

The background of the lower half of the page is a photograph of a wind farm and power lines, overlaid with a semi-transparent blue filter. On the left, several white wind turbines are visible, with their blades extending outwards. On the right, a tall, lattice-structured power transmission tower stands prominently. The overall scene is set against a clear sky.

Independent Market Operator

**Final Market Rule Change
Report**

**Title: Determination of Capacity
Shortfalls for Curtailable
Loads**

Ref: RC_2009_29

Date: 29 September 2009

Contents

1. INTRODUCTION	3
2. THE RULE CHANGE PROPOSAL	4
2.1 Submission Details	4
2.2 Summary Details of the Proposal	4
2.3 The Proposal and the Wholesale Market Objectives	4
2.4 The Amending Rules Proposed by the IMO	4
2.5 The IMO's Initial Assessment of the Proposal	5
3. CONSULTATION	5
3.2 Consultation with Barrack Kanowna	5
3.2 Out of Session submission from Landfill Gas & Power	6
4. THE IMO'S ASSESSMENT	6
4.1 Wholesale Market Objectives	6
4.2 Practicality and cost of implementation	7
4.3 Views expressed from submissions	7
4.4 Views expressed by Market Advisory Committee	7
4.5 Further Amendments	8
5. THE IMO'S FINAL DECISION	10
5.1 Reasons for the decision	10
6. AMENDING RULES	10
6.1 Commencement	10
6.2 Amending Rules	10
APPENDIX 1: FULL DETAILS OF THE PROPOSAL	13

DOCUMENT DETAILS

IMO Notice No.: RC_2009_29
Report Title: Capacity Shortfalls for Curtailable Loads
Release Status: Public
Confidentiality Status: Public domain
http://www.imowa.com.au/RC_2009_29.html
Published in accordance with Market Rule 2.6.4

Independent Market Operator

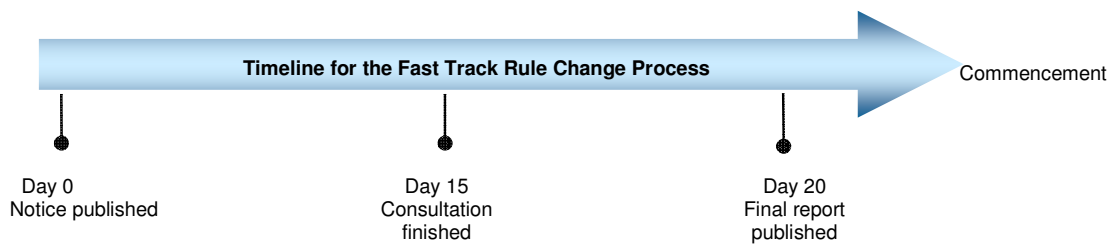
Level 3, Governor Stirling Tower
197 St George's Terrace, Perth WA 6000
PO Box 7096, Cloisters Square, Perth WA 6850
Tel. (08) 9254 4300
Fax. (08) 9254 4399
Email: imo@imowa.com.au
Website: www.imowa.com.au



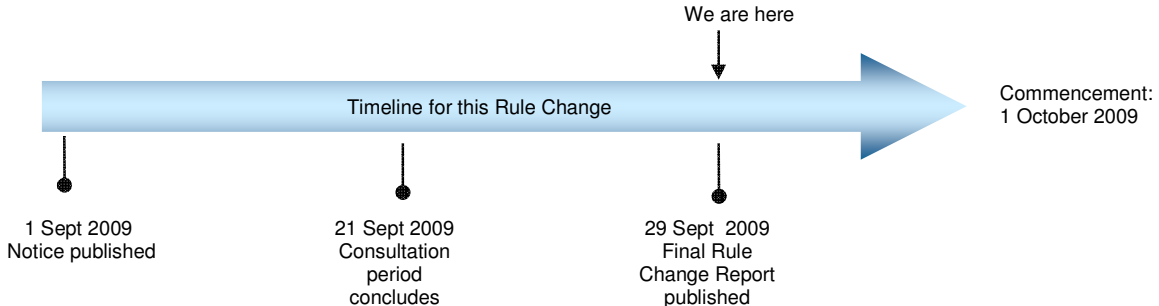
1. INTRODUCTION

On the 1 September 2009 the Independent Market Operator (IMO) submitted a Rule Change Proposal regarding the amendment of clause 4.26.2D of the Wholesale Electricity Market Rules (Market Rules). The proposal was to correct a manifest error contained in the clause 4.26.2D, as amended by the Rule Change Proposal Demand Side Management – Operational Issues (RC_2008_20), which will commence 1 October 2009.

