
Wholesale Electricity Market Rule Change Proposal Form

Change Proposal No: RC_2008_20

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Change requested by:

Name:	Allan Dawson
Phone:	08 9254 4300
Fax:	08 9254 4399
Email:	imo@imowa.com.au
Organisation:	IMO
Address:	Level 3, 197 St Georges Terrace, Perth WA, 6000
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Change Proposal title:	Demand Side Management – Operational Issues
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Introduction

Market Rule 2.5.1 of the Wholesale Electricity Market Rules provides that any person (including the IMO) may make a Rule Change Proposal by completing a Rule Change Proposal Form that must be submitted to the Independent Market Operator.

This Change Proposal can be posted, faxed or emailed to:

Independent Market Operator

Attn: Dora Guzeleva, Manager Market Administration
PO Box 7096
Cloisters Square, Perth, WA 6850

Fax: (08) 9254 4399
Email: marketadmin@imowa.com.au

The Independent Market Operator will assess the proposal and, within 5 Business Days of receiving this Rule Change Proposal form, will notify you whether the Rule Change Proposal will be further progressed.

In order for the proposal to be progressed, all fields below must be completed and the change proposal must explain how it will enable the Market Rules to better contribute to the achievement of the wholesale electricity market objectives. The objectives of the market are:

- (a) to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system;
- (b) to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors;
- (c) to avoid discrimination in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions;
- (d) to minimise the long-term cost of electricity supplied to customers from the South West interconnected system; and
- (e) to encourage the taking of measures to manage the amount of electricity used and when it is used.

Details of the proposed Market Rule Change

1) Describe the concern with the existing Market Rules that is to be addressed by the proposed Market Rule change:

Demand Side Management (DSM) is the process of deliberately reducing or curtailing consumption of energy, usually in response to external factors. DSM provides around 2-3% of the capacity required to meet the Reserve Capacity Requirement within the Wholesale Electricity Market. Experience to date has identified a number of operational issues and in December 2007, the Market Advisory Committee established the DSM Working Group to determine a set of Terms and Conditions under which DSM can be certified. This Working Group used a Discussion Paper as the starting point for its deliberations. The Terms of Reference for the Working Group are provided as Appendix 1.

In considering the Terms and Conditions that should apply to DSM the Working Group has been guided by three principles:

- Maximising the operational efficiency of DSM.
- Recognition of the operational requirements of DSM providers (the end-use customers)
- Consistency with obligations placed on generation Facilities.

In accordance with the Terms of Reference, a set of Terms and Conditions has been developed and these are discussed below.

Interval Meters

The Working Group recommends that all DSM Facilities must have Interval Meters.

Demonstration that Curtailable Load can respond to a Dispatch Instruction

The Market Rules require the IMO to verify that each Facility providing Capacity Credits can operate at a level equal to its Reserve Capacity Obligation Quantity. For a generator this may

require a test in which the Facility is dispatched to its Reserve Capacity Obligation level. For a DSM provider any test is restricted to the communication system.

The opinion of the Working Group was divided as to whether this is appropriate. The opposing positions were:

- Testing of the communication system is not sufficient to demonstrate that an actual reduction in demand will be achieved. DSM is only activated rarely so end-use customers may make changes to equipment, or to staffing arrangements, which mean that a response is not certain. As DSM is likely to be called as a last resort to avert involuntary customer outages, there should be certainty that a dispatch instruction will elicit a response and the power system will not be put at risk.
- The key issue is to ensure that a Market Participant has an effective mechanism to communicate with end-use customers. Calling of DSM, when it is not actually required for system purposes, will cause inconvenience for the end-use customer and, potentially, unnecessary costs. This will act as a disincentive for end-use customers to offer DSM.

The majority of the Working Group favoured a physical test of all DSM and recommends that each DSM Provider undertake a Verification Test with each end-use customer.

Availability of Curtailable Loads associated with a Demand Side Programme

There is currently no restriction on the availability (i.e. hours available per year) of individual Curtailable Loads that form part of a Demand Side Programme.

Notification Time for Dispatch

The Working Group recommends that the required notice of activation nominated for a Curtailable Load must not be greater than four hours. A maximum period shorter than four hours is not considered appropriate because some Curtailable Loads require this level of notice to rearrange their operation so to provide the demand reduction.

Some Curtailable Loads have a notification period of less than four hours and the Working Group recommends that these be able to increase this up to four hours should they wish to do so.

System Management may wish to cancel a notification to Curtailable Loads. The Working Group recommends that this termination notice also carry a four hour notice period and that the minimum period for which a Curtailable Load can be instructed to reduce demand be two hours.

