve minimum was -10 MWh then a the curve would be extended to start at -15 MWh.

(c) If the maximum quantity in a STEM Price Curve is less than the Net Bilateral Position of the Market Participant then extend the STEM Price Curve to include the range between the maximum quantity in the STEM Price Curve and the Net Bilateral Position where this range is priced at the Alternative Maximum STEM Price.

If a Market Participants Net Bilateral Position is 15 MWh and their STEM Price Curve covers the range 0MWh to 10 MWh the this will be interpreted as meaning that the participant is prepared to buy 5 MWh as a price taker. Hence we extend the STEM Price Curve to end at 15 MWh where the last 5 MWh is priced at the Alternative Maximum STEM Price. That is, the participant is prepared to pay any price to buy out of this position. Likewise if the Net Bilateral Position were -15 MWh and the STEM Price Curve maximum was -20 MWh then a the curve would be extended to start at -15 MWh.

(d) If the Net Bilateral Position equals the minimum STEM Price Curve quantity then there are no STEM Bids, otherwise—

i. for the STEM Price Curve between the minimum STEM Price Curve quantity and the Net Bilateral Position of that Market Participant identify each price for which more than one STEM Price Curve quantity is defined;

ii. for each price identified in (i) identify the minimum STEM Price Curve quantity for which that price applies, such that the STEM Price Curve quantity lies between the minimum STEM Price Curve quantity and the Net Bilateral Position;

iii. for each price identified in (i) identify the maximum STEM Price Curve quantity for which that price applies, such that the STEM Price Curve quantity lies between the minimum STEM Price Curve quantity and the Net Bilateral Position;

iv. for each price identified in (i) set a Price-Quantity Pair price equal to that price;

v. for each price identified in (i) set a Price-Quantity Pair quantity equal to the quantity defined in (iii) less the quantity defined in (ii);

vi. set the Market Participant's STEM Bids to be the set of Price-Quantity Pairs defined in (iv) and (v) where each Price-Quantity Pair means that the Market Participant is prepared to buy a quantity of energy from the STEM for that Price-Quantity Pair equal to—

1. 0 MWh if the STEM Clearing Price is greater than the Price-Quantity Pair price;
2. the Price-Quantity Pair quantity if the STEM Clearing Price is less than the Price-Quantity Pair price;
3. an amount between 0 MWh and the Price-Quantity Pair quantity if the STEM Clearing Price equals the Price-Quantity Pair price;

(e) If the Net Bilateral Position equals the maximum STEM Price Curve quantity then there are no STEM Offers, otherwise—

i. for the STEM Price Curve between the Net Bilateral Position of that Market Participant and the maximum STEM Price Curve quantity identify each price for which more than one STEM Price Curve quantity is defined;

ii. for each price identified in (i) identify the minimum STEM Price Curve quantity for which that price applies, such that the STEM Price Curve quantity lies between the Net Bilateral Position and the maximum STEM Price Curve quantity;

iii. for each price identified in (i) identify the maximum STEM Price Curve quantity for which that price applies, such that the STEM Price Curve quantity lies between the minimum STEM Price Curve quantity and the Net Bilateral Position;

iv. for each price identified in (i) set a Price-Quantity Pair price equal to that price;

v. for each price identified in (i) set a Price-Quantity Pair quantity equal to the quantity defined in (iii) less the quantity defined in (ii);

vi. set the Market Participant's STEM Offers to be the set of Price-Quantity Pairs defined in (iv) and (v) where each Price-Quantity Pair means that the Market Participant is prepared to sell a quantity of energy into the STEM for that Price-Quantity Pair equal to—

1. 0 MWh if the STEM Clearing Price is less than the Price-Quantity Pair price;
2. the Price-Quantity Pair quantity if the STEM Clearing Price is greater than the Price-Quantity Pair price;
3. an amount between 0 MWh and the Price-Quantity Pair quantity if the STEM Clearing Price equals the Price-Quantity Pair price;

Suppose the STEM Price Curve is—

-10 MWh for a price less than $10/MWh

-10 MWh to +5 MWh for $10/MWh

+5 MWh for a price between $10/MWh and $20/MWh

+5 MWh to +20 MWh for $20/MWh

+20 MWh for a price between $20/MWh and $40/MWh

+20 MWh tp + 100 MWh for a price of $40/MWh

+100 MWh for a price more than $40/MWh

If the Net Bilateral Position is -5 MWh then for STEM Bids we have more than one STEM Price Curve quantity defined for a price of $10/MWh, while for STEM Offers we have more than one STEM Price Curve quantity defined for prices of $10/MWh , $20/MWh and $40/MWh.

STEM Bids: (-5)—(-10) = 5 MWh @ $10/MWh

STEM Offers: (+5)—(-5) = 10 MWh @ $10/MWh,

STEM Offers: (+20)—(+5) =15 MWh @ $20/MWh,

STEM Offers: (+40)—(+20) = 20 MWh @ $40/MWh,

Note that if a Market Participant submits a Demand Portfolio Curve with no quantities in it, such that the STEM Price Curve only reflects a Supply Portfolio Curve with a range of 0 to 100 MWh and the Net Bilateral Position is 40 MWh, then the Market Participant will have 40 MWh of STEM Bids and 60 MWh of STEM Offers. Thus STEM Bids can be generated even if no demand is bid into the STEM. In this situation the STEM will be performing economic trading between generators, clearing STEM Offers with prices below the STEM Clearing Price and STEM Bids with prices above the STEM Clearing Price.

The second part of this appendix describes a process for converting all Market Participant Portfolio Supply Curves into a single MCAP Price Curve.

For each Trading Interval in the Trading Day—

(f) Determine for every price between the Minimum STEM Price and the Alternative Maximum STEM Price—

i. the sum over all Market Participants except those recorded as not making a STEM Submission for the Trading Interval of the maximum cumulative quantity the Market Participant is prepared to sell into the STEM from all of its Price-Quantity Pairs in its Portfolio Supply Curve;

ii. the sum over all Market Participants except those recorded as not making a STEM Submission for the Trading Interval of the minimum cumulative quantity the Market Participant is prepared to sell into the STEM from all of its Price-Quantity Pairs in its Portfolio Supply Curve;

iii. the MCAP Price Curve quantity for that price where

1. the minimum MCAP Price Curve quantity for that price equals the value in (ii);
2. the maximum MCAP Price Curve quantity for that price equals the value in (i); and
3. the MCAP Price Curve for that price includes all quantities between those in (1) and (2).