This Rule Change Proposal was processed using the Fast Track Rule Change Process, described in section 2.6 of the Market Rules. The Fast Track Rule Change Process adheres to the following timelines:



The key dates in processing this Rule Change Proposal are:



The IMO's final decision is to accept this Rule Change Proposal in a modified form, outlined in section 6.2 of this report. The decision is based on the IMO's assessment of the Rule Change Proposal against the:

- Wholesale Market Objectives;
- Practicality and cost of implementing the proposal;
- Market Advisory Committee's (MAC) discussion and recommendations; and

- Public consultation period outcomes.

The amendments to the Market Rules made as a result of this Rule Change Proposal will commence at 8.00am on 1 October 2009.

All documents related to this Rule Change Proposal can be found on the IMO website: http://www.imowa.com.au/RC_2009_29.html

2. THE RULE CHANGE PROPOSAL

2.1 Submission Details

Name:	Troy Forward
Phone:	9254 4304
Fax:	(08) 9254 4399
Email:	imo@imowa.com.au
Organisation:	IMO
Address:	Level 3, Governor Stirling Tower, 197 St George's Terrace
Date submitted:	26 August 2009
Urgency:	Fast Track Rule Change Process
Change Proposal title:	Determination of Capacity Shortfalls for Curtailable Loads
Market Rule(s) affected:	Clause 4.26.2D

2.2 Summary Details of the Proposal

The proposed amendments to the Market Rules will amend the drafting of clause 4.26.2D(b) to specify that the Capacity Shortfall would equal zero in each interval unless a Dispatch Instruction is issued by System Management and the participant does not meet the Stipulated Default Load requirements as notified in the Dispatch Instruction.

Detailed information on the proposal is contained in Appendix 1 and can also be found in the Rule Change Proposal available on the IMO's website.

2.3 The Proposal and the Wholesale Market Objectives

In its proposal the IMO submitted that the proposed Amending Rules, which correct a manifest error in the determination of Capacity Shortfalls for Stipulated Default Loads, are consistent with the Wholesale Market Objectives.

2.4 The Amending Rules Proposed by the IMO

The amendments to the Market Rules originally proposed by the IMO are provided in the Rule Change Notice available on the IMO webpage.



2.5 The IMO's Initial Assessment of the Proposal

The IMO decided to proceed with this proposal on the basis that its preliminary assessment indicated that the proposal was consistent with the Wholesale Market Objectives.

The IMO decided to process this Rule Change Proposal using the Fast Track Rule Change Process, described in clause 2.6 of the Market Rules, on the basis that it satisfies the criteria in clause 2.5.9(b) of the Market Rules.

The proposed amendments are required to correct a manifest error which incorrectly results in Market Generators with Stipulated Default Loads being required to make Capacity Cost Refunds in the case where a Dispatch Instruction has not been issued by System Management. This is an obvious error which consequently does not meet the original intent of the changes proposed by RC_2008_20 and will potentially result in monetary consequences to affected Market Participants.

3. CONSULTATION

An invitation for all Rule Participants to contact the IMO, should they wish to be consulted on this Rule Change Proposal, was published on the IMO website on 1 September 2009, together with the Rule Change Notice.

The consultation period for this Rule Change Proposal was between 1 September 2009 and 21 September 2009 (interested stakeholders were requested to inform the IMO if they wished to be consulted on this Rule change Proposal by 7 September 2009).

The IMO received a request to be consulted on this Rule Change Proposal from Barrack Kanowna. Following this request, Barrack Kanowna provided a submission on the proposed changes to the IMO. The IMO also received an out of session submission from Landfill Gas & Power (LGP) before the end date of the consultation period. The details of the consultation with Barrack Kanowna and the out of session submission received from LGP are summarised below, with the full text available on the IMO website.

3.2 Consultation with Barrack Kanowna

In its submission, Barrack Kanowna provides support for the Rule Change Proposal. In particular, Barrack Kanowna notes that, as a Stipulated Default Load Curtailable Load Provider, it is directly affected by the changes resulting from RC_2008_20. Barrack Kanowna notes that once it realised the unintended effects that RC_2008_20 would have in terms of Capacity Cost Refunds it brought this to the IMO's attention.