DSM not to be eligible to be in Availability Class 1

There are four availability classes to accommodate the different number of hours that DSM offers to be available. Currently, DSM which offers 96 hours or more could be assigned to Availability Class 1. This Class 1, however, should comprise only generation to ensure that sufficient generation is brought into the system to limit energy shortfalls as required by clause 4.5.9(b).

Reserve Capacity Determination

The Market Rules do not define how the capacity of a Curtailable Load is to be determined. Such a measure cannot be definitive because the amount of curtailability provided needs to be measured against the demand that would have existed if curtailment had not been implemented. A number of measurements could be considered, including comparison with:

- The demand prior to activation of curtailment.
- The load at the same time the previous day.
- The demand on a day of similar temperatures.

The Working Group recommends that a single “Relevant Demand” figure, which is typical of the level of demand that can be expected over a four hour period at the time of system peak demands, be used. It is proposed that:

- The IMO identify the eight consecutive Trading Intervals in each month during the Hot Season with the highest aggregate system demand.
- The Relevant Demand for the Curtailable Load be set equal to the median of the metered consumption during the eight highest demand consecutive Trading Intervals in each of the months within the preceding Hot Season, i.e. the median of the 32 measurements.

Where interval meter data for the whole Hot Season for a Curtailable Load is not available, the Relevant Demand of the Curtailable Load is to be set by the IMO based on:

- Available meter data.
- Load information provided by the Market Participant.
- Other relevant information.

Periods when DSM is to be available

The Working Group recommends that DSM should be available to be called on all Business Days between the hours of noon and 8 pm with the exception that if the Facility has been called on two consecutive days then the obligation is reduced to zero for the following (third) day.

Precision

It is proposed to increase the precision in clauses 4.11.1 and 4.14.1.

Reserve Capacity Testing

If a generation Facility has not demonstrated that it can operate at a level equal to its Capacity Credits the Market Rules provide for the IMO to undertake a test. If the Facility subsequently fails this test a second test is undertaken. Failure in both tests results in the number of assigned Capacity Credits being reduced.

The Working Group recommends that DSM be subjected to a similar testing regime:

- The IMO must conduct a Performance Test:

- If the Curtailable Load has not been activated to the level of its Capacity Credits during the current Reserve Capacity Year.
- If the Curtailable Load has been activated and failed to effect a reduction equal to its assigned Capacity Credits.
- If the Curtailable Load is activated as a Performance Test and effects a reduction equal to its Capacity Credits then it has passed the test.
- If the Curtailable Load is activated and fails to reduce demand in accordance with its Capacity Credits, the IMO may undertake a second Performance Test within 14 Business Days.
- Following the second Performance Test, the IMO is to set the number of Capacity Credits held by the Curtailable Load equal to the lower of:
 - The maximum level of reduction achieved in the two Performance Tests; or
 - The Certified Reserve Capacity level of the Curtailable Load.
- If the Curtailable Load is activated to meet system requirements within 14 Days of failing a Performance Test, this activation is deemed to be the second Performance Test.

The timing of testing of generators is covered in a procedure designed to meet system requirements with minimum interruptions or costs to Rule Participants. This procedure will be amended to incorporate appropriate timing arrangements into the testing of Curtailable Loads.

Rescinding of Capacity Credits

It may be that a DSM Facility is demonstrably unable to meet its obligations. In this circumstance, retailers would like the option for the Facility to essentially be allowed to permanently reduce its Capacity Credits. This would allow a retailer that has a DSM Programme to substitute an alternative curtailable load. The Working Group recommends that at any time a Market Participant may request the IMO to reduce the number of Capacity Credits held by a Curtailable Load to be reduced to zero in which case:

- The Market Participant must refund all capacity payments already paid in the Reserve Capacity Year.
- The Capacity Credits assigned to the Curtailable Load in any future Reserve Capacity Cycles are reduced to zero.
- The Curtailable Load may not offer Supplementary Reserve Capacity in any Reserve Capacity Year in which its Capacity credits have been reduced to zero.

Rule change proposal RC_2008_06 addresses the issues of reduction of Capacity Credits.

Reserve Capacity Refunds

If a generation Facility completely fails to meet its obligations it will return all of its Reserve Capacity Payments by way of refunds. The Working Group recommends that the same principle be applied to DSM. The level of refund to apply in any Trading Interval is therefore based on the amount of shortfall measured in terms of MWh as a proportion of the total MWh reduction that the Curtailable Load should deliver if called to the maximum level for the maximum allowable time.

As with generation Facilities, the total amount of refunds payable in a year is capped at the level of Reserve Capacity Payment.

Reporting of Activation

On the day following the relevant Trading Day, System Management must advise the IMO which Curtailable Loads were issued Dispatch Instructions and the quantum of each Dispatch Instruction if this was less than the full capacity of the Curtailable Loads. The IMO will determine the quantum of any reduction using meter data.

Currently payment for load curtailment is paid on the basis of the Dispatch Instruction. It is proposed that, in future, payment be made on the basis of the actual reduction that is provided.

Dispatch Groups

DSM is dispatched in a two-step process. On determining that DSM must be activated, System Management will call each Market Participant who is providing DSM and it, in turn, will generally call its end-use customers. An outline of this process is provided in Appendix 2.

System Management has expressed its desire that DSM be grouped into blocks of 10 – 20 MW so that:

- Each block is of significant size compared to the load reductions required to support the power system.
- System Management does not need to call a large number of blocks in times of system stress.

Retailers wish to be able to separate their end-use customers into separate blocks on the basis of factors such as:

- The notice period required for dispatch.
- The number of dispatch hours that the end-use customer has offered.
- The price for each dispatch activation.

Consideration was given to setting the nominal minimum size of each separate block to 10 MW, though blocks would be allowed to be smaller than this as retailers build up a portfolio of DSM customers. However, the Working Group agreed that the minimum block size be set at 1 MW and that a higher figure only be set if the number of blocks nominated by Market Customers becomes unreasonably large.

The Working Group noted that although DSM is generally dispatched by a retailer, it is reasonable for this to be undertaken by any suitably qualified and equipped entity (a Dispatch Agent).

The Working Group recommends that:

- All DSM Facilities are to be grouped into Dispatch Groups that are to be dispatched as blocks.

- A Dispatch Group, and a DSM Program, must contain at least 1 MW of DSM Facilities.
- A Dispatch Group may comprise DSM Facilities registered to different Market Participants but which are dispatched under the control of a single Dispatch Agent.
- System Management will issue Dispatch Instructions for Dispatch Groups not individual loads (except where the Dispatch Group comprises an individual load).

It is proposed to change the Power System Operation Procedure to require that:

- A Rule Participant must assign each Curtailable Load registered to that Rule Participant to a Dispatch Group which is under the control of a Dispatch Agent (which may or may not be the Rule Participant).
- A Dispatch Group must contain Curtailable Loads with a combined total of at least 1 MW.
- The Dispatch Agent must advise System Management for each Dispatch Group under its control:
 - (a) the name of the Dispatch Group;
 - (b) Contact Person(s) and phone number(s) for issuing of Dispatch Instructions
 - (c) the Availability Class;
 - (d) the total nominal capacity of loads assigned to the Dispatch Group; and
 - (e) the minimum notification period.

Outage Planning

System Management has removed DSM from the list of Facilities that must coordinate any maintenance outages with System Management. The Working Group agreed that the outage planning obligation should be removed for Curtailable Loads. It is noted that Dispatch Agents are to provide System Management with an estimate of available capacity when advance notice of potential dispatch is provided.

It is proposed to change the Power System Operation Procedure accordingly.

Real Time Notification of DSM Availability

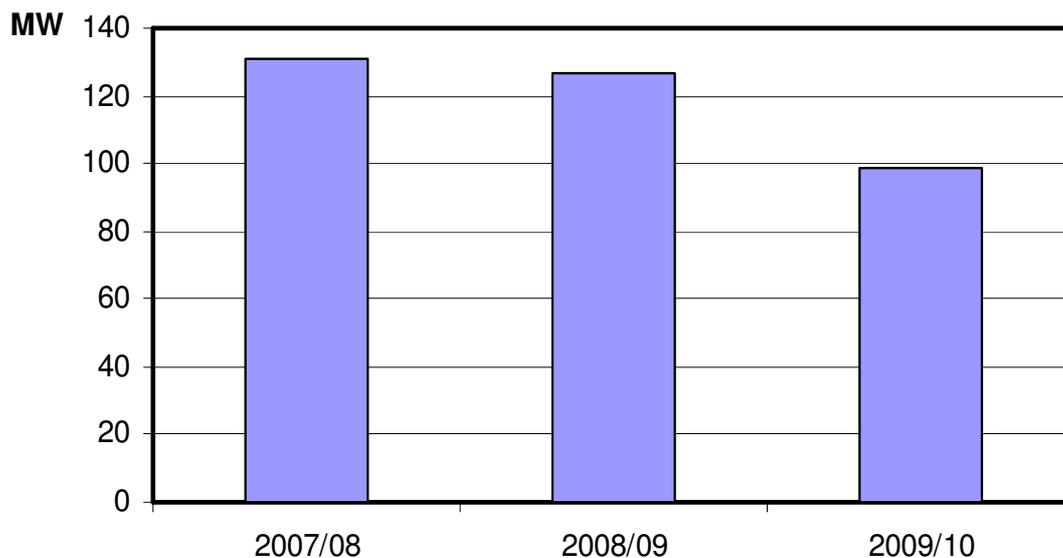
Rule Participants are to use their best endeavours to provide System Management with up-to-date estimates of the amount of Curtailable Load capacity that can be provided. This could be through a daily or weekly report or could be by standing data with notification of exceptions. Note that the provision of this advice does not remove the obligation on the Market Participant to meet its Reserve Capacity Obligations in full.