Barrack Kanowna states that it appreciates that the IMO has acknowledged this manifest error and are supportive of the proposed change as it considers it to be a consistent and sensible response which best addresses the error. Barrack Kanowna, notes that it supports the principle that a Curtailable Load which has not been requested by System Management to curtail its demand to its Stipulated Default Load, and so is operating normally in the market, should not be required to make Capacity Cost Refunds.



3.2 Out of Session submission from Landfill Gas & Power

In its submission LGP supports the proposed rule change on the grounds that it corrects a manifest error. Specifically, a Curtailable Load which has not been requested by System Management to drop to its Stipulated Default Load, and so is operating normally in the market, should not be required to make Capacity Cost Refunds.

LGP notes that the proposed changes support all the Market Objectives by correcting a manifest error and thereby maintaining the integrity of the Market Rules.

4. THE IMO'S ASSESSMENT

In preparing this Final Rule Change Report, the IMO must assess the Rule Change Proposal in light of clauses 2.4.2 and 2.4.3 of the Market Rules.

Market Rule 2.4.2 outlines that the IMO “must not make Amending Rules unless it is satisfied that the Market Rules, as proposed to be amended or replaced, are consistent with the Wholesale Market Objectives”.

Additionally, clause 2.4.3 states, when deciding whether to make Amending Rules, the IMO must have regard to the following:

- Any applicable policy direction from the Minister regarding the development of the market;
- The practicality and cost of implementing the proposal;
- The views expressed in submissions and by the MAC; and
- Any technical studies that the IMO considers necessary to assist in assessing the Rule Change Proposal.

The IMO notes that there has not been any applicable policy direction from the Minister or any technical report commissioned in respect of this Rule Change Proposal.

This IMO's assessment is outlined in the following sections.

4.1 Wholesale Market Objectives

The IMO considers that the Market Rules as a whole, if amended, will be consistent with the Wholesale Market Objectives.

Wholesale Market Objective	Consistent with objective
(a) to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system	Yes



Wholesale Market Objective	Consistent with objective
(b) to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors	Yes
(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	Yes
(d) to minimise the long-term cost of electricity supplied to customers from the South West interconnected system	Yes
(e) to encourage the taking of measures to manage the amount of electricity used and when it is used	Yes

4.2 Practicality and cost of implementation

The proposed changes require minor changes to the Wholesale Electricity Market Systems operated by the IMO, estimated at AUD \$13,000.

There have been no additional costs identified with the implementation of this Rule Change Proposal.

4.3 Views expressed from submissions

The IMO received a formal request for consultation from Barrack Kanowna. During the consultation process Barrack Kanowna provided a formal submission to the IMO which was supportive of the proposed changes.

The IMO also received one out of session submission during the consultation period from LGP. LGP was in favour of the Rule Change Proposal.

4.4 Views expressed by Market Advisory Committee

The MAC was advised of the proposed rule change at its meeting on 9 September 2009.

During the meeting one member noted the issue of System Management issuing a partial Dispatch Instruction and whether the refund is based on this amount or the full available amount. The IMO agreed to consider this further.

In response to the MAC's query of whether a partial Dispatch Instructions could be issued to a Stipulated Default Load and the impacts on Capacity Cost Refunds, the IMO notes that the Market Rules do not preclude a Curtailable Load being issued a partial Dispatch Instruction by System Management. The IMO notes that whether a partial reduction could be achieved would be dependent on the specific load's characteristics. Further, the IMO notes that in the situation where a Stipulated Default Load could not be partially curtailed, it would still be able to meet the Dispatch Instructions issued by System Management by dropping to its Stipulated Default Load level of Megawatts.

To take this circumstance into account the IMO has further revised the Amending Rules to calculate the Capacity Shortfall based on:



- *the level of load reduction from the total amount of Capacity Credits assigned; and*
- *the level requested in the Dispatch Instruction issued by System Management.*

The MAC agreed that this rule change be progressed using the Fast Track Rule Change Process.

4.5 Further Amendments

During the public consultation period the IMO considered that some changes to the proposed Amending Rules were required to ensure that a situation of a partial Dispatch Instruction being issued by System Management could be taken into account when determining the Capacity Shortfall. Consultation with System Management has indicated that this is unlikely to occur, however the IMO considers that it is reasonable to take account of this in the drafting to ensure that partial Dispatch Instructions are not precluded. The IMO also identified a number of additional minor changes to improve the integrity of the proposed Amending Rules.

These changes are as follows (~~deleted text~~, added text):

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 ~~e~~Capacity Credits assigned ~~certified~~ in accordance with clause 4.10.1(f)(i)(1), and where System Management has issued a Dispatch Instruction to the Curtailable Load for the Trading Interval as advised to the IMO by System Management under clause 7.13.1, ~~the greater of:~~
- i. ~~zero; if negative two multiplied by the Metered Schedule is less than the Relevant Demand set in clause 4.26.2C minus the Capacity Credits assigned to the Curtailable Load; and~~
 - ii. ~~where System Management has issued a Dispatch Instruction the greater of:~~
 1. zero, or
 2. the required decrease, in MW, 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~~ negative two multiplied by the Metered Schedule for the Trading Interval, and



if the Capacity Credits assigned to the Curtailable Load are greater than the Dispatch Instruction for the Trading Interval; or

iii. negative two multiplied by the Metered Schedule plus the Capacity Credits assigned to the Curtailable Load minus the Relevant Demand set in clause 4.26.2C.;

(b) for Capacity Credits assigned certified in accordance with clause 4.10.1(f)(i)(2), and where System Management has issued a Dispatch Instruction to the Curtailable Load for the Trading Interval as advised to the IMO by System Management under clause 7.13.1, the greater of:

i. zero, if negative two multiplied by the Metered Schedule is less than the Stipulated Default Load; and

ii. where System Management has issued a Dispatch Instruction, the greater of:

1. zero, or

2. twice negative two multiplied by the absolute value of the Metered Schedule, minus the Stipulated Default Load load reduction, where the load reduction is equal to the Stipulated Default Load plus the Capacity Credits assigned to the Curtailable Load minus the Dispatch Instruction for the Trading Interval,

if the Capacity Credits assigned to the Curtailable Load are greater than the Dispatch Instruction for the Trading Interval; or

iii. negative two multiplied by the Metered Schedule minus the Stipulated Default Load, if the Capacity Credits assigned to the Curtailable Load are less the Dispatch Instruction for the Trading Interval; and

(c) for Capacity Credits assigned in accordance with either clause 4.10.1(f)(i)(1) or 4.10.1(f)(i)(2), and where System Management has not issued a Dispatch Instruction to the Curtailable Load for the Trading Interval as advised to the IMO by System Management under clause 7.13.1, zero.



5. THE IMO'S FINAL DECISION

The IMO's final decision is to implement the amendments to clause 4.26.2D of the Market Rules.

5.1 *Reasons for the decision*

The IMO has made its decision on the basis that the Amending Rules:

- Are consistent with the operation of the Wholesale Market Objectives;
- Have the unanimous support of the MAC;
- Require minor changes to the Wholesale Electricity Market Systems; and
- Assist in maintaining the integrity of the Market Rules.

Additional detail outlining the analysis behind the IMO's reasons is outlined in section 4 of this Final Rule Change Report.

6. AMENDING RULES

6.1 *Commencement*

The amendments to the Market Rules resulting from this Rule Change Proposal will commence at **8:00am on 1 October 2009**.

6.2 *Amending Rules*

The following clauses are amended (~~deleted wording~~, new wording):

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 ~~e~~Capacity Credits assigned ~~certified~~ in accordance with clause 4.10.1(f)(i)(1), and where System Management has issued a Dispatch Instruction to the Curtailable Load for the Trading Interval as advised to the IMO by System Management under clause 7.13.1, the greater of:
 - i. zero; if negative two multiplied by the Metered Schedule is less than the Relevant Demand set in clause 4.26.2C minus the Capacity Credits assigned to the Curtailable Load; and
 - ii. the greater of:



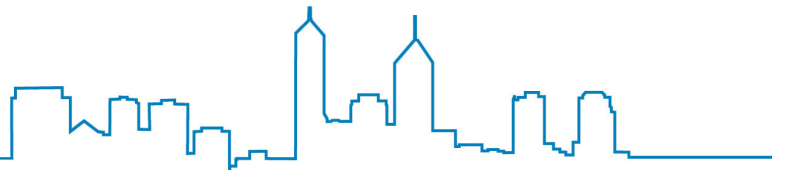
1. zero, or
 2. ~~the required decrease, in MW, as a result of System Management's Dispatch Instruction~~ minus the load reduction, where the load reduction is equal to the Relevant Demand set in clause 4.26.2C ~~minus twice the absolute value~~ negative two multiplied by the Metered Schedule for the Trading Interval, and