It is proposed to change the Power System Operation Procedure accordingly.

Potential Implications of Proposed Changes

Some Members of the Working Group expressed concern that tightening the Certification provisions and the testing regime for DSM may reduce the amount of capacity offered, particularly in the current buoyant economic conditions. It is noted that the amount of DSM being offered into the Reserve Capacity Mechanism has already experienced reductions over the first three Reserve capacity cycles, more significantly in the 2009/10 Reserve Capacity Year, as demonstrated in the following chart.

Past Experience - Capacity Credits assigned to DSM (2007 – 2010)



It is considered, however, that the operational benefits to system security and reliability, which will be achieved by the tightening of the performance monitoring regime applying to DSM proposed in this paper, will outweigh the potential risk for further reductions to the DSM amounts offered in the Market. It is noted that under the current Market Rules DSM receives Reserve Capacity Payments equal to those enjoyed by Scheduled Generators. Providing confidence to the market that DSM will effectively perform the services to the Market, therefore, is particularly important in the current buoyant economic conditions which are likely to put strong pressures on DSM's opportunity costs.

The Working Group notes that consideration could be given to establishing another class of DSM which is provided on a "reasonable endeavours" basis and does not receive Capacity Credits. The Supplementary Reserve Capacity arrangements could perhaps be considered as a suitable basis for this.

The Working Group does not recommend that this option be pursued and has not developed the concept of this additional class of DSM further.

2) Explain the reason for the degree of urgency:

It is important that the Proposed Rules associated with determination of the Relevant Capacity and the application of refunds be implemented in time for the next Hot Season (December 2008 through to March 2009). This will ensure that appropriate financial incentives are in place to encourage DSM providers to comply with their Reserve Capacity Obligations.

It is important that the Proposed Rules which will affect certification of DSM are put in place as soon as possible to ensure that potential developers can make informed decisions prior to the 2009 Reserve Capacity Certification process for the 2011/12 Reserve Capacity Year.

However, there is a potential for Rule Participants to be disadvantaged if changes were to be implemented after DSM contracts have been established between retailers and end-use customers. This potential issue cannot be completely avoided but the Market Advisory Committee considered that potential adverse impacts could be minimised by delaying the commencement of the Proposed Rules associated with the proposed verification tests until 1 October 2010.

The Working Group recommends that the change to a minimum notice of four hours should be implemented such that it applies to all loads registered after 1 April 2009. This would mean that the notice period would apply to all Curtailable Loads from the summer of 2009/10. This was considered to offer a very low risk to existing contractual arrangements.

The proposed commencement dates for the various Proposed Rule Changes are tabulated in Appendix 3.

3) Provide any proposed specific changes to particular Rules (for clarity, please use the current wording of the Rules and place a ~~strikethrough~~ where words are deleted and underline words added)

2.29.5 Subject to clause 2.29.9 ~~and 2.29.8A~~, a Market Customer that owns

2.29.8A. A Rule Participant must ensure an Interruptible Load, Curtailable Load or Dispatchable Load registered by that Rule Participant is equipped with an interval meter.

2.29.8B. When a Rule Participant registers a Curtailable Load the Rule Participant must undertake a Verification Test in accordance with clause 4.25A within 20 Business Days of registration.

2.29.9A A Rule Participant may not register a Curtailable Load after 1 April 2009 where the minimum notice period required for dispatch exceeds four hours.

2.29.9B Where a Rule Participant has registered a Curtailable Load with a minimum notice period required for dispatch that is less than four hours the minimum notice period may be increased to no more than four hours.

2.29.9C Where a Rule Participant has registered a Curtailable Load with a minimum notice period required for dispatch that is equal to or greater than four hours the minimum notice period may not be increased.

4.8.3. A Market Customer may apply for the certification of a Demand Side Programme including Loads at different locations as a Curtailable Load subject to the following conditions and provisions:

.....

(e) Loads comprising the Demand Side Programme must have the same or higher availability as the Demand Side Programme.

4.10.1. The information to be submitted with an application for certification of Reserve Capacity must pertain to the Reserve Capacity Cycle to which the certification relates and must include:

.....