if the Capacity Credits assigned to the Curtailable Load are greater than the Dispatch Instruction for the Trading Interval; or
 - iii. ~~negative two multiplied by the Metered Schedule plus the Capacity Credits assigned to the Curtailable Load minus the Relevant Demand set in clause 4.26.2C;~~
- (b) for eCapacity Credits assigned in accordance with clause 4.10.1(f)(i)(2), and where System Management has issued a Dispatch Instruction to the Curtailable Load for the Trading Interval as advised to the IMO by System Management under clause 7.13.1, the greater of:
- i. zero, if negative two multiplied by the Metered Schedule is less than the Stipulated Default Load; and
 - ii. where System Management has issued a Dispatch Instruction, the greater of:
 1. zero, or
 2. ~~twice negative two multiplied by the absolute value of the Metered Schedule minus the Stipulated Default Load~~ load reduction, where the load reduction is equal to the Stipulated Default Load plus the Capacity Credits assigned to the Curtailable Load minus the Dispatch Instruction for the Trading Interval,

if the Capacity Credits assigned to the Curtailable Load are greater than the Dispatch Instruction for the Trading Interval; or
 - iii. negative two multiplied by the Metered Schedule minus the Stipulated Default Load, if the Capacity Credits assigned to the Curtailable Load are less than the Dispatch Instruction for the Trading Interval; and



(c) for Capacity Credits assigned in accordance with either clause 4.10.1(f)(i)(1) or 4.10.1(f)(i)(2), and where System Management has not issued a Dispatch Instruction to the Curtailable Load for the Trading Interval as advised to the IMO by System Management under clause 7.13.1, zero.



APPENDIX 1: FULL DETAILS OF THE PROPOSAL

Background

The review of Demand Side Management (DSM) undertaken by the DSM Working Group (established under the auspices of the Market Advisory Committee) resulted in a number of recommendations to:

- Maximise the operational efficiency of DSM;
- Recognise the operational requirements of DSM providers (the end-use customers); and
- Ensure consistency with obligations placed on generation Facilities.

The major outcome of the review is the staged Amending Rules which resulted from the Rule Change Proposal titled Demand Side Management – Operational Issues (RC_2008_20). The IMO, in making its decision to approve RC_2008_20 considered that the amendments would ensure the reliability of DSM programmes in the operation of the market and promote greater competition with existing retailers. Further details of the proposal are available on the IMO's website: http://www.imowa.com.au/RC_2008_20

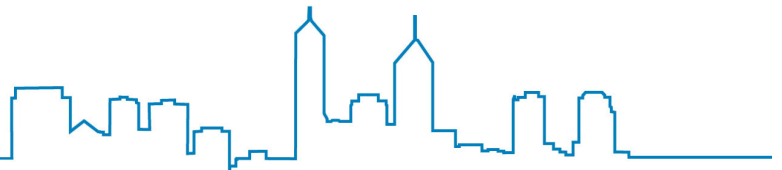
One outcome of RC_2008_20 was the introduction of the concept that a DSM provider would be required to return all of its Reserve Capacity Payments by way of refunds if it completely failed to meet its maximum level requirements.

In particular, clause 4.26.3A of the Amending Rules defines that the level of refund to apply in any Trading Interval is determined based on the amount of Capacity Shortfall, measured in terms of MWh, as a proportion of the total MWh reduction that the Curtailable Load should have delivered if called to the maximum level for the maximum allowable time. The total amount of refunds payable in a year is capped at the level of Reserve Capacity payment. This is similar to the concept which applies for generation Facilities.

Clause 4.26.2D of the Market Rules outlines the methodology for calculating the "Capacity Shortfall" in Reserve Capacity supplied by each Market Participant holding Capacity Credits associated with a Curtailable Load. The value is determined for each Trading Interval relative to its Reserve Capacity Obligation for capacity certified as either:

- Reserve Capacity expected to be available; or
- Stipulated Default Load.

This information is then used in clause 4.26.3A to determine the value of the Capacity Cost Refunds associated with the Market Participant's Curtailable Load.



Note that the Amending Rules 4.26.3A, 4.26.2D and the Amending Rules introducing the concept of Capacity Cost Refunds associated with Curtailable Loads (clause 4.26.3) will commence on 1 October 2009.

Issue with clause 4.26.2D

The current methodology for determining the Capacity Shortfall for capacity certified as Stipulated Default Load does not specify that clause 4.26.2D(b)(ii) will only apply as a result of System Management's Dispatch Instruction (as shown in clause 4.26.2D(a)(ii) for Reserve Capacity expected to be available).