(f) for Interruptible Loads, Curtailable Loads and Dispatchable Loads, details for each of up to three blocks of capacity of:

.....

iii. the maximum number of hours per day that the block is available to provide Reserve Capacity if called, where this must be not less than four hours; ~~and~~

iv. the maximum number of times the block can be called to provide Reserve Capacity during a 12 month period;

v. the minimum notice period required for dispatch of the block, where this must not be more than 4 hours; and

vi. the periods when the block can be dispatched, which must include the period between noon and 8:00pm on all Business Days.

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:

.....

(i) the Certified Reserve Capacity assigned to a Facility is to be expressed to a precision of 0.0015 MW.

4.11.4. When assigning Certified Reserve Capacity to a block of capacity provided by Interruptible Load, Curtailable Load, or Dispatchable Load, the IMO must

indicate what Availability Class is applicable to that Reserve Capacity where this Availability Class must reflect the maximum number of hours per year that the capacity will be available and must not be Availability Class 1.

4.11.4A. If the capacity of a Curtailable Load is specified in accordance with clause 4.10.1(f)(i)(1), the Certified Reserve Capacity assigned by the IMO to that Curtailable Load must not exceed the Relevant Demand for the Curtailable Load set by the IMO in accordance with clause 4.26.2C.

4.12.8. Where a Curtailable Load is dispatched to a level equal to its Reserve Capacity Obligation Quantity on two consecutive days the Reserve Capacity Obligation Quantity for the following day shall be zero.

4.14.1. Subject to clause 4.14.3, each Market Participant holding Certified Reserve Capacity for the current Reserve Capacity Cycle must, by the date and time specified in clause 4.1.14 provide the following information to the IMO for each Facility or, in the case of Interruptible Loads, Curtailable Loads and Dispatchable Loads with at least two blocks holding Certified Reserve Capacity in different Availability Classes, for each block in respect of which it holds Certified Reserve Capacity (expressed in MW to a precision of 0.0015 MW):

.....

4.25.1. The IMO must take steps to verify, in accordance with clause 4.25.2, that each Facility providing Capacity Credits:

(a) in the case of a generation system can, during the term the Reserve Capacity Obligations apply, operate at its maximum Reserve Capacity Obligation Quantity at least once during each of the following periods and ~~in the case of a generation system,~~ such operation must be achieved on each type of fuel available to that Facility notified under clause 4.10.1(e)(v):

- i. 1 October to 31 March; and
- ii. 1 April to 30 September; and

.....

(c) in the case of a Curtailable Load can, during the term the Reserve Capacity Obligations apply, operate at its maximum Reserve Capacity Obligation Quantity at least once during the period between 1 October to 31 March.

4.25.2. The verification referred to in clause 4.25.1 can be achieved:

.....

(b) by the IMO:

- i. in the case of a generation system, requiring System Management in accordance with clause 4.25.7 to test the Facility's ability to operate at the required level for not less than 60 minutes and the Facility successfully passing that test; and
- ii. in the case of Interruptible Loads, Curtailable Loads and Dispatchable Loads, requiring System Management, in accordance with clause 4.25.7, to test the ~~process and systems to activate a reduction in demand without requiring demand to actually reduce,~~ Facility's ability to reduce demand to the required level for not less than one Trading Interval and the Facility successfully passing that test.

4.25.3B. If a Curtailable Load fails a Reserve Capacity test under clause 4.25.2(b) and is activated prior to a second Reserve Capacity test being undertaken in accordance with clause 4.25.4 then the activation shall be deemed to be the second Reserve Capacity test.

4.25.4. Subject to clause 4.25.3B, the ~~The~~ IMO must, in the event that a Facility fails a Reserve Capacity test under clause 4.25.2(b), require System Management to re-test that Facility in accordance with clause 4.25.2(b), not earlier than 14 days and not later than 28 days after the first test. If the Facility fails this second test, then the IMO must, from the next Trading Day:

.....

- (b) if the test related to a Dispatchable Load, Curtailable Load or Interruptible Load, reduce the number of Capacity Credits held by the relevant Market Participant for that Facility to ~~zero~~ the maximum level of reduction achieved in the two tests;

4.25.4E. Where the Capacity Credits associated with a Curtailable Load are reduced in accordance with clause 4.25.4C the Market Participant must refund all Reserve Capacity Payments associated with those Capacity Credits for the relevant Reserve Capacity Year to the IMO.

4.25.4F. A Market Participant may not offer a curtailable load for Supplementary Reserve Capacity if the curtailable load has had its Capacity Credits reduced in accordance with clause 4.25.4C for any part of that Capacity Year.

4.25A. Verification Test for a Curtailable Load

4.25A.1. A Rule Participant must undertake a Verification Test of each Curtailable Load registered by the Rule Participant:

(a) within 20 Business Days of registration of the Curtailable Load, or

(b) between 1 October and 30 November of each Reserve Capacity Year.

4.25A.2. To undertake a Verification Test the Rule Participant will activate the Curtailable Load and advise the IMO of the Trading Intervals during which the Verification Test was conducted.

4.25A.3. The Verification Test is failed if a reduction in demand equal to at least 10% of the Capacity Credits is not identified from the Curtailable Load meter data.

4.25A.4. Where a Verification Test is failed the IMO must reduce the Capacity Credits assigned to the Curtailable Load to zero.

4.25A.5. Where the Verification Test is failed the Rule Participant may request a second Verification Test be undertaken. If the Curtailable Load fails this second Verification Test then the Capacity Credits assigned are to remain at zero until the end of the relevant Reserve Capacity Year.

4.26.1. If a Market Participant holding Capacity Credits associated with a generation system fails to comply with its Reserve Capacity Obligations applicable to any given Trading Interval then the Market Participant must pay a refund to the IMO calculated in accordance with the following provisions.

.....

4.26.1C. If a Market Participant holding Capacity Credits associated with a Curtailable Load fails to comply with its Reserve Capacity Obligations applicable to any given Trading Interval then the Market Participant must pay a refund to the IMO calculated in accordance with the provisions of this clause 4.26.

4.26.2. The IMO must determine the net STEM shortfall ("**Net STEM Shortfall**") in Reserve Capacity supplied by each Market Participant p holding Capacity Credits associated with a generation system in each Trading Interval t of Trading Day d and Trading Month m as:

4.26.2C. The IMO must:

- (a) Identify the eight consecutive Trading Intervals with the highest aggregate system demand in each month during the preceding Hot Season;
- (b) Subject to clause 4.26.2C(c), set the Relevant Demand (in MW) for the Curtailable Load equal to the median of the metered consumption during the 32 Trading Intervals identified in clause 4.26.2C(a), where the Relevant Demand is a positive number.
- (c) Where the metered consumption during the 32 Trading Intervals identified in clause 4.26.2C(b) is not available the IMO must set the Relevant Demand based on:
 - i. Available Meter Data, or
 - ii. Load information provided by the Rule Participant, or
 - iii. Other relevant information.

4.26.2D. The IMO must determine the capacity shortfall ("**Capacity Shortfall**") in Reserve Capacity supplied by each Market Participant p holding Capacity Credits associated with a Curtailable Load in each Trading Interval t of Trading Day d and Trading Month m relative to its Reserve Capacity Obligation Quantity as:

- (a) for capacity certified in accordance with clause 4.10.1(f)(i)(1), the greater of
 - i. zero; and
 - ii. the required decrease, in MW, as a result of System Management's Dispatch Instruction minus the load reduction, where the load reduction is equal to the Relevant Demand set in clause 4.26.2C minus twice the absolute value Metered Schedule for the Trading Interval, and
- (a) for capacity certified in accordance with clause 4.10.1(f)(i)(2), the greater of
 - i. zero; and

ii. twice the absolute value of the Metered Schedule minus the Stipulated Default Load.

4.26.2E. For each Market Participant holding Capacity Credits, the IMO must determine the amount of the refund (“Capacity Cost Refund”) to be applied for Trading Month m in respect of a Capacity Shortfall as determined under clauses 4.26.2 or 4.26.2D during that Trading Month.

4.26.3 For each Market Participant holding Capacity Credits, the IMO must determine the amount of the refund (“**Capacity Cost Refund**”) associated with a generation system to be applied for Trading Month m. The Capacity Cost Refund is the lesser of:

- (a) the Maximum Refund determined in accordance with the Refund Table, less all Capacity Cost Refunds applicable to the Market Participant in previous Trading Months falling in the same Capacity Year as Trading Month m; and
- (b) the sum over all Trading Intervals t in Trading Month m of the product of:
 - i. the Off-Peak Trading Interval Rate or Peak Trading Interval Rate determined in accordance with the Refund Table applicable to Trading Interval t; and
 - ii. the Capacity Shortfall in Trading Interval t.

4.26.3A. The Capacity Cost Refund associated with a Curtailable Load is equal to the lesser of:

- (a) twelve times the Monthly Reserve Capacity Price multiplied by the number of Capacity Credits associated with the Facility, less all Capacity Cost Refunds applicable to the Market Participant in previous Trading Months falling in the same Capacity Year as Trading Month m; and
- (b) the sum over all Trading Intervals t in Trading Month m of:

$$\underline{12 * \text{Monthly Reserve Capacity Price} * S / (2 * H)}$$

Where:

S is the Capacity Shortfall in MW determined in accordance with clause 4.26.2D in any Trading Interval; and

H is the maximum number of hours that the Facility was certified to be available in accordance with clause 4.10.1(f)(ii).