As a result a Curtailable Load which has not been requested by System Management to drop to its Stipulated Default Load and so is operating normally in the market will also be required to make Capacity Cost Refunds.

Evaluation of impacts of current drafting

To evaluate the impacts of the current drafting of clause 4.26.2D consider a Curtailable Load which has nominated a stipulated default load of 20 MW, and which normally operates at 100 MW (therefore has 80 Capacity Credits assigned to it). It is assumed that it is available for 24 hours a year ($H = 24$).

Capacity Shortfall and Capacity Cost Refund (Current)

Under the current drafting of clause 4.26.2D(b) the Curtailable Load will have a Capacity Shortfall for each Trading Interval of the greater of:

- zero; and
- twice the absolute value of the Metered Schedule minus the Stipulated Default Load

For the given example the Capacity Shortfall will be:

$$= 2 \times 50 \text{ MW} - 20 \text{ MW} = 80 \text{ MW}$$

The refund then payable for an interval is determined under clause 4.26.3A of the Market Rules which specifies that the Capacity Cost Refund is equal to the lesser of either:

- Clause 4.26.3A(a):

$$((12 \times \text{Monthly Reserve Capacity Price}) \times \text{Capacity Credits}) - \text{Capacity Cost Refunds}$$

Where:

Capacity Cost Refunds refer to those applicable to the Market Participant in previous Trading Months failing in the same Capacity Year as Trading Month m ; or

- Clause 4.26.3A(b):



$$\frac{12 \times \text{Monthly Reserve Capacity Price} \times S}{2 \times H}$$

Where:

S is the Capacity Shortfall in MW determine 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).

For the given example the refund payable for each interval under clause 4.26.3A(b) will be:

$$= \frac{12 \times \text{Monthly Reserve Capacity Price} \times 80}{2 \times 24}$$

$$= \frac{\text{Total yearly Reserve Capacity Price} \times 80}{48}$$

$$= \frac{1}{48} \text{ of the total yearly capacity payments}$$

That is the refund payable for each interval will be equivalent to 1/48th of the total amount to be paid by the Market Participant in the Reserve Capacity Year. This payment will be required for the 48 intervals (24 hours) of operation until the cap specified in clause 4.26.3A(a) is reached and will be required in the situation where the Market Customer is:

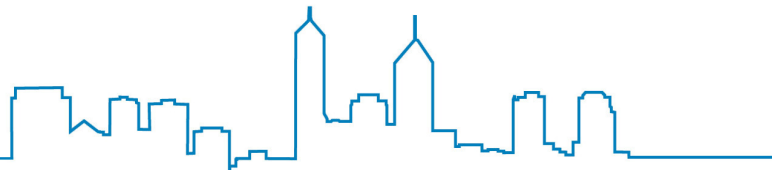
- operating normally;
- meeting the Stipulated Default Load Dispatch Instructions; or
- failing to meet the Stipulated Default Load Dispatch Instructions.

The IMO considers that requiring Market Participants to make refunds for the first two situations is counterintuitive and does not achieve the intended outcome of RC_2008_20.

Proposal

Based on the outcomes of the IMO's evaluation, the IMO proposes to amend the drafting for clause 4.26.2D(b) to specify that the Capacity Shortfall would equal zero in each interval unless a Dispatch Instruction is issued by System Management and the participant does not meet the Stipulated Default Load requirements as notified in the Dispatch Instruction (similar treatment to clause 4.26.2D(a)).

The IMO contends that this will result in Market Participants with Stipulated Default Loads not having to pay refunds when operating normally in the market or when meeting any Dispatch Instruction issued by System Management. In the case where a Dispatch Instruction has been issued, and the Stipulated Default Load was not met, Market Participants will be required to refund the amount of Capacity Credits equivalent to the amount by which the Stipulated Default Load was not met, as was originally intended by RC_2008_20.



Capacity Shortfall and Capacity Cost Refund (Proposed)

For the given example, the Capacity Shortfall under the proposed Amending Rules would be equal to zero as no Dispatch Instruction had been issued by System Management and the Capacity Cost Refund would be:

$$= \frac{12 \times \text{Monthly Reserve Capacity Price} \times 0}{2 \times 24}$$

$$= 0$$

That is the Market Participant will not be required to make a Capacity Cost Refund for the Trading Interval as they have not failed to meet any relevant Dispatch Instructions issued by System Management or have been operating normally in the market.