6.17.6. The Dispatch Instruction Payment, $DIP(p,d,t)$, for Market Participant p and Trading Interval t of Trading Day d equals the sum of:

.....

(d) the sum over all Curtailable Loads registered by the Market Participant of the amount that is the product of:

i. the quantity by which the Curtailable Load ~~was instructed by System Management to reduced~~ its consumption, where

1. for a Curtailable Load that has nominated that its measurement is to be based on its Capacity Credits, the quantum of reduction in any Trading Interval is to be equal to half of the lesser of the Reserve Capacity (in MW), and the difference between the Relevant Demand set in clause 4.26.2C and twice the absolute value of the metered quantity (in MWh) measured in the Trading Interval; and

2. for a Curtailable Load that has nominated that its measurement is to be based on the Stipulated Default Load, the quantum of reduction in each Trading Interval is to equal half of the lesser of the Relevant Demand (in MW) minus Stipulated Default Load (in MW), and the Relevant Demand (in MW) minus twice the absolute value of the metered quantity (in MWh) measured in the Trading Interval; and

ii. the price defined in clause 6.11A.1(d)(ii) that was current at the time of the Trading Interval for the Curtailable Load (accounting for whether the Trading Interval is a Peak Trading Interval or an Off-Peak Trading Interval),

.....

~~7.7.5D. For the purpose of determining the quantity described in clause 6.17.6(d)(i) for a Curtailable Load for each Trading Interval the quantity is the level of curtailment requested by System Management in its Dispatch Instructions.~~

7.7.10 When System Management has issued a dispatch instruction to a Curtailable Load to reduce demand it may issue a further instruction terminating the requirement for the Curtailable Load to reduce demand providing that:

- (a) Such instruction is issued no less than four hours before it is to come into effect, and
- (b) The minimum period for which the Curtailable Load has been instructed to reduce demand is not less than two hours.

4) Describe how the proposed Market Rule change would allow the Market Rules to better address the Wholesale Market Objectives:

The proposed Rule Changes support the Market Objective “to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system” by ensuring that future DSM contributes effectively to the reliable operation of the market. The changes ensure that System Management can rely upon DSM in a similar manner to generation Facilities.

The proposed Rule Changes support the Market Objective “to encourage competition among generators and retailers in the SWIS, including by facilitating efficient entry of new competitors” by ensuring that DSM can be used more effectively as a competitive product. The changes also provide greater opportunities for specialist DSM providers to enter the market in competition with existing retailers.

The proposed Rule Changes support the Market Objective “to encourage the taking of measures to manage the amount of electricity used and when it is used” by strengthening the position of DSM in the market. By setting standard terms and conditions, DSM becomes a standard product that can be offered and trading more readily. This will facilitate more DSM being made available.

Some Members of the Working Group expressed concern that tightening the Certification provisions and the testing regime for DSM may reduce the amount of capacity offered, particularly in the current buoyant economic conditions. The Group was concerned that this may be inconsistent with the Market Objective “to encourage the taking of measures to manage the amount of electricity used and when it is used.” It is considered, however, that the operational benefits to system security and reliability, which will be achieved by the tightening of the performance monitoring regime applying to DSM proposed in this paper, will outweigh the potential risk for further reductions to the DSM amounts offered in the Market.

5) Provide any identifiable costs and benefits of the change:

Costs

It will be necessary to make some potentially significant changes to the Market Systems to implement the proposed Rule Changes in so far as they relate to the determination of Certified Capacity, to the calculation of refunds and to the energy payments to DSM. The IMO is currently in the process of obtaining quotes from its IT vendors to qualify the cost of these changes. Some of these costs would be incurred in the 2010/11 financial year.

The IMO and System Management will experience an increase in workload associated with the certification of DSM, testing of capacity and with determining the amount of any reduction that has been called. This increase in workload may be significant during certain parts of the Reserve Capacity Cycle and would potentially require that additional resource be allocated to the IMO's Reserve Capacity Team

Market Participants will experience a small increase in workload associated with compliance with the proposed changes.

Benefits

The IMO considers that the proposed Rule Changes support the Market Objectives as outlined in section 4 of this proposal.

Appendix 1 – Working Group Terms of Reference

The Working Group is to consider and assess the current terms and conditions under which demand side management (DSM) is provided. The Working Group is to discuss and consider any issues raised and develop improvements that can be implemented to enhance the operation of DSM in the Reserve Capacity Mechanism of the Wholesale Electricity Market.

Draft changes to the Market Rules may need to be developed where necessary.

In order to complete its scope of work, the Working Group is requested to:

- a. Assess current DSM provisions in light of experience gained in the Wholesale Electricity Market.
- b. Develop a set of DSM Terms and Conditions that will apply to DSM in the Reserve Capacity Mechanism.
- c. Develop a range of proposals that will allow DSM to be used more effectively while ensuring consistency with the Wholesale Electricity Market Objectives.
- d. Propose any necessary amendments to the Market Rules that come out of the Working Group's consideration and provide their assessment against the Wholesale Electricity Market Objectives.
- e. Submit its assessment, analysis, conclusions and draft rule change proposals in a report to MAC.

The make up and operation of the Working Group is:

- f. Members of the Working Group are appointed by MAC.
- g. The members of the Working Group are:
 - Patrick Peake, IMO, Chair
 - Ronny Garg, Synergy
 - Sumeet Kaur, Verve Energy
 - Pablo Campillos, Energy Response
 - Shona Guilfoyle, Alinta
 - Shane Cremin, Griffin Power
 - Peter Huxtable, Water Corporation
 - System Management, Phil Kelloway
 - Dora Guzeleva, IMO Representative
 - Matthew Martin, Office of Energy
 - Robert Pullella, ERA
- h. The Working Group must provide its report of the assessment and any proposed revised Market Rule amendments, in February 2007.
- i. The Working Group will focus on the relevant provisions of Chapter 4 of the Market Rules.
- j. The Working Group will refer any other issues that emerge back to MAC for consideration.
- k. MAC may review, amend and extend these terms of reference, as necessary.

Appendix 2 – Outline of Process for Activating Curtailable Loads

1. System Management may advise Market Participant(s) that there is a likelihood that DSM will be called.
2. If System Management advises a Market Participant that there is a likelihood that its DSM may be called, the Market Participant must advise System Management of how much capacity it believes can be provided from each of its Dispatch Groups
3. System Management will issue a Dispatch Instruction to the Market Participant to activate DSM in accordance with Market Rule 7.7
4. The Dispatch Instruction will cover Dispatch Groups and not individual loads.
5. The Market Participant will dispatch the individual curtailable loads within the Dispatch Group
6. The IMO will use meter data to determine the level of payment to be made to the Market Participant for each load and the level of any refunds.

Appendix 3 – Commencement Dates for Market Rule Changes

Rule Number	Subject	Commencement Date
2.29.8A	Interval Meters required.	As soon as practicable after the Rule Change is approved
2.29.8B	Verification Test required within 20 days of certification.	1 October 2010
2.29.9A	Minimum activation notice of 4 hours.	For all registrations from 1 April 2009 so as to apply to summer 2009/10.
4.8.3	Loads must have same availability as DSM program	As soon as practicable after the Rule Change is approved
4.10.1	DSM to be available noon to 8 pm.	Next round of Certification (in 2009 for 2011/12)
4.11.1	Certification precision to be 0.001 MW	As soon as practicable after the Rule Change is approved
4.11.4	DSM cannot be Availability Class 1	As soon as practicable after the Rule Change is approved
4.11.4A	Capacity of DSM to be determined by its Relevant Demand	Next round of Certification (in 2009 for 2011/12)
4.12.8	Obligation drops to zero after two days of dispatch at maximum	Next round of Certification (in 2009 for 2011/12)
4.14.1	Capacity precision to be 0.001 MW	As soon as practicable after the Rule Change is approved
4.25.1	DSM verification only to apply to period between October and March	1 October 2010
4.25.2	DSM verification testing to require load reduction for one Trading Interval	1 October 2010
4.25.3B	Activation of DSM deemed to be a Reserve capacity Test	1 October 2010
4.25.4	Reserve Capacity testing	1 October 2010
4.25.4E	Capacity Payments to be refunded if capacity credits surrendered to IMO	As soon as practicable after the Rule Change is approved
4.25.4F	Capacity cannot offer supplementary reserve capacity in the year that capacity credits are surrendered	As soon as practicable after the Rule Change is approved
4.25A.1	Verification test	1 October 2010
4.25A.2	Verification test	1 October 2010
4.25A.3	Verification test	1 October 2010
4.25A.4	Verification test	1 October 2010
4.25A.5	Verification test	1 October 2010
4.26.1	Refunds	As soon as practicable after the Rule Change is approved
4.26.1C	Refunds	As soon as practicable after the Rule Change is approved
4.26.2	Refunds	As soon as practicable after the Rule Change is approved
4.26.2C	Determination of Relevant Demand	As soon as practicable after the Rule Change is approved
4.26.2D	Determination of capacity shortfall	As soon as practicable after the Rule Change is approved
4.26.2E	Calculation of refund	As soon as practicable after the Rule Change is approved

4.26.3	Calculation of refund	As soon as practicable after the Rule Change is approved
4.26.3A	Calculation of refund	As soon as practicable after the Rule Change is approved
6.17.6	Calculation of Dispatch Payment.	1 October 2011
